



Operating Together: 12 Years of Collaboration Between **RCSI** and **COSECSA**



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Dr Enock Ludzu and patient, Mangochi District Hospital, Malawi.
Photo courtesy of Antonio Osuna and SURG-Africa.

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Dedication
To everyone who made this happen.

Authors' Note

The story of the collaboration between the Royal College of Surgeons in Ireland (RCSI) and the College of Surgeons of East, Central and Southern Africa (COSECSA) can only be properly told in conjunction with an account of the story of COSECSA.

This book cannot, and does not attempt to, give a comprehensive history of COSECSA, only that part of it necessary for a better understanding of the story of the RCSI/COSECSA Collaboration Programme. Recounting the exciting and inspiring story of COSECSA itself is for another day. We look forward to reading such an account in the years to come!

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Foreword

by Minister of State
for the Diaspora and
International Development,
Ciarán Cannon TD

The late Kofi Annan, former United Nations Secretary-General and a great friend of Ireland, said that *"The biggest enemy of health in the developing world is poverty"*. Support for health care has long been at the heart of Ireland's international development, as we work with partners to address the root causes of poverty. This has included the development of health systems, the training of health workers, a focus on child and maternal health, and working to address the HIV / Aids epidemic. Ireland's support to the RCSI / COSECSA collaboration has been a centrepiece of Irish Aid's contribution to improved global healthcare.

Our work to improve health outcomes has been complemented by our supports for improvements in nutrition and education: someone who is well-nourished and educated is more likely to live a healthy life. Someone who is healthy, well-nourished and educated is more likely to escape from poverty.

The importance of good health care was recognised by all the countries of the world when we collectively agreed Sustainable Development Goal 3, "Ensure healthy lives and promote wellbeing for all at all ages."

In building health systems, there needs to be an emphasis on access to safe surgery. Today, five billion people lack access to safe, affordable, timely surgical and anaesthesia care. That means that half the world's population is exposed to a fundamental gap in essential services, with the poorest people on the planet the most at risk.

There are over 300 million surgical procedures worldwide each year. The poorest 3 billion people benefit from only 6% of these procedures, meaning that lives are unnecessarily lost or shortened, and that the ability of poor people to earn a living is compromised. While strong efforts are being made to put in place more effective surgical options in poorer countries, access to surgery within those countries is not always evenly spread across their territories.

Surgical inequity is a moral question. It is an economic question. It is a profoundly human question. Addressing surgical inequity is essential to the goal of achieving universal healthcare. The Government's new policy for international development, *A Better World*, has achieving Universal Health Coverage as an Irish priority.

In so doing, we honour those Irish people who have dedicated their lives to ensuring access to safe, essential surgeries is attainable to those who need it most. For example, the work of the late Sister Dr. Maureen Lynch in Kitovu Hospital in Southern Uganda revolutionised Obstetric Fistula surgery. Like many others, she recognised that easily treatable surgical conditions can lead to devastating lifelong disability, social exclusion, economic hardship, and even death. Her work is a reminder that we cannot neglect those who suffer from such conditions as cleft lip, obstetric fistula, cataracts and club foot.

Addressing these issues is not Ireland's responsibility alone – it is a responsibility shared. Given the complexity of the challenges, I believe that partnerships must be at the heart of our contribution. The RCSI / COSECSA Collaboration Programme which this book celebrates is one such partnership, one which Ireland has been proud to support through our international development programme, Irish Aid. It is a contribution to building a better world, a better future.

The outstanding work the Collaboration Programme has achieved since its inception 12 years ago gives me great heart. This book is a celebration of that Collaboration, which has so far produced 346 graduates. More importantly, their work is impacting positively on people's lives every day, improving their quality of life and those of their families.

This book celebrates the journey to date and is a call to arms for the journey ahead. My thanks to all those who have made, and continue to make, this partnership one which we should celebrate and cherish.

Minister of State for the Diaspora and International Development,
Ciarán Cannon TD

Chapter 1

The Global Surgical Care Crisis

Salome Karwah was on the front cover of *Time* in 2014. *Time* had declared the 2014 person of the year to be “The Ebola Fighters.” A trainee nurse in Liberia, Salome watched her parents, brother, aunts, uncles and niece die of Ebola in the 2013-2016 West African Ebola epidemic. In fact, she contracted Ebola herself, but was one of the fewer than 30% in that epidemic who contracted the disease and survived. With the immunity conferred from having survived the disease, she bravely went back to work helping Ebola patients. Her face, her name and her story became known across the world.

The Quiet Killer

She died in 2017 of complications following a caesarean section – a surgery that is routine and low-risk in high-income countries. The terrible 2014 West African Ebola outbreak killed 11,310 people and terrified the world. Whereas an estimated 16.9 million lives are lost worldwide each year from conditions requiring surgical care (Meara et al., 2015), lack of access to surgical care receives far less global attention and kills more quietly.

Here is what life is like in the absence of surgical care: “Obstructed labour results in death for both mother and infant; cleft lip and palate becomes an impediment to normal growth and development for a child, and a broken bone leads to life-long disability for a young man working to provide for his family” (Meara et al., 2015). These are conditions that can easily be treated, but often become disabling or fatal when surgical care is not readily available. It is a shocking fact that most people in the world, an estimated five billion of us,

do not have access to safe, affordable surgical and anaesthesia care when needed (Meara et al., 2015). This causes immense suffering, disability and death. At least 11% of all disease in the world can be treated with surgery (Murray et al., 2012) and approximately 30% of all patients require a surgeon in the management of their condition (Shrime, Bickler, Alkire, & Mock, 2015).

There are many contributing factors to this lack of surgical care – including issues of transportation, infrastructure, geography, culture and finance. However one of the fundamental challenges is that there simply aren't enough trained surgical providers. The East, Central and Southern Africa region for example, has approximately one surgeon for every 200,000 people (O'Flynn et al., 2016). This is in stark contrast to a figure of 1:10,000 in Ireland. This goes some way towards explaining why 93% of the population of sub-Saharan Africa is unable to access safe, affordable and timely surgical care (Meara et al., 2015). With so few surgeons available, other cadres of healthcare workers, such as junior doctors and non-physician clinicians have taken up the burden of performing basic surgical procedures in many low- and middle-income countries (LMICs). To some extent, this mitigates the surgeon deficit and it has been shown that a limited set of procedures can safely be performed by these cadres (Gajewski, Conroy, Bijlmakers, & Mwapasa, 2017), (Wilhelm, Thawe, Mwatibu, Mothes, & Post, 2011), (Bergström, 2011). However, transferring responsibility for the provision of surgical services to non-surgeons still requires trained surgeons to provide clinical governance, training, support, appropriate supervision and access to expertise in complex cases. More surgeons simply must be trained.

Why has this crisis in LMICs not yet been effectively addressed? This is likely to be due to a number of factors: a perception that surgery is a high-cost, complex intervention not suitable for resource-poor settings; a focus on infectious diseases at the expense of interventions which treat non-communicable diseases – particularly with the advent of the HIV epidemic; and the relative complexity of the surgical care ecosystem compared to other possible interventions. Frustratingly, part of the issue may be that surgery doesn't neatly fit into existing categories of funding. Surgery doesn't focus on one particular disease (in the way that, for example, bed nets provide protection from malaria), nor does it target one particular demographic (as in the case of maternal health interventions).

Essential Surgery

Surgery has often been regarded as a complex, expensive, high-tech intervention and, therefore, beyond the aspirations of health services in resource-poor environments. The public's fascination with the latest advances in surgery, such as transplantation, joint replacement and robot-assisted surgery, obscures the fact that common operations such as appendectomy, caesarean section, cataract removal or surgical treatment of an open fracture do not require expensive equipment or materials. Yet lack of surgical care can be disabling or fatal. These common, vital, low-cost procedures are sometimes referred to as 'essential surgery' (*Essential Surgery*, 2019).

International attention to healthcare in the developing world has concentrated on infectious diseases and interventions focused on treating malaria, HIV/AIDS and tuberculosis - the 'big three' of infectious diseases - and the much-publicised Ebola and Zika viruses, which have caused such widespread suffering in LMICs. Surgery is not a primary treatment for these conditions, even though it is often required to treat consequent complications. These disease-specific programmes and interventions have consumed enormous resources, and have had positive results, but have done little to create a resilient health system and workforce with the capacity to treat a wide variety of conditions and adapt to evolving situations.

Meanwhile, the burden of disease in LMICs is rapidly changing. Disease specific interventions have been successful in reducing death tolls for the endemic infectious diseases. Trends in the developing world such as longer lifespans, changing lifestyles, increasing affluence and urbanisation and the rise in motorbike and car numbers are resulting in a rapidly increasing incidence of non-communicable diseases such as cancer, heart disease and trauma from road traffic accidents. Over five million people die each year from injuries alone, many of which are treatable by surgery. This is significantly more than the approximately three million who die from HIV/AIDS, TB and malaria combined (World Health Organization, 2014). In total, 90% of road traffic deaths occur in developing countries, despite these countries having just 54% of the world's vehicles (World Health Organization, 2015).

As well as surgical manpower, provision of surgical care requires investment in many other areas – infrastructure, anaesthesia provision, theatre nursing, post-operative care, blood transfusion services and more. While it may appear disheartening that there is no simple solution that will provide these quality surgical services, another way of looking at it is that *investment in strengthening surgical care strengthens the entire healthcare system.*

Against this backdrop of inaction, a number of voices have called for greater prioritisation of surgical care. In 1980, the Director General of the World Health Organization (WHO), Halfdan Mahler, gave a speech entitled "Surgery and Health for All" in which he stated "Surgery clearly has an important role to play in primary health care and in the services supporting it. Yet the vast majority of the world's population has no access whatsoever to skilled surgical care and little is being done to find a solution" (Mahler, 1980).

"Neglected stepchild"

For at least another quarter of a century, Mahler's despairing note that "little is being done" continued to characterise efforts to provide surgical services in LMICs. A positive step towards wider recognition and a response to the crisis came in 2005, with the launch of the WHO Global Initiative for Emergency and Essential Surgical Care. While a laudable and important initiative, it could only be an initial step in dealing with a crisis the scale of which left surgery as the "neglected stepchild of global health" (Farmer & Kim, 2008).

A few years later, a group of economists, including four Nobel Prize laureates, were brought together by the Copenhagen Consensus project (2012) to find the most effective ways of doing good in the world. This group was presented with the question "If you had \$75 billion for worthwhile causes, where should you start?" They considered a wide variety of different interventions across education, nutrition, healthcare, climate change, conflict, business and more and tried to determine where the highest benefit for humanity could be gained from investment. This group allocated \$3 billion to "strengthening surgical care" the joint-highest amount allocated and equalled only by "bundled interventions to reduce undernutrition in pre-schoolers." Across the entire scope of human endeavour, this hard-headed cost:benefit analysis revealed investment in surgical care to be more cost-effective than virtually all other interventions. At least 77.2 million disability-adjusted life-years (DALYs) could be avoided each year through provision of basic surgical services (Copenhagen Consensus, 2012). Unfortunately, this was a purely hypothetical exercise and the \$3 billion has yet to materialise!

In 2014, momentum began to gather behind the movement that came to be known as "global surgery" (Lewis, 2017). Dare, Grimes, Gillies et al offered the following definition of global surgery – "an area of study, research, practice, and advocacy that places priority on improving health outcomes and achieving health equity for all people worldwide who are affected by surgical conditions or have a need for surgical care" (2014). In the same year, Jim Kim, then President of the World Bank, called for a "shared vision and strategy for global equity in essential surgical care," stating that "surgery is an indivisible, indispensable part of health care" (2015).

2015 was a landmark year for global surgery. The Lancet Commission on Global Surgery released its important "*Global Surgery 2030*" report in April 2015 bringing together evidence of the scale of the issue and the effectiveness of investment in surgical care (Meara et al., 2015). In May, the World Health Assembly approved Resolution 68.15 "strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage" (Price, Makasa, & Hollands, 2015), the first ever World Health Assembly resolution on surgical care.

The task is immense, but this issue can be tackled. Great strides are being made. In this short book, we aim to show how one surgical training college, the College of Surgeons of East, Central and Southern Africa, has taken on the task of building the surgical workforce for the more than 400 million people in its member countries, and how an innovative partnership with a high income country (HIC) institution, RCSI, has underpinned this impressive performance.

Chapter 2

A Vision for a Surgical Training College

Soon after the end of the Second World War, informal discussions began on the formation of a surgical association for the East Africa region. A letter was written to all surgeons in the region, inviting those interested to a meeting. Arising from this, the inaugural meeting of the Association of Surgeons of East Africa (ASEA) took place in Nairobi, Kenya in 1950.

ASEA

Over the following years, ASEA held four meetings yearly in various localities across the region including an annual general meeting in December. The logistics of holding these meetings on a regular basis to conduct the activities of the Association was often difficult. Dr Yusuf Kodwawwala, former president of ASEA, describes in his history of the association some of the difficult regional situations that ASEA lived through: “coups, counter-coups, border closures, strict visa regulations, changing political systems and political climate, currency restrictions, devaluations, wars, landmines, financial mismanagement, poor governance, human rights violations and even genocide” (2009).

At one of these annual meetings in 1959, Mr Denis Burkitt from Co. Fermanagh in Ireland, then resident in Kampala, Uganda, presented a paper on “strange lumps he had noticed in African children” (Kodwawwala, 2009). This was his first presentation of an observation, which led on to an amazing piece of clinical field research and detective work, conducted with minimal resources, that culminated in the discovery of the epidemiology, cause and treatment of a common, fatal, childhood cancer, now known as Burkitt’s lymphoma.

Meanwhile, on the other side of the continent, the first meeting of the Association of Surgeons of West Africa took place in Ibadan, Nigeria in 1960.

In the 1950s, and for most of the 1960s, there was no formal surgical training in the region that is covered by COSECSA today. Most of the few surgeons active in the region had obtained their qualifications through the Royal Colleges of Surgeons in the United Kingdom and Ireland. The first formal surgical training programme in the region began in Makerere University in Kampala, Uganda in 1967 – a Master's Degree in Surgery, abbreviated as MMed(Surgery). The first year of training was largely devoted to studying anatomy, pathology and physiology in classroom and laboratory settings, and was followed by two years of clinical training in Mulago Hospital - the attached university teaching hospital. To encourage research, a dissertation was required for completion of the master's degree. Similar training models were later adopted in neighbouring countries, and so the university-based model of surgical training became established in the region.

Creation of COSECSA

In the late 1980s and the 1990s, ASEA, recognizing the limited capacity of the university-based surgical training model, began to consider playing a more active role in the training and accreditation of surgeons.

Professor Imre Loeffler was a particular champion of such an expanded role for ASEA in the mid-90s. The low numbers of surgeons produced by the university training programmes were not enough to sustain, let alone grow, the woefully inadequate number of surgeons in the region. Access to traditional overseas pathways to surgical training, in the UK in particular, was also becoming more difficult for doctors from the region. In West Africa, such considerations were most likely instrumental in the decision of the Association of Surgeons of West Africa countries to form the West African College of Surgeons in 1969.

In 1997, the East, Central and Southern African Regional Health Ministers' Conference passed a resolution urging member states to "explore and facilitate the development of a College of Medicine for the Region and mandate it to: award postgraduate degrees, set up standards of postgraduate training and accredit new training programmes, institutions and schools." While supporting the concept of such a collegial model, the surgeons were not inclined to endure the inevitable lengthy time it would take to establish an overarching Medical College and proceeded with the inauguration of a College of Surgeons at the ASEA annual general meeting, held in Nairobi on December 1st, 1999. The College was initially named the College of Surgeons of East and Central Africa (COSECA). The name was changed to COSECSA – adding an 'S' for 'Southern' at the suggestion of the Health Ministers' Conference, in order to align with the political naming convention.

The first meeting of Council of the new College took place in Maputo, Mozambique on December 7th, 2000. Subsequently the East, Central and Southern African Health

Community (ECSA-HC) offered COSECSA a small room on the third floor of their building which was at the time located on Boma road, in Arusha, Tanzania. A COSECSA-salaried Secretary General and an Assistant were responsible for running COSECSA activities. The COSECSA Secretariat then moved with ECSA-HC to its current building at Njiro Road, Arusha.

While the decision to create a surgical training College was a new departure for ASEA, Dr Kodwawala points out that this had always been part of the association's intent: "Certain concerns were the focus of the Council from the very beginning ... undergraduate medical education, postgraduate surgical education and appropriate degrees, surgery in the rural areas and surgical research relevant to East Africa" (2009).

