
HEALTH INNOVATOR'S REVIEW

Groote Schuur Hospital

2014



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A MESSAGE FROM PROF EDWARD COETZEE

In times of scant resources and rapidly increasing demand for quality health services in our country, the need for business unusual has increasingly been put at the top of our agendas as a mechanism to alleviate some of the tensions and mismatches between supply and demand in the system.

Health Innovation has over time shown us through several astounding examples of its capacity to not only transform the experience for an individual patient or a group of patients or for an entire health system.

The legacy of Groote Schuur Hospital is steeped in innovation most widely remembered and revered for the heart transplant performed by Chris Barnard in 1969. But in fact the hospital has created the environment in which several other landmark innovations have either been thought of, have been tested, have been implemented in prototype or in full scale.

We have an organisational culture to be proud of, one that is steeped in excellence and places the patient at the centre of all the millions of activities that take place on a daily basis.

As the chairman of the Facility Board of this hospital, I am proud of the Leadership entrusted to steer this hospital to achieve greater things, serve more patients and develop into a bastion of health innovation and excellence for patient care.

To this end, as the Facility Board, we have committed a substantial amount of funds dedicated towards recognising the phenomenal efforts by staff in this hospital to deliver the best quality care possible and leverage off good ideas, small innovations and big plans to change the way healthcare is delivered.

To this effect the Groote Schuur Innovation Challenges Programme is set to create a culture that continues to promote innovation for many years to come.

We trust that each staff member will embrace this opportunity to be part of this very exciting, novel, innovative programme and come up with new ideas on how to do things better.

We wish you all the best.

PROF EDWARD COETZEE
Chair
Groote Schuur Hospital Facilities Board
September 2014

A MESSAGE FROM DR BHAVNA PATEL

When Groote Schuur Hospital celebrated its 75th anniversary in 2013, we realised that the hospital was still being praised and is still internationally known for an achievement that occurred 46 years ago. In efforts to maintain and raise this status of the hospital into the 21st century, the management team decided to adopt a vision of leadership, innovation and change.

In 1967, the innovative accomplishment of the first human-to-human heart transplant gave Groote Schuur Hospital international status. There have been many similar achievements since then, some of which have gone unnoticed. While these may not demand international acclaim, the innovations whether process-related, service-related, quality-related or strategy-related, have all contributed towards improving the quality of care available to our patients.

This book celebrates some of these achievements as we launch our vision of leadership, innovation and change.

Change is required in order to meet the demands of today's environment. This change can be effected through appropriate leadership and the driving of innovation with a view to improving the quality of care provided. For these transformational processes to take place we need people. People similar to those we acknowledge in this book. People to address these changes and paint a picture of the future.

Groote Schuur Hospital and the Faculty of Health Sciences has partnered with the UCT GSB Bertha Centre for Social Innovation & Entrepreneurship to catalyse staff-led healthcare delivery innovation. The Groote Schuur Hospital Facility Board has generously donated the funding for this initiative. This is the first time an African healthcare institution is pursuing such an initiative. We are proud to be leading the way, to become a beacon for healthcare innovation for in Africa.

This book is dedicated to the men and women who have committed their lives to making Groote Schuur Hospital a proud and innovative healthcare service provider. The innovations you have led play a vital role in writing our amazing history and creating our vision for the future. This ultimately enables us to continue providing quality care to our nation. You have set a clear challenge for future generations to join this journey of learning and constant improvement. Thank you, all, for your hard work and dedication.

DR BHAVNA PATEL
Chief Executive Officer
Groote Schuur Hospital
September 2014

A MESSAGE FROM DR LINDI VAN NIEKERK

Inclusive Healthcare Innovation started in Cape Town in January 2014. To us, the word inclusive is symbolic of the kind of transformative change our healthcare system requires.