The first examinations of the College were held in 2003, with seven candidates sitting the membership examination. For some years, COSECSA and ASEA ran parallel Council Meetings and AGMs – a great amount of duplication and waste arose due to this arrangement. A merger was thus agreed in 2004 and the bodies were officially merged in 2007. The delicate merger process was carefully managed through the following years to ensure its smooth progression. Professor Christopher Samkange, President of COSECSA from 2012 – 2013 pays particular tribute in this regard to his predecessor as president, Mr Frederick Mutyaba (2010 – 2011). He describes Mr Mutyaba as "the consummate diplomat" and acknowledges, with gratitude, the unique contribution Mr Mutyaba made to the merger process.

Many aspects of ASEA's work live on through COSECSA. The ASEA journal, *The Proceedings of the Association of Surgeons of East Africa*, for example, was first published in 1978 and evolved to become, in 1995, *The East and Central African Journal of Surgery*, which continues to this day to flourish under the aegis of COSECSA.

At its inception, COSECSA had eight member countries, - Ethiopia, Kenya, Malawi, Mozambique, Tanzania, Uganda, Zambia and Zimbabwe. This has now grown to 14 (as of 2019) with Rwanda joining in 2009, Burundi in 2012, Namibia and South Sudan in 2017 and Botswana and Sudan in 2018.

In 2010, the overarching regional medical College became a reality, as the 52nd Regional Health Ministers' Conference mandated the creation of the multidisciplinary East, Central and Southern African College of Health Sciences, an umbrella College of Health Sciences to which all existing and future constituent Colleges will affiliate (ECSA-HC, 2019). This College of Health Sciences now has six constituent Colleges: COSECSA; The East, Central and Southern Africa College of Nurses (ECSACON); The College of Ophthalmology of Eastern, Central and Southern Africa (COECSA); The College of Pathologists of East, Central and Southern Africa (COPECSA); The College of Anesthesiologists of East, Central

and Southern Africa (CANECSA); and The East, Central and Southern Africa College of Physicians (ECSACOP).

Structure of Training

Speaking in 2011, Professor Samkange, then President, noted the newness of COSECSA “confers one strong advantage: we are not bridled with traditions and so we can freely negotiate our way through options in surgical training and examination in our quest to produce an internationally-acclaimed product that is eminently suited for our practising environment. Our product has to serve populations that are demanding of the highest quality of surgical care notwithstanding their limitations in being able to pay for all our aspirations.” It is within this context, of both the freedom of possibility and the constraints of limited resources, that the structures of training and examinations in the College were created. The evolution of the COSECSA model of training will be described in more detail in a later chapter.

Chapter 3

The Genesis of the Collaboration Programme

RCSI owes its origins to a Royal Charter of 1784, which gave it the authority to control the practice of surgery in Ireland and to establish robust surgical education. The College continues this mission to the present day, but, in the meantime, has evolved into a comprehensive health sciences institute with undergraduate and postgraduate education and training in all the principal healthcare disciplines. Dublin-based, but with a wide global spread of campuses, students and alumni, RCSI endeavours to advance human health and well being worldwide.

Origins

The collaboration and partnership between RCSI and COSECSA, which commenced in 2007, can trace its origins to a friendship forged in the Charitable Infirmary, Jervis Street, Dublin, more than 30 years earlier. It was there that the surgical paths of two great surgeons, Professor Gerald (Gerry) O'Sullivan and Professor Krikor Erzingatsian, converged for the first time. Both were at that time surgical registrars at an early stage of their careers. Both men recognised the commitment and energy that the other possessed, qualities they would employ throughout their lives in pursuit of the advancement of surgery for the benefit of patients everywhere. Not even the rigor of early Sunday morning rounds in Jervis Street, led by the then Professor of Surgery, Professor Paddy Collins, could test that determination!

Professor O'Sullivan was always a proud son of West Cork and sometimes spoke of the

epic trek of O'Sullivan Beara and more than a thousand of his clan, following defeat at the Battle of Kinsale in 1602. Setting out in deepest winter from their base on the Beara peninsula, in the southernmost part of Ireland, they marched up the length of the country to seek refuge with the O'Rourkes in Leitrim. The journey was long and arduous and, beset by illness, starvation and repeated ambushes and skirmishes along the way, only an estimated thirty souls reached safe haven in the north west of the country.

There are echoes of this harrowing tale in the story of Professor Krikor Erzingatsian. He was born in Addis Ababa to Armenian parents, who, as young children themselves, had fled a horrific genocide in the Ottoman Empire in the early years of the First World War. Unusually, at age fifteen, he was sent to boarding school in Lindisfarne, North Wales, which, indirectly, led to him studying medicine and commencing his surgical training at RCSI, later becoming a Fellow of the College. During the formative years of his surgical career in Dublin and Edinburgh, his family's safety, livelihood and well-being were disrupted by Mengistu's bloody communist upheaval in Ethiopia and those that could, left the country.

After Jervis Street, Professor O'Sullivan pursued his highly successful career in academic surgery in North America and in his native Cork, while Professor Erzingatsian, ultimately, relocated to a new career in Zambia, where he went on to play a pivotal role in the advancement of medical and surgical education and training in his adopted country and across sub-Saharan Africa.

Professor O'Sullivan and Professor Erzingatsian maintained some contact with each other but, in 2007, serendipity ensured that their divergent career paths would cross once more, as both men were elected President of their respective Colleges at the same time. Professor Erzingatsian, president of a fledgling, eight-year-old, but ambitious College of Surgeons of East, Central and Southern Africa, invited Professor O'Sullivan, President of the 223-year-old RCSI, to attend the 2006 COSECSA Annual General Meeting. As Professor Erzingatsian explained: "The first invitation was as a matter of courtesy to invite an old colleague who had attained the Presidency of my Alma Mater. At the time, I did not expect to see the link developing into a most productive and constructive relationship between a venerable old-world College and a newcomer." Professor O'Sullivan responded promptly and enthusiastically to the invitation from his old friend and did not arrive empty-handed, but brought a generous and welcome donation of €10,000 from RCSI for the COSECSA coffers.

In 2006-2007, COSECSA was in a precarious financial position. It had received funding from Christian Blind Mission (CBM), an international development organization. As then Secretary General (and later President) Professor Stephen Ogendo recalled: "The immediate sponsorship with CBM had come to an end and the College was looking for a new source of support. There was discussion as to other sources of support. The

health ministries, though they had been approached and reminded of their pledges, were not forthcoming in terms of making a long-term commitment, opting rather for small intermittent donations." COSECSA had also received ad hoc support, both financial and in-kind, from The Royal College of Surgeons of Edinburgh and Johnson & Johnson, but had struggled to develop internal revenue and to bring in longer-term external funding. While pressing financial issues may have been to the fore, there were many other challenges in areas such as administration and information management, visibility, qualification recognition, quality assurance of training, examinations and many other areas.

At the same time, RCSI was becoming increasingly aware of the global surgical capacity crisis and realised that simply providing small-scale funding to COSECSA was not a sustainable way to tackle the crisis. Ms Fiona Walsh, then Associate Director for Business Development in RCSI, outlined some of the rationale behind RCSI's willingness to engage further with COSECSA. Firstly, from a moral point of view, there was an uneasy acknowledgement that many surgeons in Ireland were from countries that were themselves suffering from an acute shortage of surgeons. "Ireland was benefiting substantially from these surgeons. To me the situation seemed unethical and I thought that Ireland and RCSI had a duty to try to do something to address it."

Secondly, there was an understanding that RCSI's electronic surgical training tools "could easily be utilised in developing countries to enable the quick establishment of new quality programmes and to also enable the scaling of existing programmes. This technology-based approach was more operationally feasible and financially viable than all of the approaches that had been used up until then."

Finally, it was felt that "with Ireland's track record in international development, and no history of colonialism, countries might be more willing to collaborate with an Irish partner."

In August 2007, a Memorandum of Understanding was signed between the two Colleges, in which RCSI pledged their support for COSECSA in advancing surgical provision by improving education and training.

It is unlikely that anyone, back then, realised what these humble beginnings would evolve into, except, perhaps, the two main protagonists, Professor Erzingatsian and Professor O'Sullivan, whose vision and innate confidence remained impervious to any perceived limitations or constraints. During an early phase of Professor O'Sullivan's illness, to which he has since, sadly, succumbed, Professor Erzingatsian and his colleagues travelled to Dublin to recognise Professor O'Sullivan's singular impact on the success of their College, by conferring him with the Honorary Fellowship of COSECSA. There is no doubt that Professor O'Sullivan would have found it wholly fitting that, since then, his College has acknowledged their friendship and Professor Erzingatsian's life work, by granting him the Honorary Fellowship of RCSI.

In the Memorandum of Understanding, signed on August 2nd, 2007, RCSI and COSECSA pledged to *“support the improvement in the standards of surgical care in the region of East, Central & Southern Africa through developing surgical education, training and examination.”* Those words accurately describe what has ensued in the intervening years but the reality is that, at the outset, neither RCSI nor COSECSA knew how best to work together.

For RCSI, this was a new departure and a new way of working. Mr Declan Magee, former RCSI President, candidly recalls: *“We were novices and somewhat naïve, and didn’t fully understand the realities within COSECSA and ASEA. At that time, we gave greater priority to what we thought donors would be prepared to support.”*

For COSECSA, the capacity to implement programmes was limited. *“At the start of the collaboration the College was still very much dependent on part-time, non-paid, individual council Members and there were very few strong institutional administrative structures in place. There was very little central capacity to oversee any of the functions of the College,”* according to Professor Eric Borgstein, COSECSA Secretary General.

For both Colleges, the shape that the collaboration should take was far from immediately obvious. *“Initially, there was a little settling down time as both parties got to the details of what was in the collaboration and the scope of activities. Lack of data made this a little difficult”* Stephen Ogendo, former COSECSA president recalls.

Interventions in Global Surgery

Before we look at how the Collaboration Programme (CP) was initially designed and so as to fully understand the context, it may be helpful to look at the various different ways in which international Non Governmental Organisations (NGOs), educational institutions and others have attempted to respond to the surgical care crisis – either in partnership with local institutions or on their own. Taking inspiration from the literature (Vakil, 1997), (Shrime, Sleemi, & Ravilla, 2015), (United Nations Economic and Social Council, 2006) we can categorise the work of international organisations in the global surgery field as fitting into one of six areas: Service Delivery, Development, Advocacy, Research, Development Education and Networking. This is an oversimplification of a complex situation but will help us to understand the wide variety of different approaches to the global surgery crisis.

Service Delivery

These are organisations that *“deliver services to specific groups based on the charity model”* (Vakil, 1997). In the global surgery context, this refers to organisations directly providing surgical services in low-income countries. Shrime and colleagues divide such activities into *“temporary surgical platforms,”* which are noted to be *“by far the most common”* (Shrime, Sleemi & Ravilla, 2015) and *“self-contained surgical platforms.”* Temporary surgical platforms are mainly short-term surgical trips. Shrime and colleagues

point out a number of issues with this model, particularly around patient safety and their limited beneficial impact when compared with other possible interventions. In terms of patient safety, mortality rates in some procedures were found to be significantly higher than would be expected in high-income countries (HICs). Hernia repair, the most commonly performed procedure on such surgical trips, has a reported mortality rate “20 times higher than in high income countries.” Overall they find that “a pattern emerges in a review of the effectiveness of the short-term platform ... the more complex the surgery, the more unsatisfactory the results” (2015). In disaster situations, international surgical teams tend to arrive too late, “becoming functional from the sixth to the 16th day post-disaster. By this time, local people, paramedics and surgeons have completed most of the emergency rescue and surgical work” (Roy, 2017). Having arrived too late to help with the immediate surge of surgical work, the international teams then soon leave again “when the rehabilitation phase is just getting started” (Roy, 2017).

The impact of such trips is also limited by their relatively low capacity to perform surgery. After surveying 99 international surgical organisations, Shrimel et al found that the majority provided less than 500 operations per year. They conclude “despite its ubiquity, the short-term surgical safari appears to have a relatively limited role in the delivery of surgical care” (2015). Roy feels that visiting surgeons often tackle the wrong surgical cases. Citing the example of cleft lip and palate surgery, Roy feels that “with disregard for the actual burden [of disease], we continue to do what is convenient to us as surgeons” (2017). Several prominent organisations involved in such surgical trips are now increasingly incorporating educational goals in these trips, as well as diversifying into other activities.

Shrimel et al find self-contained surgical platforms to be a more effective response to the surgical care crisis. These are surgical hospitals set up to address a particular condition (such as the Addis Ababa Fistula Hospital) or to focus on a particular specialty (such as the CURE Children’s Hospital of Uganda, which focuses on paediatric neurosurgery) or to function as a full-service surgical hospital (such as the hospitals of the Pan-African Academy of Christian Surgeons).

Capacity Building

These are organisations “which have as their ultimate goal improvement in the capacity of a community to provide for its own basic needs.” Organisations which focus on surgical education and the provision of support to local providers of surgery and surgical training, can be grouped in this category. We can further divide these capacity building organisations into those that build capacity at the individual level and those that work at the institutional level. In the former, we can perhaps place those organizations that conduct short training courses (such as the COSECSA Oxford Orthopaedic Link, the Association of Surgeons of Great Britain and Ireland and 2nd Chance), while, in the latter grouping, we can find those organisations that work on long-term institutional capacity building with local surgical institutions such as hospitals, universities and colleges. Global

Partners in Anesthesia and Surgery (GPAS) for example, works with Mulago Hospital in Uganda to grow capacity in that institution to train surgeons and anaesthetists.

Advocacy

This category is comprised of organisations that aim to influence policy or decision-making. At the outset of cooperation between RCSI and COSECSA in 2007, perhaps only the World Health Organisation's Emergency and Essential Surgical Care (EESC) programme could be seen as having an advocacy role. More recently, the Global Alliance for Surgical, Obstetric, Anesthesia and Trauma Care (The G4 Alliance) has taken an important role in advocating for greater prioritisation of surgical and allied care. The Harvard Program in Global Surgery and Social Change is an example of a programme that, as well as research, advocacy and other activities, provides technical assistance in surgical policy and planning (2019).

Research

A great deal of effort has been put into understanding the surgical care crisis, the burden of surgical disease and prevalence of certain diseases, the surgical workforce and procedures performed, as well as testing various interventions. Significant surgical research projects during the lifetime of our collaboration include GlobalSurg (Global Surg Collaborative, 2016), COST Africa (Gajewski et al., 2019), the African Surgical Outcomes Study (2019) and SURG Africa (2019).

Development Education

Interventions in this category work on "educating the citizens [of High Income Countries] in major development issues such as global inequity and debt" (Vakil, 1997). With the academic area of global surgery only recently defined (Dare et al., 2014), global surgery development education initiatives are generally a recent phenomenon. Some of the earlier initiatives in this area were the training programmes provided by the Netherlands Society for Tropical Medicine and International Health (2019) and the Dutch Royal Tropical Institute (2019) to educate medics in the Netherlands on global surgery issues and on the skills and knowledge required to effectively respond to these needs. A number of courses have since begun in the UK, US and elsewhere. With the expansion of global surgery as an academic field, and increasing interest in the area, we can expect more global surgery educational programmes to follow.

Networking

These are organisations "that channel information and provide technical and other assistance to lower-level NGOs and individuals." Examples include conferences such as "Global Surgical Frontiers" in London and the COSECSA annual conference, which rotates through member countries. Organisations such as the European ESTHER Alliance provide technical support to health partnerships.

After this brief overview of the various ways in which international organisations work towards a resolution of the surgical care crisis, we now turn our attention to the early design of the RCSI/COSECSA Collaboration Programme (CP).

Designing the Collaboration

From the beginning, it was understood that any attempt to merely provide ongoing financial support to COSECSA would be an inadequate response, as well as being both unrealistic and unsustainable. Rather, it was decided to use RCSI's resources, expertise and experience as the basis for a programme providing systemic support to COSECSA.

Challenges abounded. RCSI had no institutional experience of such a collaboration and COSECSA, whilst it had been in receipt of relatively modest monetary and other support from a small number of sources, had no experience of engaging with another institution to forge a shared pathway to a greater future.

From the outset, the governance structure of the CP was recognised as being of vital importance. A steering committee was established, with co-chairs and equal governance representation from both Colleges. It is quite unusual for an international aid programme to have equal representation from both HIC and LMIC partners. Steering Committee meetings were to be chaired by each College alternately. Even though there were, inevitably, challenges and misunderstandings at the beginning, as each College got to know the other's concerns, the tone and conduct of Steering Committee meetings was well-captured by COSECSA Secretary General Professor Eric Borgstein's comment: "The spirit of the partnership has always been remarkably collaborative and was always characterised by great mutual respect for each other's capabilities." A full-time programme manager, Mr Teofik Rushdie, was engaged.

In the first instance, RCSI looked to its strengths to identify ways in which it might make a worthwhile contribution. The very first tangible cooperative activity was an e-learning pilot project in 2007 and 2008, with 25 trainees and 12 trainers in Zambia and Kenya. Trainees and trainers in this pilot were enrolled in two e-learning programmes – Basic electronic Surgical Training (BeST) (2019) and RCSI's online portal, School for Surgeons. BeST was a leading interactive education tool at that time, developed by RCSI, Harvard and other partners, which included realistic case studies, simulations, tests and personalised feedback. The School for Surgeons portal provided case-based course work and a wealth of resources. Examinations support was provided to the COSECSA examinations held in December 2007 in Maputo, Mozambique. These successful pilot projects provided an initial proof of concept, which was then used to support the two Colleges' first approach to Irish Aid, the Irish state's international development agency.

The concept paper submitted to Irish Aid focused on delivering increased training to COSECSA surgical trainees and enhancing the examination they undertook. It requested

support to “scale-up the pilot programme across the constituent sub-Saharan African countries of COSECSA,” “incorporate a surgical skills training component” and “develop and refine the COSECSA Membership examination.” Irish Aid agreed to provide interim funding until December 2010. With this support, the CP expanded its operations in 2009 and 2010. The main areas of support during this period were e-learning, basic science training, development of COSECSA trainers and examiners (through faculty and examiner exchanges), development of COSECSA’s leadership (through leadership training), development of COSECSA’s administration (initially comprised of just one part-time staff member!) and provision of training infrastructure (in the form of hospital IT labs). According to our classification of global surgery interventions, it can be seen that the work of the collaboration at this time could mostly be classified as ‘individual development’ – providing support to trainees and surgeons.

Buoyed by initial successes, the two Colleges worked together throughout 2010 to prepare an application to Irish Aid to fund a much larger and more ambitious programme of work. In preparation for that application, Irish Aid requested an independent appraisal of the first years of the programme and this was provided by Dr Jim Kiely, former Chief Medical Officer in the Irish Department of Health and later invited independent member of the RCSI/COSECSA Steering Committee. His review took place in July and August 2010 and included a series of meetings and interviews in Kenya and Ireland. In his comprehensive report, he wrote: “The level of engagement in and commitment to both specialist surgical training in general, and the RCSI/COSECSA partnership in particular, was extremely impressive among all the participants I met, in an environment where resources are deficient and logistical difficulties quite extensive. Much progress has been achieved over the two years of the existence of the programme particularly in:

- areas of examinations organisation and quality assurance;
- the provision of courses in important areas such as basic sciences and trauma management; and,
- the provision and expansion of unique e-learning platforms.”

He added: “All these developments are highly valued by COSECSA personnel at all levels and they look forward to the continuation of such progress in the future.”

In addressing the appropriate future direction of the collaboration, he recognised that continued progress would be hampered by institutional capability and capacity. He stated: “It became clear that the major challenges facing COSECSA, and ones with which they require further support, are in the area of institutional strengthening of COSECSA itself.”

In his recommendations, he commented: “COSECSA requires a powering up of its organisational and operational capacity to deal on a day-to-day basis with the complex business it has to transact in overseeing surgical training in nine countries and, particularly, to achieve a uniformity and consistency of quality of such training.”

Partly due to Mr Kiely's insight, the focus of the CP shifted from 'individual development' to building the capacity of COSECSA itself – 'institutional development'. While still strongly involved in training and examinations, the institutional capacity-building element of the programme has continued to grow over time. This means helping COSECSA to put in place the people, tools and processes it needs to lead the rapid scale-up of production of quality-assured surgeons that the region requires.

Irish Aid agreed to fund a three-year collaboration programme from January 2011 to December 2013. This was a key milestone, shaping the way in which the two Colleges work together, representing a significant increase in activities and securing the immediate future of the collaboration. Subsequent agreed Irish Aid funding programmes have covered the periods 2014 to 2017 and 2017 to 2020.

Chapter 4

The COSECSA Experience

Medical graduates in East, Central and Southern Africa intent on pursuing surgical training generally have a choice between two different models: the university-based Masters of Medicine Surgery (MMed) model or the COSECSA collegiate model. A number of surgical trainees now enrol in both programmes. Historically, the undertaking of training outside of Africa as an alternative to locally-based training programmes, was an option, but only for a privileged few. Regulatory and visa issues have made this even more difficult in recent years.

An Apprenticeship Model

The COSECSA model of training is an in-service apprenticeship-style model. Training is undertaken in hospitals accredited by COSECSA as satisfying all prerequisites for training. These hospitals take a variety of forms and include public and private hospitals, faith-based 'mission' hospitals and university teaching hospitals. The majority of COSECSA-accredited training hospitals are based outside of large cities – 55% are in towns or cities with a population of less than one million and 38% of locations have a population of less than 250,000. This allows doctors to undertake surgical training in rural and provincial settings.

These pre-existing facilities are used as training centres, there is no central campus. COSECSA thus often describes itself as a 'College without walls' (Connors, 2011). The 'College without walls' approach is highly cost-effective and scalable, as it uses existing

resources for training, and does not require additional funding for a physical premises. As Akutu Munyika, Namibian COSECSA Country Representative notes: "It's much cheaper for the government to actually train surgeons this way because they are in their own setting and they are not being sent anywhere else."

The COSECSA Training Programme

The COSECSA training programme consists of two phases: the Membership of the College of Surgeons (MCS) and the Fellowship of the College of Surgeons (FCS). MCS lasts for a minimum of two years and is common to all trainees, no matter which specialty they may wish to later pursue. Trainees must spend at least six months of this time in general surgery and at least six months in orthopaedics. The remainder of the time may be spent in any surgical specialty (including general surgery and orthopaedics). In September of their second year, candidates sit the written examination in their home country. If successful, they continue to the Objective Structured Clinical Examination (OSCE) held in early December in one single location, which rotates each year through the COSECSA countries.

Candidates who are successful in both parts of the MCS examinations can continue into one of the FCS training programmes. At this juncture, candidates choose their surgical specialty. COSECSA offers training programmes in General Surgery, Orthopaedics, Urology, Paediatric Surgery, Otorhinolaryngology (also known as Ear, Nose and Throat, or ENT), Plastic Surgery, Neurosurgery, Cardiothoracic Surgery and a super specialist qualification in Paediatric Orthopaedic Surgery. FCS training is a minimum of three years, except for Neurosurgery, which is four. The super specialist qualification in Paediatric Orthopaedic Surgery is an additional two years. Similarly to the MCS programme, candidates sit a written examination in September each year followed by a clinical examination in December for those candidates who have been successful in the written examination. Candidates for the FCS examination are informed of their success, or otherwise, within a few hours of the end of the examination. In what must be one of the world's fastest turnarounds from examination to graduation, successful candidates then graduate the very next morning! The reason for this hectic turnaround is the high travel costs in the COSECSA region. Having their graduation ceremony the day after the examination saves successful candidates the cost of having to travel separately to their graduation. New graduates become Fellows of the College of Surgeons of East, Central and Southern Africa – and can use the postnominal "FCS (ECSA)."

The curricula and examinations are the same across all COSECSA countries and training hospitals. The COSECSA model allows trainees to gain a large amount of operative experience working alongside their surgical trainers. This is supplemented by short courses, and by e-learning. Trainees are required to record their operative experience in COSECSA's electronic logbook, which replaced earlier paper-based versions.

The in-service model contrasts with the university-based model in which the first year of training is generally spent in a classroom or lab environment and subsequent clinical years tend to provide fewer opportunities for the trainee to perform and assist in surgery than in COSECSA programmes, which generally have a higher trainer to trainee ratio. On the other hand, the COSECSA model, due to the geographic dispersal of its trainees, has greater logistic challenges and difficulties in providing short courses, and lab and classroom-based learning.

Motivations for joining COSECSA

The remainder of this chapter shares the views of those best qualified to judge the COSECSA training programmes – the trainees themselves.

University programmes tend to be based in the capital cities, and not having to relocate to the capital, or move overseas, is regularly cited by trainees as an important motivation for joining the COSECSA training programme.

“I didn’t want to go into the MMed system. The MMed system is quite difficult because you have to live in the place, I was in Mombasa, so I would have to go back to the university in Nairobi. I would have to spend five years there. I was a bit hesitant. My father heard someone talking about a system where you do your Masters in your institution without going to a university. So I was interested.”

Kenyan trainee

“The best thing for me about COSECSA is that I was able to train within my country. I’m married with three children, so it is one of the things that I considered in what to do and what programme to do. COSECSA was the right programme because it let me train within my country.”

Zimbabwean trainee

For some trainees the only training programme in their chosen specialty in their country is through COSECSA. When asked how she would have gone about training in her chosen specialty in the absence of COSECSA, a Ugandan trainee replied: “We would either plan to go for an MMed residency in Kenya ... or try to go for the USMLE in the US and see if we could try to join their residencies.”

Ugandan trainee

Places are very limited on the University model – many good applicants must therefore be turned away. “I started with COSECSA in 2016. I was referred by a friend because I was looking to enter into a surgical program. For the MMed, they always take 10 overall [in Kenya] – Moi University and Nairobi. So I think the demand for surgeons is very high but they take so little... I tried to apply but I didn’t get accepted and didn’t have an opportunity to seek training. Then, when I inquired, I heard about COSECSA.”

Kenyan trainee

The COSECSA training programme is generally seen as good value for money. “[The cost] is quite reasonable. If I compare it to programmes in our countries and others, you are looking at about \$2,500 per semester made up of two semesters per year.” This compares with a total cost of the COSECSA programme of \$2,500 including examination fees for the full five years of training – two years MCS and three years FCS.

Zimbabwean trainee

Others join COSECSA training for simpler reasons. “Pretty much everyone I know is trying to obtain the Fellowship in COSECSA. So that’s what I did!”

Namibian trainee

Positive Experiences

The in-service nature of the COSECSA programme gives trainees significant operative exposure, and this is commonly cited as one of the strong points of the COSECSA initiative. One trainee, who did their undergraduate degree outside Africa, was asked if they could have continued on into surgical training there: “Yes. But the problem is, I would not be allowed to operate on patients ... I would have done the academic work, the thesis, but I would have minimal contact with patients. That was my experience as an undergraduate. We didn’t have hands-on experience, as opposed to what COSECSA offers now.”

Kenyan Trainee

The curriculum is generally seen as being appropriate for the regional context. “The most amazing thing is that you are training in your own set up... [Trainees] are dealing with the local pathologies, being guided accordingly by the College and more likely to stay where they come from rather than migrate somewhere else.”

Namibian trainee

The examinations tend to be held in high regard by trainees. In university examinations, candidates are generally examined by the same surgeons who trained them, which is not an ideal situation. The size and international nature of the COSECSA examinations means that candidates will not be examined by any surgeon known to them.

"I think it's an interesting examination. I think what is exciting about it is when you walk in there and see examiners from all over, beyond the borders of Africa. I think as I went through the stations, they were very, very objective."

Zimbabwean Trainee

Areas for improvement

The nature of the COSECSA model makes delivery of academic components of surgical training more difficult than would be the case in a university. In a similar way, the supervision of research is a challenge for COSECSA.

"My issue is navigating research. I don't know where to start to write a proposal. I'd like more supportive measures."

Kenyan trainee

"I think research is the weakest link. There isn't much emphasis on research. But as you go through the programme, you realise that there are a lot of things that needs to be documented and researched. That is a component that needs to be added on."

Zimbabwean trainee

Online Resources

COSECSA, with the support of the CP, have put in place extensive online resources. These are highly valued by trainees.

"The online assignments and education through the website is amazing. It covers a wide range of issues that need to be covered. I really enjoyed that."

Namibian trainee

However internet access can be expensive. "What acts as a deterrent is the cost of internet facilities back home. It's not that cheap to do things online. So it's proven to be a challenge."

Ugandan trainee

Chapter 5

Examinations and Training Support

“[The COSECSA FCS examination] is very objective. You’re not being examined by someone who knows you so there is minimum chance of bias. The cases are very relevant, I think. We hope that we did well but at least in all fairness, it is a fair examination.”

Namibian Trainee – Immediately after sitting the FCS Examination

In the dispersed collegiate model it can be challenging to implement well-structured continuous assessment. With a diverse, dispersed multinational group of trainees and training hospitals, high-quality examinations have been critical to the success of the COSECSA model. In its earliest years as a new training and examinations institution, much of the legitimacy of COSECSA was established based on the quality of its examinations.

The Examination Advantage

Subsequently, advances such as the electronic logbook, the expanded use of electronic learning and the implementation of online structured trainee and training post assessment forms have provided a more complete picture of each trainee’s experience and performance throughout the training journey, ensuring examinations are not the only source of objective trainee performance information. Nevertheless, to this day, high quality examinations continue to be intrinsic to the credibility of the COSECSA concept.

In fact, examinations are an area in which COSECSA is often seen to have a comparative advantage over university-based surgical training programmes. In the COSECSA model, examinations tend to be much larger, with examiners from all around the region and, indeed, all around the world, taking part. Trainees, therefore, are not examined by their own trainers – this is generally not the case in the university model. COSECSA puts a great deal of effort into examinations – both written and clinical. Although each are held just once a year, it truly is a year-round task!

Collaborative Examination Activities

COSECSA and RCSI have collaborated on a wide variety of activities related to examinations from the earliest days of the CP. In many ways, the examinations provided an easy initial area of cooperation as the format of both Colleges' examinations, at that time, were relatively similar.

Collaborative activities have included exchanging examiners, running seminars for COSECSA examiners in advance of clinical examinations, holding examination scenario question-writing workshops, producing examination guidance videos and supporting the creation of a Court of Examiners. Relating to the quality assurance of the COSECSA examinations, RCSI has assisted with benchmarking of examination candidates against international equivalents, psychometric analysis of the clinical examinations, the review and revamping of training post assessments and the introduction of an electronic logbook for surgical trainees.

Examiner exchange

The first RCSI examiners to participate in the COSECSA clinical examinations travelled to Maputo, Mozambique in 2008. Three more examiners travelled to Kigali, Rwanda for the COSECSA examinations in 2009. The purpose of these visits was to help demonstrate the international standard of the COSECSA clinical examinations and assist in the continuous enhancement of their quality.

Over time, this one-way 'sending' of examiners evolved into an examiner exchange – where equal numbers of examiners from COSECSA and RCSI travel to examine in each other's examinations. This arrangement epitomises the principles of mutual respect and equality in action that underpin the collaboration. Dozens of examiners have travelled in each direction and contributed to building the quality of both examinations. An additional benefit has been that the exchange has helped examiners from each College to get to know the other institution. For many of the examiners, their initial participation has led to longer-term involvement in other ways.

COSECSA also developed reciprocal examiner exchanges with the West African College of Surgeons and the Colleges of Medicine of South Africa. Furthermore, a large number of international surgical bodies have also sent examiners to COSECSA examinations, such

as the Royal Colleges of Surgeons in Australasia, England, Glasgow and Edinburgh, the American College of Surgeons and many universities and professional bodies. They have all contributed greatly to the quality and reputation of the COSECSA examinations.

The RCSI/COSECSA examiner exchange has contributed to the spread of new ideas. One example of this is the change of format of the COSECSA Membership examination. This examination changed from a more traditional format to a more objective and structured format – known as the Objective Structured Clinical Examination (OSCE).

This was a significant development. Holding an examination in the OSCE format requires a great deal of preparation – all of the questions to be asked in each bay and the marking scheme for each question are all scripted and validated in advance. This ensures that each candidate receives an almost identical opportunity to demonstrate their knowledge.

On the one hand, this removes flexibility and spontaneity – it is not much fun for the examiners! More importantly however, it ensures that all stations are of a consistently high quality, prevents examiners from slipping onto their 'pet topics', allows for rigorous statistical analysis of the quality of each station, continual refinement of the examination and, overall, ensures a very objective examination. It's hard work but worth the effort! Examining in the membership examination in RCSI was a catalyst behind the decision of Professor Abebe Bekele (Chair of the COSECSA Examinations and Credentials Committee) and colleagues to recommend the change of format in the COSECSA examination. COSECSA's membership OSCE examination took place in 2016 – RCSI had made a similar change just a few years previously. Since then, the CP has assisted COSECSA in holding a number of OSCE scenario writing workshops.

The schedule of COSECSA examinations – which rotate from country to country throughout the region – adds a particular logistical challenge. As with the surgeons, examination administrators from both Colleges have travelled back and forth, assisting with examinations in both the COSECSA region and in RCSI. One area in which the exchange of administrators greatly helped was the development by the CP and COSECSA Examinations and Credentials Committee of examination Standard Operating Procedures. These highly detailed operating procedures essentially provide a step-by-step manual for each institution hosting the examinations.

Other Examination Supports

In 2009 and 2010, small groups of RCSI and COSECSA trainees sat a common mock exam, at approximately similar stages in their surgical training. This was intended as an exercise to benchmark the capacity of the candidates. The dedication of trainees to voluntarily sit an extra examination is commendable, particularly those trainees who had just completed a real examination the day before, and had probably celebrated completing that examination the night before!

For a number of years, the two Colleges collaborated in the delivery of examination seminars. These were held on the day prior to the COSECSA clinical examinations and were attended by all COSECSA examiners. In 2019, at the time of writing, the CP is working on rolling out online training for all examiners.

In later years, the RCSI Quality Enhancement Office undertook psychometric analysis of written and clinical/OSCE examination results, helping COSECSA to evaluate the quality of individual written questions and clinical/OSCE stations, and then used this information to improve the examinations.

The CP created videos explaining the COSECSA examination process, which were published online and printed on DVD. It also supported the establishment of the COSECSA Court of Examiners in 2016. This process was fresh in the minds of many in RCSI, as the RCSI Court of Examiners was launched not long beforehand, in 2014.

The delivery of written examinations electronically was trialed in 2017 with CP support. Although the technology proved useful in small-scale trials, expanding the trial to larger groups revealed too many technical issues for this method to be considered for a high-stakes examination.

With a small COSECSA Secretariat staff, CP staff Members have for many years worked side by side with the Secretariat, Registrar, Chair of Examinations and Credentials Committee, the various Specialty Panel Head and a host of local volunteers to administer the clinical examinations. These were often long, hot and hectic days, with results tabulated and crosschecked the same day and late into the evening. A notable highlight was the innovative use, in Mozambique in 2017, of a pulley system to bring examination mark papers up to a first floor office where the results were being entered!

With a large number of hospitals spread over a vast geography, it is always going to be challenging for COSECSA to implement ongoing tracking and assessment of the day-to-day progress and activity of each trainee. While developments such as improved hospital accreditation processes and expanded training of trainers are helpful in ensuring the standardisation of training across the many different sites, COSECSA still remains dependent, to a large degree, on the quality of its examinations to determine the competency of its trainees to perform surgery independently.

Electronic Logbook

In 2017, the CP assisted with the development of online training post assessment forms, allowing COSECSA a real-time insight into the training experience available to each trainee in each training post.

However, the most important development for on-going trainee assessment has been the introduction of an electronic logbook. Prior to the introduction of the logbook, trainees recorded the operations that they performed, or assisted at, on paper forms. As trainees progressed through their training programmes, these became sizeable documents! The paper-based logbook format presented several difficulties for COSECSA. Given the wide geographic distribution of training hospitals, there was no mechanism by which examiners were able to get access to the full logbook until the candidate physically brought it to the clinical examination location. This situation prohibited any real time feedback during the training period. The full logbook could only be seen for the first time at the clinical examination where, if the operative experience in the logbook was deemed to be inadequate, it was too late for it to be remedied. It was also difficult to verify that the manually calculated summary sheet was an accurate reflection of the operations recorded in the logbook. Trainers at each accredited hospital signed off on each trainee's logbook as a true record, but with ever-increasing numbers of trainees this system required change.

It was also evident that the forms were not practical for trainees – in order for a trainee to get a summary of their operative experience at any one time, they had to spend a long time adding up numbers and, if the logbook were to get lost or damaged, it would be very difficult to replace!

The CP performed some analysis on the paper-based logbooks – this was extremely laborious, requiring logbook data to be scanned and, later, manually inputted into Microsoft Excel for analysis. The way in which operations were recorded in different logbooks was also not always comparable. Because of these constraints, only limited analysis was possible.

The continued growth of COSECSA, and the ever-increasing numbers of trainees and examination candidates, increased the pressure to find a more streamlined way of collecting, collating and analysing trainee data.

Following a slow start, work began in earnest on production of an electronic logbook in 2013. This was led by Professor Pankaj Jani in COSECSA, Professor Seán Tierney in RCSI, and Mr Eric O'Flynn in the CP, with a substantial input of time and expertise from Mr Donncha Ryan in the RCSI Department of Surgical Affairs. The electronic logbook was designed specifically for COSECSA's needs and the regional context. The paramount design consideration was the imperative that the logbook be used consistently. Therefore, ease of use and reliability were felt to be key factors. A logbook that required the trainee to enter large amounts of detail was felt likely to be impractical. The pursuit of greater detail was thought likely to actually result in lower quality entries and every effort was made to ensure the process was quick and easy, while still capturing the essential data.

Options were explored to allow trainees to input operations offline – to circumvent often slow and unreliable broadband internet in the region – but technical concerns were raised with this solution. To mitigate the issue of internet access the logbook was designed to be ‘mobile-first’ software, built to work well on mobile phones and tablets, capitalising on the phenomenal growth of mobile broadband in the region. Smartphones tend to have more reliable internet access in the COSECSA region than computers connected to fixed line internet.

The bespoke electronic logbook was introduced in January 2015 with a phased rollout – new trainees were required to use it, while trainees already in a training programme continued with the paper-based logbook until the end of their programme. Exemptions were granted for trainees with previous qualifications (these trainees are entitled to pursue a shortened COSECSA training period) and trainees based in Pan-African Academy of Christian Surgeons’ (PAACS) hospitals. PAACS is a group of hospitals with a focus on surgical training through the COSECSA model; this organisation has its own electronic logbook and produces data from it for COSECSA assessment.

The logbook has proven successful. With over 175,000 operations logged, as of mid 2019, it has become one of the largest datasets, if not the largest, of African surgical trainee operative data. Hundreds of trainees from all across East, Central and Southern Africa are now using it to record their operations on a daily basis. User experience feedback suggests that while all trainees have some internet access, internet reliability, speed and cost all remain issues, and discourage use of the logbook. COSECSA and the CP will continue to develop the logbook further, looking for ways to best meet the needs of trainees, trainers and examiners.

Furthermore, logbook assessment is now becoming a continuous process; COSECSA and the CP are looking at how best the logbook data can be utilised for individual trainee assessment, comparative analysis of training posts and much more. Insights gained from analysis of the logbook data are being used for curriculum development and will soon provide the basis for research projects that will shed important light on the operative experience of African surgical trainees.

Chapter 6

Training Support

Initial training cooperation between the two Colleges involved RCSI faculty delivering a small number of training courses to trainees in the region. Over time, this changed into a situation where the CP supported COSECSA faculty to deliver courses while providing materials, finance and training of trainers. Former CP programme director Mr Roger Duggan described the philosophy behind this: “The priority is to use local surgical capacity for training rather than having surgeons from high income countries provide it. While some training continues to be provided by the latter, we are primarily focused on building the surgical capacity of COSECSA. It’s not so much about Irish surgeons going over to do the training, it’s more about building the capacity of COSECSA at the local level to do that.”

Since 2017, growth in the capacity of the COSECSA Secretariat has enabled it to take on more and more of the responsibility for the organisation of courses. For the most part, in terms of short courses, the CP now simply works with COSECSA to help it define its short course training plan and provides funding to COSECSA to assist it in administering the courses it plans.

Basic Sciences

University surgical training programmes in the COSECSA region generally devote the first year of training to the basic sciences – anatomy, pathology and physiology. This is a significantly stronger focus on the basic sciences than would be common in surgical

training in many other parts of the world. It is also a key difference between the University and COSECSCA training models, and has on occasion been seen as being a relative disadvantage of the COSECSCA model. It has, furthermore, been a key concern of regulatory bodies in some countries in the region.

Within that context, building a model for the sustainable delivery of basic science training has been a high priority from the earliest days of COSECSCA. In fact, RCSI had an involvement in the basic sciences in the COSECSCA region pre-dating the CP.

Professor Clive Lee (Anatomy), Professor Mary Leader (Pathology) and Professor James Finucane (Physiology) travelled from RCSI to Kenya and Zambia in November 2007 at the invitation of the International Federation of Surgical Colleges to deliver basic science teaching to COSECSCA trainees. This training became part of the work of the RCSI/COSECSCA collaboration and further courses were held in the region in each subsequent year. In 2009, Dr Dom Colbert replaced Professor Finucane as the physiologist.

Such training courses could only ever reach a small number of trainees. In order to bring about a more sustainable method of delivery of basic science training throughout the region, in 2010 the two Colleges took the decision to train a COSECSCA faculty of basic scientists in each member country. This faculty's objective was to develop and deliver a standardised COSECSCA basic short course, which was to be rolled out in each COSECSCA member country. Attendance at a basic science short course was defined as mandatory for all MCS level candidates.

Three surgeons were selected from each member country – there were nine COSECSCA member countries at the time. From 2011 to 2013, Dr Colbert, Professor Leader and Professor Lee ran a three-year basic science faculty development programme for these 27 surgeons. In each of the three years, two faculty development courses were held in different countries in the region. One course brought together the faculty from the Northern countries, and another assembled faculty from the Southern countries. Courses took place over a three-day period and were each preceded by a one-day course for local trainees.

Responsibility for organising and running these courses of behalf of COSECSCA was then handed over to this newly created COSECSCA basic science faculty. The CP continued to support these courses with a modest contribution of US\$1,000 for course costs, for each course held. This was a successful example of the deliberate and careful handover of responsibility from a jointly managed CP initiative to one run entirely by COSECSCA. COSECSCA basic sciences are now run throughout the region. Other organisations also hold such courses. The aforementioned Pan-African Academy of Christian Surgeons (PAACS) runs its own comprehensive basic science course every second year, bringing all MCS candidates based in PAACS hospitals to a single location in Limuru, Kenya for this training.

The next step for COSECSA surgical basic science training in the region was the roll-out of a comprehensive, modular, online basic science course, hosted on School for Surgeons, COSECSA's e-learning platform, and complemented by structured teaching sessions in each training hospital. With the assistance of the CP, this development is led by Professor Russell White, Chair of the COSECSA Education, Scientific and Research Committee and colleagues in Tenwek Hospital, Kenya, Dr Katherine Hill and Dr Andrea Parker. The course launched on January 1st, 2019 and represents a huge step forward for basic science training in the region.

Train the Trainer and Master Trainer

It is challenging to ensure a consistently high standard of training across the vast geography of the COSECSA region and the wide variety of hospital types accredited by COSECSA for training. While the COSECSA hospital accreditation process can go some way towards determining whether a hospital has all the prerequisites to be a surgical training hospital, a need was identified to train and accredit the surgeons responsible for training in each of these hospitals. In July 2010, in his capacity as an external evaluator of the Collaboration Programme for Irish Aid, Dr Jim Kiely articulated the need for “the improvement of the capacity [of COSECSA] to provide a consistent and uniform training experience to its trainees. While training has to be appropriate to national contexts, the overall training framework needs to be such that training is consistent and quality-assured irrespective of location. The recruitment and retention of high-quality trainers is fundamental to the achievement of this objective” (2010).

The RCSI Institute of Leadership is an institute within RCSI whose mission is to “improve human health through the development of excellent leaders and managers in the health professions” (2019). The Institute of Leadership had already delivered a leadership course for the COSECSA executive in Tanzania in 2009, and was requested by COSECSA to assist in the development of trainers. They were tasked with developing and delivering a standardised course across all countries in the COSECSA region to ensure that COSECSA's surgical trainers would have the skills and tools needed to deliver high-quality training. Course content included lecture techniques, bedside teaching techniques, skills training in a clinical setting, surgical trainee feedback, workplace-based assessment and trainee communication and interaction. Pre- and post-course material was created and made available to course participants online on COSECSA's School for Surgeon e-learning platform.

Between 2011 and 2013, Professor Ciaran O'Boyle, Mr Dermot O'Flynn and Mr Brendan Colclough ran 17 courses across 10 countries, including holding the first COSECSA training course for the new member country of Burundi. In all, 212 COSECSA surgeons were trained in these courses, about 15% of the surgeons in the region at that time. In 2013, looking to ensure the sustainability of these train the trainer courses, it was decided

to develop a local faculty in each COSECSA country to run the courses, much as had been done with the basic science courses. The RCSI Institute of Leadership was asked to assist COSECSA to develop this cadre. A group of 28 surgeons –known as “Master Trainers” – was trained in 2014 and 2015 to continue this work. Since then, this cadre of master trainers has continued to run Train the Trainer courses, and has trained as many surgeons in the region as were trained directly by the RCSI Institute of Leadership. The COSECSA Train the Trainer course remains the only path through which a COSECSA Fellow can become a COSECSA-accredited trainer.

In 2018, COSECSA, facilitated by the CP, agreed a partnership with the General Electric Foundation-funded Safe Surgery 2020 initiative to grow the master trainer and train the trainer programmes. With this partnership, it was agreed to develop anaesthetists, theatre nurses and obstetricians/gynaecologists, as well as surgeons. The leadership element of training was also expanded and enhanced and the curriculum reviewed to incorporate leadership training. Under this programme, further master trainer courses have been delivered in 2018 and 2019, with facilitators from JHPIEGO joining the RCSI and COSECSA facilitators.

Other Short Courses

Between 2011 and 2016, eight seminars for higher-level Fellowship trainees were held across the region, financially and logistically supported by the CP. The collaboration also supported a number of other courses such as trainee basic sciences courses, critical care courses and management of surgical emergencies courses with the Association of Surgeons of Great Britain and Ireland.

The CP helped COSECSA to map and advertise courses held in the region, not just those in which COSECSA was directly involved, but a wide variety of surgical courses from a number of partners. COSECSA’s own capacity to deliver short courses has continued to expand. In 2016, for example, COSECSA delivered, or was a partner in the delivery of, 70 short courses across the region. Of these, the CP was involved in the delivery of 27.

E-Learning

Although e-learning seems as though it has been a fixture of education for many years, it is still in its relative infancy. Even the word ‘e-learning’ itself, only dates back to the 20th Century, with its first use recorded in October 1999 (e-Learning Fundamentals, 2019). The explosion of electronic communications in the early years of the 21st century and the birth of COSECSA at the turn of the century are, perhaps, not coincidental. Without websites, email, online databases, file sharing and e-learning, to say nothing of messaging apps and social media, the vast distances between training hospitals, in conjunction with poor transport and communication links, would have made the organisation of a regional, multinational surgical training College in Sub-Saharan Africa a truly daunting task.

The CP's first foray into e-learning was a pilot project in 2008 run in Kenya, Uganda and Zambia, giving COSECSA trainees access to RCSI's e-learning platform for its own surgical trainees, School for Surgeons. Trainees completed weekly case studies moderated by RCSI trainers and were also granted access to a wide range of self-directed surgical education tools and materials. This pilot was well-received but the need for context-appropriate content was highlighted, as well as the difficulties trainees often faced in accessing the internet.

The CP set up COSECSA's own, separate platform in 2009 – also known as 'School for Surgeons' but using the .net domain instead of .ie. It began with content brought over from the Irish platform, such as the Basic electronic Surgical Training programme (BeST), and some content created specifically for the new site by COSECSA and RCSI surgeons. Each year the site has grown, along with the requirement for online work to be completed by COSECSA trainees who now complete thousands of online cases and journal club modules each year. These cases are written entirely by COSECSA surgeons and a large bank of cases across most specialties has been developed.

In order to distribute video and other bandwidth heavy materials, a suite of COSECSA-branded surgical training DVDs were printed – several thousand of which were distributed across the region.

To improve trainee access to these materials, IT labs were equipped in 26 hospitals across the 10 COSECSA countries (in 2014), most of which were also supplied with internet connectivity by the CP.

As communication technology has continued to develop at breakneck pace, neither the concept of IT labs, nor the distribution of DVDs, have stood the test of time. Mobile broadband and the proliferation of laptops and smartphones among surgical trainees made the provision of desktop PCs in hospitals redundant. Improved internet speeds meant that even bandwidth-heavy content could be streamed from the internet, removing the need to distribute DVDs, even as DVD drives themselves quickly became rare!

COSECSA's School for Surgeons e-learning platform, however, continues to go from strength to strength and was completely revamped by the CP in 2013 and again in 2016. In recent years, in addition to an increasing array of content generated by COSECSA and supplementary new material supplied by RCSI, other partners have come on board in the production and moderation of e-learning materials. University of Toronto and McMaster University produce the "Surgery in Africa Journal Club" section of the site; this arose from the Surgery in Africa website, which was previously an entirely separate website administered by the University of Toronto. Dr Andrew Howard, Professor Pankaj Jani, Dr Brian Ostrow and many others contributed enormous time and effort to this much-loved resource. In addition, staff at Tenwek Hospital and others have committed a great

deal of effort to the online basic surgical sciences course. A significant number of other institutions have also given permission for their material to be used on COSECSA's School for Surgeons, greatly expanding the offering available to COSECSA's trainees.

While in the early years of the CP, most of the COSECSA e-learning administration was performed in Dublin, School for Surgeons is now almost entirely managed in Arusha by the COSECSA Secretariat.

The two Colleges also worked together to build the WHO Emergency Trauma Care e-learning tool (WHO, RCSI, & COSECSA, 2014), based on WHO material.

Mobile Skills Unit

The world's first dedicated mobile surgical skills training unit was launched by RCSI in Ireland in 2006, working on the concept of bringing training to the trainees rather than the other way around. Training courses were held in the unit in locations throughout Ireland until 2013. By 2013, improved public transport and the expansion of the motorway network in Ireland had made it easier for surgical trainees to travel to Dublin to attend surgical skills training courses, and the decision was taken by RCSI to take the unit out of service. However, it still had great potential value for other contexts. Plans were drawn up to move the unit to Africa, where the high cost of travel makes it difficult for trainees to attend courses. The unit was refurbished, rebranded and equipped with surgical training technology, such as laparoscopic simulators, and a wide range of training materials.

On July 10th, 2014, the refurbished mobile surgical skills unit was launched from Dublin bound for Dar es Salaam via the UK. Mr Francis Kaikumba, the CEO of COSECSA at that time, noted that the unit would "help COSECSA immeasurably in providing a cost-effective 'College Without Walls' approach to surgical training." The unit worked initially in a number of locations in Tanzania before moving to Mozambique in late 2017, where it continues to host a wide variety of courses.

Elective opportunities for RCSI trainees

While COSECSA has benefitted from the CP, RCSI has also gained greatly from this partnership. An example of this is the medical elective programme.

"Electives" are essentially voluntary, unpaid medical internships undertaken by medical students to gain experience – usually during their summer course holidays. Many trainees aim to gain experience in hospitals considered to be at the cutting edge of advances in medicine. For others, their interest lies in medicine in the developing world. These students tend to organise electives in LMIC hospitals either through for-profit companies, which charge large amounts for the privilege, or directly with contacts in the LMIC hospitals. Such electives are often unsatisfactory for a number of reasons.

As Dr Alice McGarvey and colleagues point out (2016), many medical students “were undertaking electives in developing world countries on their own initiative and returning with worrisome reports of duties that entailed excessive clinical responsibilities... These placements accrue advantages almost entirely to the medical students, rather than the hosting institution.”

Assisted by the CP, RCSI now offers senior RCSI medical students meaningful electives in COSECSA-accredited hospitals. Hospitals are selected on the basis of their suitability and according to the benefits available to both the student and hospital, in terms of facilities and the presence of a qualified medical doctor willing to teach students at an appropriate level. Applicants are interviewed to ensure their suitability. Successful students receive pre-departure training, as well as clinical and logistical support throughout their six-week placement. The elective programme began in 2011 and has placed medical students in hospitals in Moshi in Tanzania, Addis Ababa in Ethiopia and Nakuru, Nyeri and Kijabe in Kenya. Dr McGarvey concludes that the RCSI/COSECSA medical elective programme and similar models “will facilitate the education of future medical professionals in global health while assuring adherence to ethical principles and mutual benefit to both students and their host communities” (McGarvey et al., 2016).



Professor Krikor Erzingatsian is held up as an example for RCSI students and trainees. With his portrait are members of the RCSI/COSECSA Steering Committee



Examiners from COSECSA and RCSI examine in the other institution's exams - Here in RCSI Dublin are Mr Peter Gillen, Dr Samwel Nungu from Tanzania and Ms Deirdre Mangaorang



New graduates at the Kigali 2018 graduation ceremony with Mr James Geraghty, RCSI and Ms Lorraine Gallagher, Irish Aid.



COSECSA Train the Trainer course, June 2014, MP Shah Hospital, Nairobi

Dr Phyllis Kisa was the first surgeon to obtain two COSECSA Fellowships by examination, and featured on the front of a Collaboration Programme flyer!



Prof Gerald O'Sullivan receives an honorary fellowship of COSECSA. Jack Kyle, Irish rugby legend and former surgeon in Zambia was in attendance (2nd from right)



“A most productive and constructive relationship between a venerable old-world College and a newcomer.” *Prof Krikor Erzingatsian*

A course in the RCSI/COSECSA Mobile Surgical Skills Unit. March 2019 in Maputo, Mozambique





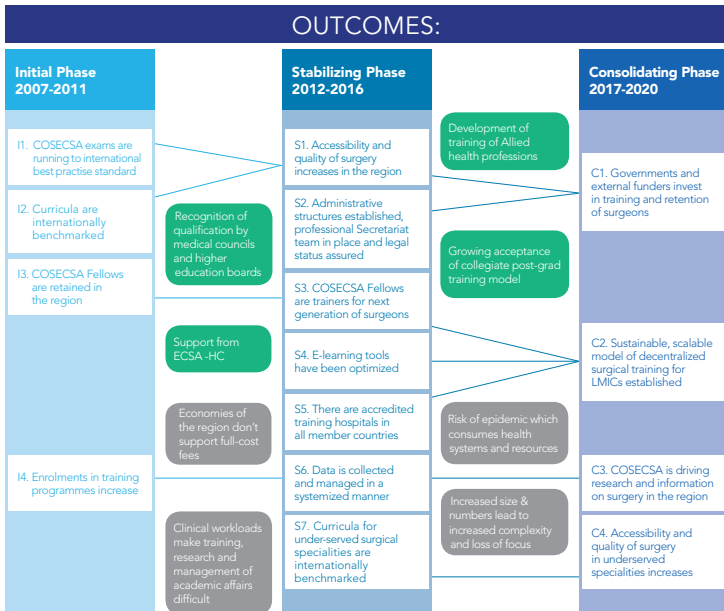
Medical elective programme - Dr Sasha Moloney with Vaileth Steven Kisima and her baby Boba in Kilimanjaro Christian Medical Centre, Tanzania



RCSI/COSECSA Collaboration Programme
Theory of Change

External factors:

- Enablers
- Preventers



COLLABORATION PROGRAMME & COSECSA

BETTER SURGERY ACCESSIBLE TO MORE PATIENTS

- Lack of urgency from policy-makers
- Lack of surgical data
- Online surgical training materials dispersed and difficult to access

Ms Rosemary Mugwe, Ms Edith Ng'ang'a and Ms Judith Andrew from the COSECSA Secretariat and Mr Brume, Kigali event manager (l-r)



Four presidents discuss: Prof Stephen Ogendo, Dr Yusuf Kodwawala, Prof Christopher Samkange and Mr Declan Magee in RCSI



Examiners convene after the 2018 COSECSA clinical examinations in Kigali



In commemoration of 10 years of collaboration, Prof John Hyland presents Prof Miliard Derbew with a new COSECSA President's Medal and Chain of Office



Prof Francis Omaswa (l) and Prof Krikor Erzingatsian (r) receive honorary fellowships of RCSI with Mr Declan Magee (c)



Dr Jane Fualal, General Surgeon and COSECSA Treasurer operating in Mulago National Hospital



Candidates line up for examinations, Maputo, Mozambique 2017



RCSI/COSECSA research grant award winners 2018



Dr Elysha Brennan, the 2015 "Rose of Tralee" with Dr Frank Madinda in front of the RCSI/COSECSA Mobile Surgical Unit in Arusha, Tanzania



Dr Clovis Paulin Baramburiye, COSECSA trainee in University Hospital Kamenge, Burundi





Dr Jane Fualal - Patron of Women in Surgery Africa receives a WISA scarf from Dr Pamela Samoyo, Vice-Chair



Declan Magee presents the Prof Gerald C. O'Sullivan medal for best overall result exam in the COSECSEA exams to Dr Philip Blasto Ooko from Kenya

Chapter 7

Rural Surgery

COSECSA focuses on training medical doctors to become surgical specialists. This is based on the concept that a surgical workforce trained within the region to international standards is the best way to provide the surgical care that communities deserve. However, in many cases quality surgical care may be surgeon-led rather than surgeon-delivered.

The majority of surgery in Sub-Saharan Africa is likely to be performed by non-surgeon cadres, such as general medical officers (GMOs), and in some countries, non-physician clinicians (NPCs) such as clinical officers. The NPC is a cadre without any equivalent in HICs. NPCs are not doctors but are clinicians, in that they have generally received two to three years of clinical training, and in many countries in the region are the main and sometimes the only providers of surgical care in rural and remote communities. The title of this cadre can vary from country to country with NPC a common term for this group.

Appropriate Training?

Opinions vary widely regarding the appropriateness of training NPCs in basic surgical techniques. One way of looking at the issue may be that, due to the serious and sometimes absolute lack of surgeons, particularly in rural areas in some of the COSECSA countries, GMOs and, in some cases, NPCs will be performing such surgery anyway. Therefore, training should be provided for them to improve the quality of their work and increase patient safety. On the other hand, safety concerns, together with evidence that other strategies exist for delivering essential surgical services to communities that

otherwise would not have access to surgery, may mean that some countries will not endorse either the NPC model or a reliance on surgically-trained GMOs. The essential skills of a rural clinician, whether a GMO or an NPC, must include the development of the clinical judgment required to make good decisions on when to operate, when to observe and when to refer patients. The optimisation of this ability will require stronger systems of supervision and support by surgical specialists within district and rural populations. Such supervision and support systems are currently being tested by the SURG-Africa programme (2019) in Malawi, Zambia and Tanzania – of which more later.

Throughout the period of collaboration between the two Colleges, surgical training of non-surgeon cadres has been a contentious issue in global surgery. In the early years of the CP, there were differences of opinion between the two Colleges in relation to what role, if any, it would be appropriate for COSECSA and CP to play in training such cadres. Many on the RCSI side of the steering committee felt that delivery of surgical training by COSECSA and the CP to such cadres would be of real value, while the majority view on the COSECSA side was that COSECSA's limited resources should be focused on the training of fully-qualified surgeons. COSECSA also recognised, however, that each of its member countries faced a different situation with different models adopted by national governments and surgical societies to address the surgical needs of rural populations. Some countries have had a history of NPCs delivering surgery in rural areas, notably: Tanzania (where they are known as Assistant Medical Officers); Mozambique (Técnicos de Cirurgia); Malawi (Clinical Officers); and Zambia (Medical Licentiates). Hence, while COSECSA as an institution has not wished to engage in the surgical training of NPCs, national surgical societies and other institutions in some COSECSA countries have engaged in initiatives to train and supervise these cadres.

The CP looked at how to support the junior doctor cadre to provide surgical services; this is a less controversial undertaking than training clinical officers as this cadre, while not trained surgeons, are doctors and would be considered to have much more comprehensive medical training than their clinical officer colleagues. In 2013, the CP established the Essential Surgical Training (EST) programme, aiming to equip junior hospital doctors in rural hospitals with basic surgical and referral techniques. Outside of the EST training programme, these junior doctors have no structured surgical training apart from peer training and support systems. EST training is conducted by experienced, senior-level COSECSA surgeons. The training focuses on key requirements in hospitals with an emphasis on trauma (management of musculoskeletal injuries etc.) and general surgery problems (e.g., hernia). The training also addresses management of actual emergencies. The EST Programme commenced with a one-year pilot programme in Zimbabwe and expanded to Rwanda and Zambia in late 2014. As of 2019, the programme is ongoing in Rwanda and Zimbabwe.

Innovative Programmes

COSECSA representatives from Zambia (Surgical Society of Zambia) and Malawi (through the College of Medicine) joined with Professor Ruairí Brugha and the Department of Epidemiology and Public Health in RCSI, as well as Radboud University Medical Centre, Netherlands, to “design, implement and evaluate a unique, scalable district Clinical Officer surgical training programme that addresses the scope of the deficit in surgical skills in Malawi and Zambia.” This project was entitled COST Africa – Clinical Officer Surgical Training in Africa (Gajewski, Dharamshi, et al., 2017). It received European Commission Horizon 2020 funding and ran from 2011 to 2016, supporting the training of clinical officers in Zambia and Malawi, and, between 2017 and 2019, published details of the achievements and lessons learned in international surgical and general research journals. This research project did not directly involve either COSECSA or the CP. However, it is an example of the organic growth of cooperative work between institutions that have a common goal, in this instance, the objective of meeting the essential surgery needs of populations in the specified region.

In 2016, following on from the success of the COST Africa research project, the team developed a follow-on implementation research programme, SURG-Africa, also led by researchers based in the Department of Public Health and Epidemiology at RCSI, to test a model of supervision by qualified surgeons of available surgical providers at district and rural hospitals, be these NPCs or GMOs. It is being implemented, like COST Africa, in Malawi and Zambia, and has also been extended to involve Tanzania. In addition to the COST Africa partners – College of Medicine of Malawi, Surgical Society of Zambia and Radboud – new partners have come on board: the East, Central and Southern African Health Community, Oxford University, Tanzania Surgical Association and COSECSA. This project, SURG-Africa 2017 – 2020, is funded by the European Commission, under the Horizon 2020 Programme.

Chapter 8

Harnessing the Power of Data

The Collaboration Programme has spanned a period of rapid change in the way the world communicates and collects, stores and disseminates data.

The CP helped COSECSA to develop its first ever website, then gradually develop the site over time and twice conduct complete redesigns and revamps of the site. The website has become a hub for surgical training information in the region and a platform for Members and Fellows to register for courses, apply for training, pay fees and carry out many other tasks.

In the early years of the CP, COSECSA record keeping was mostly paper-based. Physical registers of trainees, Members and Fellows were kept, along with other records, in Excel spread sheets and Word documents. The widely dispersed nature of COSECSA training, lack of staffing and poor phone and internet connectivity all contributed to a general difficulty in record-keeping. However, the relatively small numbers of trainees and examination candidates at that time meant that, while it was not an ideal way of working, it remained feasible for the College to carry out its functions in this way.

Keeping Pace with Rapid Growth

Rapid institutional growth in the years following the start of the CP made change inevitable. COSECSA and the CP decided in 2011 to produce a single, safe, authoritative online database of trainees, Members and Fellows. After trialling several different

options, Capsule, a cloud-based customer relationship management system, was selected as the most appropriate option for COSECSA's needs due primarily to its user-friendly design. A central database was set up using this software and populated with all relevant information from the various paper and electronic sources available, with an extensive exercise undertaken to cross-check available information and obtain missing information.

The database initially comprised data on all COSECSA Fellows, Members and trainees and was launched in 2012. Almost immediately, it began to grow as contact details of attendees at COSECSA courses and events were also entered into the database. The status and professional details of surgeons who were not Fellows of COSECSA were verified by COSECSA Fellows and added to the database. In this organic manner, the majority of surgeons in the COSECSA region were included. Throughout 2014 and 2015, COSECSA and the CP undertook a formal validation exercise to cross-check, update and expand all existing records via a combination of consulting primary sources and making direct contact with surgeons, their peers and their employers. All surgeons not previously included were added at that point. This meant that the database then contained an individual profile of every surgeon living and working in the region. This dataset, as of 8th December, 2015, was analysed to produce the first comprehensive situation analysis of the specialist surgeon workforce in East, Central and Southern Africa, and was published the following year (O'Flynn et al., 2016).

In an effort to share this new data in the most useful format, COSECSA, RCSI and the International Collaboration for Essential Surgery (ICES) (Essential Surgery, 2019) came together to build an interactive map of the regional surgeon workforce. The Surgeon Workforce Map (ICES, RCSI, and COSECSA, 2019) allows the user to engage with COSECSA countries, identifying data such as surgeon numbers per country and surgeon:population density. This can be further broken down by specialty, region and right down to individual hospitals. This tool highlights both the dearth of surgeons in general and the issue of their geographical distribution. Surgeons are predominantly based in urban areas, while the population remains predominantly rural. The map serves as both a tool for advocacy and a practical resource for all involved in surgery and surgical training in the region. It is hoped that it speaks to audiences who may be unfamiliar with academic papers on the surgical workforce.

As the COSECSA website gradually became a platform for more and more functionality, it was integrated ever more closely with the database. It became a requirement for prospective trainees to apply for training online on the COSECSA website – these forms were integrated with the database, facilitating the setting up of workflows to streamline and professionalise the Secretariat's management of applications. Online payments, event registration and many other services were added to the website.

ECAJS Journal

COSECSA's journal, *The East and Central African Journal of Surgery (ECAJS)* in fact predates COSECSA, having been founded by ASEA as *The Proceedings of the Association of Surgeons of East Africa* in 1978. It received its current name in 1995 becoming a fully peer-reviewed journal at the same time. The journal aims to "advance the science and art of surgery and facilitate the exchange of ideas among surgeons in the constituent countries of COSECSA" (ECAJS, 2019). The journal was originally published twice a year, in hard copy. In 2006, it moved online and physical publication ceased, and from 2011 output increased to three publications a year.

Remarkably, just two dedicated surgeons have led the journal over this period. Professor John Jellis, an orthopaedic surgeon in Zambia, was editor-in-chief of "The Proceedings," and subsequently the ECAJS, from 1978 to 2000. In 2000, Professor Ignatius Kakande, a general surgeon from Uganda, former president of ASEA and one of the visionary leaders behind the creation of COSECSA, took over the reins and steered the ECAJS as editor-in-chief for nearly two decades. Professor Kakande will hand over to Professor Abebe Bekele in 2019. Professor Kakande's passion comes through clearly in his final editorial: "Though I am tired now, after my long stay in the editorship post, I know that I will miss working alongside these wonderful people who have helped me shape the ECAJS into what it is today. How lucky I am to have something that makes saying goodbye so hard" (2019).

Promotion and support of the ECAJS has long been an objective of the CP. The CP funded activities, such as administrative support and the funding of trainee research, which were subsequently published in the journal. Small funding lines covered the administrative costs of the journal. It must be said, however, that the CP did not fully succeed in providing Professor Kakande and his editorial group with all of the support their important work deserved. In 2017, Dr Andrew Mataya, a Malawian-Canadian doctor, came on board as journal assistant editor and made an important impact, building an online article submission portal and content management system. The journal also underwent a design revamp, launched a new website and built a vibrant social media presence. An academic partnership was entered into with the *Journal of American College of Surgeons*. The journal now aims to obtain indexing on PubMed – an important online search engine for medical journal articles. The ECAJS provides a unique insight into the practice and impact of COSECSA surgeons and others in the region.

Research, Data Governance and Ethics

With the notable exception of the *ECAJS*, it is fair to say that research was, for many years, some way down COSECSA's agenda as it concentrated on expanding and improving surgical training throughout the region. The decentralised model of training, while offering many advantages, does make academic mentoring and supervision more difficult, particularly for those trainees pursuing their studies in more remote locations. Although

the production of original research is a requirement of university training programmes in the region, this is not a requirement for COSECSA trainees.

When the CP facilitated the process whereby COSECSA created its first strategic plan, it was recognised that there was a growing need to promote research among COSECSA trainees and Fellows. The promotion of research thus became integral to the resulting 2017-2020 COSECSA strategic plan, with one of the four pillars of this plan comprised of actions and objectives to “achieve excellence in training and research.” Specific goals were set under this pillar to establish appropriate research structures, set research priorities and conduct research methodology training.

The CP assisted COSECSA to set up an Institutional Review Board (IRB), also known as an ethics board in some parts of the world. This board considers and approves research proposals in which COSECSA is involved and which involve people – be they COSECSA Fellows, trainees, patients or anyone else – to ensure that the research causes them no harm. This IRB does not replace in any way national, university or hospital ethics boards in the COSECSA region.

With the growth of COSECSA's database and logbook, it was felt imperative to ensure that the correct procedures were followed in the collection, storage and use of this data. As research interest in the field of global surgery grew, COSECSA began to receive ever more requests for access to its data. To handle these issues, a data governance group was set up.

A research statement was published in 2018 and, in early 2019, the remit of Andrew Mataya, ECAJS Assistant Editor, was expanded and he was appointed to the full-time role of research and publications officer.

A number of research projects have been undertaken collaboratively by RCSI and COSECSA looking at the surgical specialist workforce of the region (O'Flynn et al., 2016) and retention of surgeons trained in the region (Hutch et al., 2017).

Along with other partners, the Colleges together undertook research into e-learning in LMICs (Goldstein et al., 2014) and published a number of articles describing various aspects of the collaboration programme model (Hutch, O'Flynn, & Borgstein, 2016), (McGarvey, O'Flynn, & Tierney, 2016), (O' Flynn, O' Flynn, Deneke, Yohannan, & Assis, 2016), (“Implementing WHA68.15: A Global Update,” 2018).

Furthermore, COSECSA is a dissemination partner in SURG-Africa, the large research programme into rural surgery provision models described in the previous chapter.

Chapter 9

Building the Organisation

In many ways, COSECSA is unrecognisable from the organisation that it was in the first decade of the 21st century. The numbers of trainees being trained and examined by the College have grown exponentially. While seven candidates sat the first COSECSA examination in 2004, over 200 sat in 2018. As of 2019, over 600 surgical trainees are enrolled in COSECSA's programmes. The roles fulfilled by the College have also expanded significantly. As well as in-service training of surgeons and examinations, COSECSA now has important roles to play in research, advocacy, the training of non-surgeon cadres, and the provision of electronic tools and resources. This growth in activity was enabled by a growth in capacity. A virtuous circle has been established where increased growth requires increased capacity, which enables increased growth... and the cycle continues.

Energy, Determination and Capability

This progress has mainly been achieved through the efforts of COSECSA Council Members and Trainers who devote their time and efforts without any remuneration from COSECSA to advance the cause of surgery in Africa. COSECSA was initially run by a small group of surgeons, each of whom held other professional and clinical roles. It is testament to the energy, determination and capability of this group that the College was established and training programmes and examinations were successfully initiated. It was clear from the outset, however, that this would not be a sustainable way to run the organisation as it grew. It was not ideal that all management and administrative tasks were being

undertaken by busy, clinically active surgeons. There was little formal communication, a lack of strategic planning and the College was far from achieving financial sustainability.

The CP has always worked towards enabling a situation where COSECSA can itself undertake all the work it feels necessary to move surgical training forward in the region. For this, a professional COSECSA team was required to undertake management and administration roles, and that team requires the appropriate tools, information, processes and procedures. Development of institutional leadership, strategy and financial sustainability were also vital. In 2010, in the first of three independent external evaluations commissioned by Irish Aid looking at the work of the CP, Dr Jim Kiely noted: "COSECSA requires a powering up of its organisational and operational capacity to deal on a day to day basis with the complex business it has to transact... COSECSA requires a plan to move it towards being a self-sustaining and financially independent organisation... COSECSA needs to invigorate its communications with its multiple stakeholders."

Strategy

Building capacity encompasses developing leadership, strategic planning and financial planning capacity. As already stated, the CP facilitated COSECSA's production of its first Strategic Plan. The publication of this plan in 2016 was a milestone, providing clear guidance for the work of COSECSA in the 2016-2020 period. It set out a compelling vision for the difference that COSECSA intended to make and how it intended to make it. It set clear, measurable, high-level targets such as "Graduate 500 surgeons by 2020" (COSECSA, 2016) which have informed annual plans and reports, and articulated a clear vision for other partners to support.

The collaboration facilitated workshops in Jinja, Uganda and Dublin and helped to guide the process of creating this plan, however the content is entirely COSECSA's own. Working in a complex area, where there is great need and a wide range of potential responses, COSECSA is constantly at risk of over-reaching and spreading its limited resources too thinly across too many areas of work. The Strategic Plan has been useful in ensuring that all activities of COSECSA and its partners contribute to the targets articulated in the plan, and that activities that don't clearly contribute to a stated strategic objective are not pursued. As Eunan Friel, RCSI Managing Director of Healthcare Management, explained at the time: "The most important thing about a strategic plan is it tells you what you don't want to do!" These words have proven prescient. Recently, a Secretariat staff member reported: "Caught up in the throes of seeking funding, it can be easy to go down many blind alleys and to let donors dictate, but we cannot afford to allow this to happen. In the effort to raise money, it is possible to lose focus, but we are using the Strategic Plan to guide us ... if it does not appear in the plan we will not engage in it."

For the CP, there was a marked difference when it came to planning for collaborative work in the 2017-2020 period, as opposed to previous iterations. The Strategic Plan became

not only the guiding document for COSECSA, but also, logically, for the work of the CP. Directly or indirectly, all CP activity is now focused on the achievement of COSECSA's goals, as defined in the Strategic Plan.

COSECSA Staffing

The CP provided funding for COSECSA's first staff member, Ms Antonite Chisala, who joined COSECSA in 2009. Antonite worked 60% of her time with COSECSA and 40% with ECSA-HC. She then left in 2011 to pursue other opportunities and was replaced by Ms Judith Andrew, whose role soon became full-time with COSECSA. Dr Peter Stanczyk also joined the Secretariat in 2011, recruited through Voluntary Service Overseas, a professional volunteer-sending organization. Peter brought extensive experience from his native Canada, and worked on developing the organisation's administration in 2011 and 2012. He produced a document entitled "Enhancing COSECSA's Capacity: A Blueprint for Organisational Re-Design" which laid out a coherent, strategic proposal for the development of the administration and governance of the organisation. Many of the ideas and proposals in this document were to come to fruition in the following years. Mr Timothy Mushi from ECSA-HC was also seconded to COSECSA on occasion in 2011 and 2012 to provide temporary support.

In 2012 COSECSA Council agreed to recruit a Chief Executive Officer (CEO). This decision was not reached lightly; the need for a high-functioning professional secretariat was carefully balanced against the cost implications of creating such a position. COSECSA Council Members were concerned that, if the financial support of the CP was lost, increased staffing costs could bankrupt the College. The RCSI group within the CP took these concerns back to Dublin for consideration. After due consideration of the issues involved, it was decided that, even if no further Irish Aid funding was made available, RCSI would fund the salary and costs of the future COSECSA CEO from its own funding for a defined period of time. Thankfully, further Irish Aid support was forthcoming and this guarantee did not have to be called upon. It was, however, an important commitment which allowed COSECSA to move forward with confidence.

Following an international recruitment campaign, Mr Francis Kaikumba became COSECSA's first CEO in August 2013. Originally from Sierra Leone, Francis had spent most of his life in the UK and most of his working career in the development sector. He was looking for an opportunity to move back to Africa to contribute to the continent's development. Before joining COSECSA, he was CEO of the African Health Policy Network, based in London. Francis worked to professionalise communications, began the process of standardising administrative arrangements in each member country and commenced work on the COSECSA Strategic Plan. In March 2015, he moved on to work in Sierra Leone.

In December 2015, following another open and highly competitive recruitment process, Ms Rosemary Mugwe took up the managerial reins, relocating to Arusha from Nairobi,

Kenya. With a legal background, Rosemary brought extensive development experience to the role along with an emphasis on gender equity. Rosemary oversaw a massive expansion of the capacity of the Secretariat. Upon joining, she was also immediately thrust into the production of the 2016-2020 COSECSA Strategic Plan, its first long-term plan.

Since then, staff numbers have steadily increased. Mr Christopher Minja joined the team in August 2015 as Education and Training Programme Officer, and also manages the COSECSA IT portfolio. Ms Edith Ng'ang'a was recruited in November 2017 as Finance Officer. Ms Diana Kaiza joined in 2018 in an Intern position and Mr Amani Paschal Uiso and Mr Niraj Suresh Bachheta joined the Secretariat as Examination Assistant Officer and Education Assistant Officer respectively in June 2019. While much expanded and enhanced, it remains a relatively small team to undertake the work with which it is charged.

In parallel with strengthening the 'centre' in Arusha, the need to build administrative capacity in each COSECSA member country was also recognised. COSECSA surgeon country representatives are practising surgeons tasked with a long list of duties, such as organising short courses, liaising with trainees, Members and Fellows and more. With the growth of COSECSA, these tasks were becoming truly daunting, particularly in countries such as Kenya and Zambia, which had large numbers of trainees and Fellows. In 2017, part-time country coordinators were recruited in each member country. They have relieved much of the administrative burden from country representatives, and ushered in much-improved communication and administration links between Arusha and the COSECSA member countries.

Dr Andrew Mataya's change from part-time ECAJS assistant editor to full-time research and publications officer in February 2019 made him COSECSA's first full-time staff member based outside of the Arusha Secretariat. Dr Mataya is based in Blantyre, Malawi.

While in the earlier years of the CP, the majority of the cost of COSECSA staffing was covered by the CP, COSECSA is increasingly funding staffing costs from its own resources. The collaboration also assisted with tasks such as strategic human resources planning, recruitment and developing job descriptions. Development of COSECSA Secretariat staff took place through exchange visits – twinning COSECSA staff with RCSI staff in similar roles to share best practice and work together to find solutions to daily problems. COSECSA staff were also provided with targeted learning opportunities and a professional development planning process was instigated, based on a similar process in RCSI.

ECSA-HC have generously found space for COSECSA's growing staff numbers and continue to offer a wide range of administrative supports to COSECSA, such as payroll, HR and IT supports. COSECSA also contribute to ECSA-HC initiatives and form an integral part of the ECSA-HC organisation. In 2017, ECSA-HC joined with RCSI and COSECSA as partners in the SURG-Africa programme.

ECSA College of Health Sciences

A long-held vision was realised when the 52nd Regional Health Ministers Conference, held in Zimbabwe 2010, “resolved that there was a need to establish an umbrella College of Health Sciences to which all existing and future constituent Colleges will affiliate” (ECSA-HC, 2019). The ECSA College of Health Sciences (ECSA-CHS) facilitates the functions of its constituent Colleges: COSECSA, the East, Central and Southern Africa College of Nurses (ECSACON), Ophthalmology (COECSA), Pathologists (COPECSA), Anaesthesiologists (CANECSA), Obstetrics and Gynaecology (ECSACOG) and Physicians (ECSACOP). As Chair of the Senate of ECSA-CHS, Professor Pankaj Jani played an important role in building the collegiate system and assisting ECSACOG and ECSACOP in particular.

COSECSA and the CP recognise the interdependencies and synergies between the work of the various Colleges – for example, there can be no surgery without nursing and anaesthesia! Efforts to boost regional anaesthesia training are supported by both CP partners, with COSECSA offering staff-time to the fledgling CANECSA and RCSI offering technical support.

Administration

The CP has also worked to optimise COSECSA’s regular administrative processes. The creation and continual development of a secure, cloud-based database of surgeons, trainees and hospitals in the region has been central to efforts to streamline the Secretariat’s work. This database is COSECSA’s central repository of information on everything from trainee fee payment and hospital accreditation to member and Fellow demographic information and trainee examination results. Having a single, central repository of information, accessed by and contributed to, by all staff Members is vital for the efficient running of the office.

Many processes are built around this database. For example, the trainee application process begins when trainees fill out an online form on the COSECSA website, which then automatically creates a task for the Secretariat in the database. The trainee’s application moves through a number of predefined steps in the database, such as getting approval from the appropriate country representatives, making online payment and so on. The database allows different staff members to see the information they need: administration can deal with each individual application, finance can see how many trainees have (or haven’t yet) paid their programme entry fee and management can see the big picture in terms of number of applicants, number of trainees etc. Similar processes have been set up around event registration, hospital accreditation and re-accreditation, applications for membership and Fellowship, and more. Digitalisation has driven improvements in the quality of administrative processes. The closing date for trainee applications, for example, can now be more strictly adhered to than would have been possible when such applications were handled by Country Representatives.

COSECSA communications have improved greatly. The CP worked with COSECSA to begin a quarterly newsletter in 2012, originally entitled The President's Bulletin. As the Secretariat grew, it took over the production of this and the COSECSA News newsletter is now distributed monthly to trainees, Members, Fellows and other stakeholders. COSECSA also now maintains active Facebook and Twitter social media channels.

The COSECSA website has gone through several iterations and has grown from being a static tool displaying standard information to a vibrant source of news and upcoming events, an efficient processor of administrative tasks and a hub of information on COSECSA and surgery in Sub-Saharan Africa in general.

Finance

Irish Aid-mandated independent external evaluations of the CP have contributed greatly to the development of a sustainable COSECSA financial model. The second of these evaluations took place in 2013, led by Dr Garth Singleton. It noted the necessity for COSECSA "to improve its financial sustainability." Dr Singleton astutely recommended that COSECSA differentiate between core and strategic costs in its planning and reporting. Since then, this differentiation has always been used in COSECSA planning and reporting, as well as in the planning and reporting of the CP. The underlying principle that emerged from these external evaluations is that COSECSA must be able to independently meet its core costs from internally generated funding. To grow and accomplish the targets of its strategic plan, COSECSA will seek additional funding from partners (the largest of which is the CP), regional governments and other donors.

The third independent external review of the CP took place in 2016. While noting important achievements in a wide number of areas, such as "establishment of a Secretariat with strategic, management and administrative capacity", it highlighted several on-going challenges: "The staffing of the Secretariat is still insufficient to meet the needs of COSECSA... Whilst internal sources of income have increased, COSECSA is not yet financially sustainable... Reports from financial and administrative systems are not yet appropriate to allow sufficient management and governance oversight."

The CP has engaged with COSECSA in a number of ways to help the College achieve a sound financial basis. While the numbers may be different, both Colleges face similar challenges around engaging Members and Fellows and persuading them to pay their annual subscriptions! RCSI has shared experience, expertise and materials around how the Irish College has gone about such engagement. Administrative improvements, such as better data, better communications and easier ways for trainees, Members and Fellows to pay, have helped to drive income. The CP feels that the emphasis it has placed on building the Secretariat staffing has been an important factor in this progress. The clear increase in COSECSA's capacity has allowed it to become an attractive partner for organisations looking to work in the surgical training area in East, Central and Southern Africa. The

recruitment of a finance officer brought 'in-house' financial expertise to COSECSA. The College is now in a position to produce high-quality financial planning and reporting.

An area in which COSECSA and the CP have not, thus far, achieved their objectives is in obtaining regular, substantial budget line support from regional governments. Ad hoc governmental funding has been received, however, work remains to be done by COSECSA and the CP to persuade national governments to agree to the provision of more structured, consistent and long-term funding.

On all other financial goals, COSECSA has made strong and steady progress. COSECSA is now in a significantly stronger financial position than in previous years. While costs continue to rise in line with increasing activity, income has risen more quickly. COSECSA's income in 2018 was approximately three times what it was in 2016, with internally-generated income rising by approximately the same ratio. COSECSA is now in a position to plan its future activities with a degree of confidence about its financial sustainability.

Chapter 10

The Voice of COSECSA

For many years, few voices spoke on a global scale on behalf of those in need of surgery, with the World Health Organizations' Emergency and Essential Surgical Care programme being a notable and noble exception. The CP worked to raise COSECSA's profile as a voice for surgery in Africa on a global scale, funding travel to strategic meetings and funding events such as a COSECSA stakeholder conference in London in 2011.

Building Momentum

In 2014, momentum began to gather as a variety of NGOs, academic and professional membership bodies and others working for the provision of surgical care in LMICs banded together to form the Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care (the G4 Alliance). Both RCSI and COSECSA were founder Members of this alliance. The G4 Alliance advocates for the neglected surgical patient and "is driven by a mission to provide a collective voice for increased access to safe, essential, and timely surgical, obstetric, trauma, and anaesthesia care as part of universal health coverage" (The G4 Alliance, 2019). Professor Pankaj Jani of COSECSA served for a number of years as vice-chair of the Permanent Council of this alliance and now serves as vice chair of the board. Mr Declan Magee and Mr Eric O'Flynn have represented RCSI. The Alliance for Anesthesia and Surgery Presence (ASAP), an integrated society of the International Society of Surgery, has also provided an important voice for surgical care.

In 2015, The Lancet Commission on Global Surgery released the *Global Surgery 2030*

report. Three of the 22 commissioners were Fellows of COSECSA, namely Professor John Meara, Professor Chris Lavy and Professor Nyengo Makandawire. In May of the same year, the World Health Assembly approved its first ever resolution on surgical care, Resolution 68.15, which specified the objective of “strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage”. The push behind this resolution came from Zambia, led by Professor Emmanuel Makasa, COSECSA Honorary Fellow.

Thanks to its ASEA heritage, COSECSA has always had a strong annual conference. Through ASEA an unbroken sequence of annual regional surgical conferences stretches right back to the 1950s. Conferences rotate through member countries and involve a whole host of meetings – the scientific conference, the annual general meeting, the graduation ceremony and many more. These are immediately preceded by examinations and council and committee meetings. As the conference is the single occasion in the year when so many of the surgeons and surgical groups active in the region come together, it has always been an ideal venue for an ever-increasing number of side meetings, including a CP steering committee meeting. And the organisers usually squeeze in a gala dinner or two as well! It can be difficult and expensive to bring the regional surgical community together, so COSECSA works hard to make the most of the limited window.

The collaboration has generally played little role in the organisation of these meetings, though the CP assisted with such initiatives as moving conference registration, abstract submission and payment online, and recording attendee details. The CP has been involved in the organisation of some side events such as Women in Surgery Africa (WiSA) events in 2015, 2016 and 2017 and a meeting of Kenyan surgical NGOs in 2016. As the conference has grown in importance and popularity, more and more institutions have sought to partner with COSECSA to hold events in parallel, including the World Health Organization, the G4 Alliance and ASAP.

Women in Surgery Africa

Women are under-represented in the surgical workforce worldwide, and the East, Central and Southern African region is no exception. In 2015, women comprised just over seven per cent of the surgical workforce in the COSECSA region (O’Flynn et al., 2016). Broader societal issues in the region undoubtedly played a role in this imbalance, including less access for women to higher education, the role of women within the household and long-standing traditional expectations around maintaining a home and raising children. However, female participation in surgery in high-income countries has generally been little better. There is no doubt that the profession has more to do, worldwide, in encouraging women to consider surgery as a career and in supporting female surgical trainees and surgeons. Yet medical school graduates in East, Central and Southern Africa are increasingly female, as is the case in much of the rest of the world. If the best

graduates are to be attracted into surgical training, then surgery simply must position itself as an attractive career path for women.

From the outset of the CP, COSECSA and RCSI looked at a number of ways in which to support greater gender equity in the surgical workforce. Among other initiatives, the CP sponsored Dr Faith Muchemwa, at that time a plastic surgery trainee in Zimbabwe, to research some of the underlying causes of this gender imbalance. Her work was presented at the COSECSA AGM in Harare in 2013 and published in the *East and Central African Journal of Surgery*. Not content with understanding the issue, Dr Muchemwa was determined to do something about it and proposed an initiative she termed “Women in Surgery Africa” (WiSA). WiSA was an idea that COSECSA and the CP were eager to support. It was established in 2015 as a group within COSECSA providing support to female surgeons, female surgeons in training and female medical students with an interest in surgery. Support takes the form of a structured mentorship programme, research and travel scholarships and online resources, as well as an annual meeting that takes place as part of the COSECSA annual conference.

In many ways, the Association of Women Surgeons (AWS) has served as a model for WiSA, and the association’s *Pocket Mentor* book served as inspiration for WiSA’s own *Pocket Mentor*, which was published in 2016 and reprinted in 2018 in response to popular demand. This book is a guide to navigating surgical training and pursuing a successful career in surgery. It has proven extremely popular among medical students, surgical trainees and surgeons, both male and female. In another welcome innovation, WiSA now produce and sell beautiful WiSA-branded silk scarves – COSECSA previously only offered ties for sale!

Dr Agneta Odera assumed the presidency of WiSA in December 2017 and has continued to drive the organisation forward. As well as capturing the imagination of female surgeons and trainees, WiSA has attracted external support from AWS, Oxford University and the American College of Surgeons. With the WiSA President taking a seat on COSECSA Council and the Secretariat providing valuable administrative support, there can be no doubt that WiSA has become an important and integral part of COSECSA.

The Voice of the Collaboration Programme

While CP advocacy efforts have tended to focus on promoting the voice of COSECSA, increasingly it has become clear that the CP itself has something to say about how HIC and LMIC institutions can work together in partnership, and about the benefits, pitfalls and best practices of an institutional, capacity-building approach to global health issues.

Both Colleges and the staff of the CP have presented lessons from the CP experience at numerous events. The ESTHER Alliance of health partnerships has allowed the CP to share and learn from the experience of other health partnerships. The Irish Forum for Global

Health has provided an important platform to facilitate Irish institutions active in the wider global health space in sharing their experiences and what they have learned. RCSI has also played an active role in the global health group of the Forum of Irish Postgraduate Medical Training Bodies where it is contributing to the work of building a more united approach among Irish medical training bodies in relation to global health education .

At the outset of the CP, there were no major events in high-income countries focusing on surgical care in low-income countries. This situation has changed dramatically. Regular events now include the Global Surgical Frontiers conference held in London by the English Royal College of Surgeons, meetings of the Alliance for Surgery and Anesthesia Presence (ASAP), and WHO GIEESC events. Indeed, RCSI itself hosted a major global surgery conference in 2016.

The growth in interest in global surgery is to be warmly welcomed, with one caveat – the proliferation of global surgery events has the potential to create an insular community. Global surgery must continue to look outwards to engage new audiences and learn from other fields.

Chapter 11

Evolution of the Collaboration – Successes, Failures and Lessons Learned

Much of the initial CP design in 2007 and 2008 was led by Ms Fiona Walsh. Dedicated CP staff have included: Mr Tawfik Rushide (2008), Mr Roger Duggan (2009–2012), Ms Charlene Miller (2009 – 2010), Mr Eric O’Flynn (2011 – 2018), Ms Avril Hutch (2014–2017) and Ms Deirdre Mangaoang (2017 – present).

Learning to Work Together

The governing body of the CP is the Steering Committee, with a membership made up of an equal representation from both RCSI and COSECSA. Conversations in the Steering Committee are frank, honest and passionate, but always grounded in an underlying mutual respect, and indeed, friendship. Strong traditions of hospitality in both Ireland and the COSECSA region have helped to smooth discussions, occasionally long into the evening! While generally both partner organisations have been able to agree on the way forward, there have certainly been differences of opinion along the way. These few differences, frankly debated in a spirit of friendship and respect have led to learning on both sides, and better decisions.

Ms Fiona Walsh outlined three particular areas where she felt the Colleges were quite far apart in their initial thinking. Firstly, “since its foundation, COSECSA’s operations had been funded from ad hoc donations... Whilst these donations were small, they came with no conditions, which gave COSECSA full autonomy over those funds.” However, with the establishment of a larger, long-term collaboration, and an increased level of funding and

donor oversight, it was only possible to fund “the delivery of specific agreed activities in training, education and assessment.” This was a change of approach for COSECSA.

While some planning documentation was produced in earlier years, it was not really until the 2016-2020 COSECSA strategic plan was produced that a clear and comprehensive long-term vision for COSECSA was articulated. According to Professor Miliard Derbew, COSECSA Past President: “Prior to that, there was no clear strategic plan, so although both parties were moving in the direction they thought was right for COSECSA, there was sometimes dissatisfaction and discontent on both sides...” With the production of the strategic plan, and the alignment of the CP behind it, Professor Derbew felt there was “...a greater sense of common purpose. The strategic plan has provided a clear direction to follow and helped each party to better understand its role.”

In another instance, feedback RCSI received from potential funders suggested a strong interest in COSECSA developing a role in setting standards in surgical training for non-surgeons, such as general medical officers and clinical officers. However, this was not a role that COSECSA saw as feasible for itself, although some individual countries went on to work with RCSI in this area on the COST Africa research programme.

The third contentious issue Ms Walsh noted was that “the training COSECSA supplied up until 2007 was via the apprenticeship model, and competence was assessed primarily through examinations, mainly the membership examination. The same system of training still operated in many other international regions. The programme with RCSI would require COSECSA to establish systems to assure the competence of trainee surgeons throughout their training, not just on exit.” This too would prove to be a logistical challenge.

A recurring issue in the initial years was resolving the optimum location for CP staff – should the staff be based in RCSI in Dublin or in the COSECSA Secretariat in Arusha? Perhaps they should be divided between the two offices, or move back and forth between them? Over the first five or six years of the collaboration, a number of different arrangements were tried. Ms Charlene Miller was based in Arusha, as was the professional volunteer Dr Peter Stanczyk. Other programme staff spent a significant amount of time travelling back and forth from Dublin to Arusha and across the COSECSA region. Ultimately, the most successful model has proven to be to have CP staff based in Dublin, with the programme supporting significant build-up of COSECSA staff in the Arusha office and across the region. Staff also travel between the Dublin and Arusha offices on a regular basis.

A final area where both partner organisations have had much to learn has been in determining and demonstrating the impact of the CP, and in the attribution of successes and failures. When things go well for COSECSA, to what degree, if at all, was the CP responsible? Perhaps the success would have been attained anyway, whether or not the

collaboration was in place? Similarly, when there are failures, whose fault is it? Ultimately, some degree of ambiguity is unavoidable in partnerships.

It is to be expected that differences of opinion would arise in such a deep, long-standing collaborative programme. The issues debated in the Steering Committee are important, it is important that they be discussed and a great deal of learning has been gained from these discussions. Sound governance arrangements and an open, respectful culture allow for a diversity of opinions, which can only strengthen the quality of work of the CP.

Describing how the CP brings change

Throughout the duration of this collaboration, Irish Aid have engaged with the Colleges to progress and develop the CP. Irish Aid have particularly helped the Colleges to understand and explain how the collaborative work brings about change. Irish Aid requested the CP to produce a ‘theory of change’ model, a diagram which graphically illustrates the logic by which CP activities translate into successful outcomes for COSECSA and the populations that COSECSA serves. The process of producing this theory of change was an important exercise in digging deep into what it is that the CP does, and the model is an effective way to explain the change process.

The three external evaluations of the CP, commissioned by Irish Aid and the CP, provided important objective evidence that work programmes were effective and impactful. Beyond demonstrating that the CP was ‘doing the right things’, the CP also wished to understand whether or not it was ‘doing things right.’ The CP is proud of its strong and equitable governance arrangements, yet it is the more intangible aspects of partnership such as mutual respect, trust and good communication that are of most importance. The ESTHER Alliance developed a tool that helps evaluate the quality of partnerships – the EFFECt tool (2019). The CP piloted and helped refine this tool and ultimately used it to demonstrate the quality of its partnership programme.

Irish Aid

The CP has been almost entirely funded by the Irish people through Irish Aid. The impact of the CP was made possible by a large in-kind contribution from RCSI, and an enormous pro-bono effort from many hundreds of surgeons and others in the COSECSA region to build the regional training programme. Not only has consistent long-term Irish Aid funding support enabled this to happen, but Irish Aid has also played a key role in developing and shaping the CP. It has engaged in detail with the work of the CP and shaped the thinking behind it.

Enormous credit must go to Irish Aid for the long-term view it has taken, and their support of an institutional capacity-building approach. Not every funder is willing to aim for the larger prize on the further horizon. COSECSA and RCSI feel that this long-term approach has paid dividends. In 2018, the CP was identified by Irish Aid as a “strategic partnership”

in Irish Aid's 2017-2020 global health and HIV plan. Both COSECSA and RCSI owe Irish Aid a debt of gratitude. More importantly, the people of East, Central and Southern African have benefitted greatly.

Benefit to RCSI

RCSI has also benefitted greatly from this collaboration. This is, of course, not the purpose of the CP, but high-income country institutions do benefit from health partnerships with LMICs. In the UK, Lord Nigel Crisp led the All Party Parliamentary Committee looking at the impact of UK staff volunteering overseas on the UK National Health System and found significant benefits for institutions in both directions (2013).

The nature of the collaboration means that a large number of RCSI staff and Fellows have been involved to some degree – and those who have been involved report a feeling of satisfaction and pride in having been able to play a part in the success of COSECSA and the expansion of surgical training and services in East, Central and Southern Africa. RCSI staff have gained experience, skills and new ideas. With CP support, COSECSA has been ahead of RCSI in a number of areas, such as taking concrete steps to address the gender imbalance in the surgical workforce. RCSI has learnt from COSECSA in this regard. Dr Avril Hutch, who worked closely with her African surgeon colleagues in the establishment and initial running of Women in Surgery Africa (WiSA), was able to translate that experience back to RCSI. She worked on the RCSI Short Life Working Group on gender diversity in surgery and subsequently moved on from the CP to lead the RCSI Equality, Diversity and Inclusion unit. The COSECSA logbook was also, at launch, far in advance of the logbook available to RCSI trainees.

Finally, the CP has enhanced the reputation of RCSI. It is good work, important work, and twelve years of productive partnership reflects well on RCSI.

Changing Nature of the Collaboration Programme

Some key areas of COSECSA and CP success include strategic planning, information management, communications and the provision of training material. Professor Stephen Ogendo, echoed the views of many of those involved, when he described the clearest COSECSA success as being the “very rapid rise in the students trained and graduated”, which was “beyond our expectations.” Indeed, as Dr Jim Kiely pointed out “The significant increase in the numbers of training locations, trainers and, in particular, trainee surgeons, is probably the benchmark by which the success of the CP is judged.” There have been other CP objectives that have taken longer than initially hoped – such as achieving indexing of the ECAJS journal and finding the right models for national government financial support of COSECSA.

Over time the CP, like COSECSA, has changed beyond all recognition. There have always been a wide range of different activities – a shifting of focus has been necessary as

priorities have subtly shifted. In the first years of the collaboration, the area of priority for the CP was undoubtedly the examinations. These were, and remain, vital for COSECSA's credibility and a good way for a number of RCSI examiners to get involved and make an immediate contribution. Over the 2011-2013 period the collaboration began to concentrate heavily on training, building up the Train the Trainer programme, Basic Science training, e-learning and a variety of short courses. The 2014-2016 period saw an increased focus on institutional capacity building, working on strategy, staffing and financial and administrative systems. The most recent area of focus has been on quality – understanding the trainee experience, analysing trainee operative experience and developing hospital accreditation systems.

The roles of the CP staff Members have also changed significantly – as Dr Jim Kiely noted: “The CP has evolved significantly from a position in which it was involved in a significant element of operational work on the ground, mainly of an administrative nature, to a more strategic and oversight-led role. The corollary of this was that COSECSA undertook more of the tasks and operations appropriate to its role.” This ‘hands-on’ approach from the CP was necessary and important in the early years to establish operations, when there was, according to Professor Eric Borgstein “few strong institutional administrative structures in place... very little central capacity”. At times, however, it also “resulted in confusion” according to Professor Miliard Derbew. “The strengthening of the Secretariat has solved the issues by centralising the approach through the office.”

In some ways, the CP is always trying to hit a moving target, the way a ‘start-up’ College needs to be run is not the way a more mature organisation needs to operate. The collaboration must continue to evolve to contribute successfully. Again, Irish Aid have played an important part in helping to keep CP thinking moving forward, while always keeping a relentless focus on sustainability. Ultimately, it is local priorities, as expressed by COSECSA, that must drive the collaboration.

Ultimately, the CP has, in each iteration of the programme so far, largely achieved its objectives. The success of COSECSA has been beyond the most optimistic predictions of its champions. Ms Deirdre Mangaoang noted that “there’s a cliché that Ireland punches above its weight. It’s actually true for the RCSI/COSECSA collaboration – COSECSA’s scale-up in the past 12 years has been incredible.” To what degree the CP enabled COSECSA’s success we will perhaps never be able to quantify precisely, but all of the many people involved in the CP can be proud of the important role they have played in COSECSA’s success.

Chapter 12

Looking Forward – A Lot Done, More to Do

In 2017, for the 10th anniversary of the collaboration between RCSI and COSECSA, RCSI commissioned a new COSECSA President's medal and chain of office. We hope that the medal will be an enduring symbol of the special relationship between the two Colleges – a relationship that will continue as many more names are inscribed. Huge progress has been made, but so much remains to be done. While no-one can know which way the future will lead, COSECSA has a clear mandate which will guide the efforts of the partnership in future, and both partners share a unified vision as they face the challenges of the years ahead.

COSECSA Moving Forward

Clearly, a key priority for COSECSA is to continue to enable growth in the regional surgical workforce. COSECSA is targeting a surgeon:population ratio of 1.5 per 100,000 population across its 14 member countries. While far below the ratios of richer countries and regions, this target will nevertheless require a tripling of the current surgeon workforce of approximately 2,000 surgeons in 14 countries. Ensuring that COSECSA is optimally equipped to work with its accredited hospitals to provide the targeted 6,000-strong surgical workforce must be central to all future planning.

The need to continue to grow the central capacity of the organisation in tandem with this central objective is also recognised. As numbers of trainees in each specialty continue to grow, specific administration structures will need to be put in place to support each specialty.

COSECSA has much to gain from continuing beneficial partnership arrangements around examinations but must balance this with the need to continue to grow the local examiner pool in the COSECSA region. Assuring the quality of examinations, particularly through support for the Court of Examiners, will be important.

COSECSA sees much to be done to support training, from engaging programme directors and trainers to providing skills labs in each training hospital. Cognizant of the variety of needs that exist, COSECSA will look to offer additional supports for rural training hospitals, while accrediting particular training hospitals as centres of excellence. For the delivery of training courses and material, the modular blended learning approach taken with basic science training has been seen to be successful, and may be an approach increasingly used for the academic elements of training. COSECSA will look to further engage national specialty surgical societies around the delivery of short courses and to enhance the training experience through more structured trainee rotation and local visiting faculty programmes.

A focus on measuring the quality of training provided at each accredited training hospital is also a COSECSA priority. COSECSA wishes to build a quality process utilising data from e-logbooks, structured trainee and trainer feedback, hospital accreditation data and a wide range of other administrative data collection processes. Another key objective is the measurement and assurance of the quality of structured online and blended training modules.

Future of the Collaboration Between the Two Colleges

The CP was RCSI's first major foray into the area of work that is now generally described as 'global surgery.' RCSI now has a significant research programme in Malawi, Tanzania and Zambia, and the Akazi women's cancer screening programme in Malawi. With the aim of ensuring strategic alignment and the greatest possible impact of RCSI's global surgery work, RCSI began the roll-out of the RCSI Institute of Global Surgery in late 2018. Recruitment of the O'Brien Professor of Global Surgery is taking place in 2019. It is expected that this new structure will enable RCSI to continue to grow its impact and ultimately help provide more access to vital surgical services. This is likely to mean a wider scope of work and potentially work in other geographic areas. COSECSA has also expanded its scope of work and is now working with an increasingly wide range of partners. Organisations such as Operation Smile, 2nd Chance and the American College of Surgeons have all now begun to work in partnership with COSECSA. These are welcome developments and both partners will continue to explore and expand other partnerships and areas of work while building on the vital bond between RCSI and COSECSA.

By its very nature, the CP must continue to be guided by the priorities of COSECSA. The two Colleges will not work together on every COSECSA priority, but rather concentrate

on those areas where the collaboration can best contribute. Ms Deirdre Mangaoang, Collaboration Programme Coordinator, has observed that collaborative work between the Colleges should “play to our strengths”. Some areas of work have greater impact than others. For example, Ms Mangaoang noted: “We have learnt that interventions and activities which bring benefit to the most number of people, rather than a lot of benefit to a small number of people, gain the most traction and have the most lasting value.” While a particular benefit to individuals may be small – for example, being able to record your operations electronically rather than on paper – the difference it makes collectively is sizeable.

Ms Mangaoang also noted that COSECSA has an important role to play in surgical thought leadership, worldwide. An important role for the CP may be around expanding the reach of COSECSA’s voice, and sharing and encouraging new ideas and innovation.

Some surgical specialties are in greater need than others and the collaboration may be in a position to help COSECSA to address the need of patients in these underserved specialties. This is an area in which COSECSA can also greatly benefit from working with external specialty-specific organisations.

There is also an opportunity to help COSECSA to support Fellows throughout their career, by designing and rolling out continuous professional development courses for qualified surgeons.

Ms Mangaoang commented: “The CP has a responsibility to share the learnings as we go, so that other organisations and partnerships in the wider Global Health or education sphere can benefit. These should be learnings from both partners.” As there is still a paucity of data in global surgery, there is an opportunity to conduct research and publish findings on the surgical datasets established by COSECSA and the CP. These datasets could provide important resources for health policy and advocacy.

The collaboration will also look to extend its reach to work with allied surgical health professions. Surgery is a team endeavour and a lack of trained anaesthesia providers and perioperative nurses is a severe impediment to the provision of surgical care in the COSECSA region. More can be done to support these cadres and their training programmes.

All involved in the CP see the idea of a sustained focus on quality in all aspects as key to the future of COSECSA and the CP. The collaboration is committed to working with COSECSA to embed quality improvement ever deeper into its culture over time.

The Fetish of Novelty

“People always think about what’s new, people always think about what can be named. People always think more about how new ground can be broken than they think about how existing institutions can be sustained or existing facilities can be maintained. It leads to a constant trap where we underinvest in old things, then old things disappoint us, then we feel the need for new things, then to satisfy that need for new things we underinvest more in old things and the cycle goes on... You see it in developing countries where they are always building new facilities but then a few years later those facilities sit in a sense of disrepair... The fetish of novelty and the lack of glamour of maintaining and sustaining things is a besetting problem... It leads to a fragmentation... it can lead to tragic underinvestment.”

Larry Summers, Former President Harvard University, US Treasury Secretary, World Bank Chief Economist

The concept of long-term institutional capacity building may not set too many hearts racing, nor win too many headlines – yet we believe it is one of the most effective ways to nurture progress. It is the long-term nature of the collaboration that has enabled it to be so productive. Paul Farmer has long championed the idea of accompaniment. “To accompany someone,” he said, “is to go somewhere with him or her, to break bread together, to be present on a journey with a beginning and an end... There’s an element of mystery and openness... I’ll share your fate for a while, and by ‘a while’ I don’t mean ‘a little while.’ Accompaniment is much more often about sticking with a task until it’s deemed completed by the person or person being accompanied, rather than by the accompagnateur.” (2011)

We don’t believe that RCSI could have had any major long-term impact on surgical care in the region, outside of such a capacity building partnership. COSECSA would surely have progressed to some degree, without partnership or with other partners, but undoubtedly the CP has contributed greatly to the scale, speed and quality of the roll-out. We may never be able to quantify the impact of this unique collaboration on what COSECSA has been able to achieve. We are drawn back to Paul Farmer’s advice - “just because we cannot yet measure the value of accompaniment doesn’t mean it cannot serve as an important notion to guide us forward” (2011).

As partners, we have faith in the value of walking the long road together and in the better future to which it will lead us.

Chapter 13

In Memoriam

Mohammed Labib (Founding Fellow of COSECSA, Chair of Education and Scientific Committee)

Professor Mohamed Labib died suddenly and unexpectedly on Saturday, 28th May, 2016 in Windhoek, Namibia. At the time of his death Professor Labib was the Head of the Surgery Department, School of Medicine, University of Namibia.

Professor Labib was born in Cairo, Egypt. In 1986, he received his Bachelor degree in Medicine and Surgery and his specialist Masters Degree in Urology, from Ain Shams University in Cairo, Egypt. He subsequently worked in Zimbabwe before his appointments in Zambia and later in Namibia. He was a Foundation Fellow of the College of Surgeons of East Central and Southern Africa and became a Fellow of the Edinburgh College in 2004. Professor Labib held a Fellowship in Urology from the International College of Surgeons. In addition to his academic qualifications, Professor Labib was a loyal Council Member of COSECSA and Chairman of the Education and Scientific Committee for many years before his departure to Namibia.

During his tenure of Office in the University Teaching Hospital Lusaka Zambia, he was the Head of the Urology unit and was promoted to Associate Professor for his academic contributions to the University of Zambia. He was instrumental in starting the COSECSA Urology Fellowship Programme in Zambia and the first Urology COSECSA Graduates were students trained by him in Lusaka.

Following his departure to Namibia, he was promoted to a Professorship and continued to advance the development of the urology specialty. A few months before his death he established the COSECSA Urology Training Programme in Namibia and became the Foundation President of the Namibian Surgical Society.

With his passing COSECSA has lost a loyal colleague and a gentleman.

Krikor Erzingatsian

Gerald O’Sullivan (former President of RCSI)

Professor Gerald (Gerry) O’ Sullivan was President of the Royal College of Surgeons in Ireland (2006 -2008) and, along with Professor Krikor Erzingatsian, was instrumental in the genesis of the collaboration between RCSI and COSECSA.

Gerry was born in West Cork into a farming family and studied medicine at University College Cork, graduating in 1969. His odyssey of surgical training, research and discovery took him from Cork to Dublin and then Coventry, England, Edmonton, Canada and Chicago, USA.

Following a period of surgical practice in Baghdad, Iraq, he returned to Ireland and, in 1985, commenced practice at the Mercy Hospital in his native Cork.

His area of special expertise was the oesophagus, notably cancer of the oesophagus, and this remained the focus of his clinical practice and his academic endeavours, gaining him a huge international reputation. His stellar contribution to the science and practice of surgery was acknowledged, in Ireland, with his election as President of the RCSI and, internationally, with multiple awards, including honorary Fellowships from England, Glasgow, COSECSA and the American College of Surgeons.

Gerry was the very embodiment of the “surgeon scientist” and Professor Barry O’Donnell, himself a giant of Irish surgery, described him as possessing the powerful combination of “a towering intellect, prodigious energy and immense compassion.”

When introduced to the particular challenges facing COSECSA, he was single-minded in his determination that he and his College could, and would, make a difference. Gerry sadly died on February 12th, 2012 but, even to the end, he remained committed to the success of the collaboration.

With his passing, Irish surgery suffered a great loss - a loss shared by a generation of African surgeons. At his funeral, his daughter, Orla, described him most eloquently and accurately as “an extraordinary, ordinary man.”

Ar dheis Dé go raibh a anam.

Declan Magee

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Acknowledgements

We gratefully acknowledge the support of Irish Aid and the financial support of RCSI to produce this book.

More people contributed to this book than can possibly be acknowledged. Special thanks however must go to Abebe Bekele, Christopher Samkange, Deirdre Mangaoang, Eric Borgstein, Faith Muchemwa, Fiona Walsh, Jim Kiely, Miliard Derbew, Pankaj Jani, Roger Duggan, Russell White, Ruairi Brugha, Seán Tierney, Stephen Ogendero and Yusuf Kodwawwala.

Glossary

AGM	Annual General Meeting
ASAP	Alliance for Surgery and Anesthesia Presence
ASEA	Association of Surgeons of East Africa
AWS	Association of Women Surgeons
BeST	Basic Electronic Surgical Training
CANECSA	College of Anaesthesiologists of East, Central and Southern Africa
CBM	Christian Blind Mission
CEO	Chief Executive Officer
COECSA	College of Ophthalmology of Eastern, Central and Southern Africa
COPECSA	College of Pathologists of East, Central and Southern Africa
COSECSA	College of Surgeons of East, Central and Southern Africa
COST Africa	Clinical Officer Surgical Training in Africa
CMSA	Colleges of Medicine of South Africa
CP	Collaboration Programme (RCSI/COSECSA)
ECAJS	East and Central African Journal of Surgery
ECSA	East, Central and Southern Africa
ECSACOG	East, Central and Southern Africa College of Obstetrics and Gynaecology
ECSACON	East, Central and Southern Africa College of Nurses
ECSACOP	East, Central and Southern Africa College of Physicians
ECSA-CHS	East, Central and Southern Africa College of Health Sciences
ECSA-HC	East, Central and Southern Africa Health Community
EST	Essential Surgical Training
ESTHER	Ensemble pour une Solidarité Thérapeutique Hospitalière En Réseau (European Alliance of Health Partnerships)
FCS	Fellowship of the College of Surgeons (COSECSA's exit qualification)
G4 Alliance	Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care
GMO	General Medical Officer
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
LMIC	Low and Middle Income Country
ICES	International Collaboration for Essential Surgery
IRB	Institutional Review Board
IT	Information Technology
MCS	Membership of the College of Surgeons (COSECSA's intermediate qualification)
MCQ	Multiple Choice Question
MMed	Masters of Medicine Surgery (a university-based surgical qualification)
MSE	Management of Surgical Emergencies course

MSU	Mobile Surgical Skills Unit
NGO	Non-Governmental Organisation
NPC	Non-Physician Clinician
OSCE	Objective Structured Clinical Exam
PAACS	Pan-African Academy of Christian Surgeons
PAAS	Pan-African Association of Surgeons
RCSI	Royal College of Surgeons in Ireland
SC	Steering Committee
SDG	Sustainable Development Goal
SFS	School for Surgeons
SURG Africa	Scaling up Safe Surgery for District and Rural Populations in Africa
WACS	West African College of Surgeons
WiSA	Women in Surgery Africa
WHO EESC	World Health Organisation Emergency and Essential Surgical Care Programme