For many years, our leaders and managers have been working hard to bring about improvement in healthcare. Much progress has been made to allow care to be more accessible to all South Africans. The current challenge we are facing is not merely one of access but also one of delivering compassionate and dignified care of a high quality to each South African amidst resource constraints. Despite investments made and policy changes adopted, we, as health workers, experience a very different reality on the front line as compared to that intended on paper. Our patients often present late with a complex conditions either due to a lack of education or due to poor communication in the system. An elderly man, able of being our father, can wait for up to 12 hours before being moved from a metal stretcher into a hospital bed. Weekly, we present patients with life limiting sentences, even to those of a young age, due to a lack of resources available to treat them with. These constant pressures often make us question why we entered this profession and it becomes easy to slip down a spiral of hopelessness.

We at the UCT GSB Bertha Centre for Social Innovation & Entrepreneurship, and together with our partners at the UCT Faculty of Health Sciences, believe that now is the time for change. To ensure a better future for our patients and the next generation of health workers, it is our responsibility to contribute to not merely improving the system through small tweaks but to radically transform the system.

Our underlying premise is that this could happen through the inclusive participation of every nurse, doctor, administrative assistant, support worker, allied health worker and student. Each of us has a valuable contribution to make and all it requires is new and different thinking about the challenges we face in delivering care. Innovative ideas abound in every hospital and merely require support and encouragement to become tangible solutions.

This first edition of the Health Innovator's Review at Groote Schuur Hospital illustrates the examples of pioneering healthcare workers who have successfully addressed a challenge in care delivery through implementing an innovative solution. We trust that by reading about their work, you will be inspired to become an innovator yourself.

DR LINDI VAN NIEKERK
Lead, Inclusive Healthcare Innovation
University of Cape Town (UCT)
September 2014

iHI is a movement started by the UCT GSB Bertha Centre, the UCT Graduate School of Business and the UCT Faculty of Health Sciences, inviting people from all backgrounds to co-create new and bold solutions to address the biggest challenges in healthcare delivery.

Procedure	Ward	Category	Priority
Mini SSG Femur	F17	Category	Priority
Stent + Biopsy	F7	Category	Priority
Relook Lap + Washout	C12	Category	Priority
Relook Lap Bowel Injury	F23	Category	Priority
Relook And Closure Left Tibia	F26	Category	Priority
Relook Debridement Vac	F17	Category	Priority
Lebride Sculpo + Vacc	F5	Category	Priority
Bilateral B.K.A	F22	Category	Priority
Exploration Ant Abd Wall Wound	C27	Category	Priority
Removal Bullet Calcaneus AND POP TIBIA	F26	Category	Priority
HR	F25	Category	Priority
Orchidectomy	F22	Category	Priority
...

EMERGENCY SURGERY TRIAGE SYSTEM

INNOVATOR: Dr Felipe Montoya-Pelaez, Department of Anaesthesia

For many years, emergency surgeries have been dealt with in an unscheduled and unplanned manner. This created bottlenecks, which could result in morbidity and mortality for patients. Felipe Montoya-Pelaez and his team in the Department of Anaesthesia have solved this problem. They developed an electronic emergency surgery triage tool replacing the manual, paper-based system of booking emergency cases. Now, they can schedule more efficiently, prioritize and assess patients requiring surgery. The patients receive timely surgery according to the urgency of their condition.

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Prioritizing emergency surgical care for patients who need it most.



THE CHALLENGE

Demand for surgical procedures and waiting lists for operating theatres in the public healthcare service are ever increasing. For many years, emergency surgical cases have been dealt with in an unscheduled and unplanned manner, creating bottlenecks that could result in significant morbidity and mortality for patients. It has been a challenge to ensure that patients with the most urgent clinical need are prioritised in a system that, until recently, had been processing patients on a first come, first served basis.

THE SOLUTION

To address this challenge and to ensure that patients receive timely surgery according to their clinical need, Dr Montoya-Pelaez and his team developed a technology and a process innovation.

Despite limited resources, a software platform was developed, drawing inspiration from other sectors as well as 'borrowing' the existing colour coded triage system used in casualty. This software has been fully integrated into the existing ICT infrastructure. It enables surgeons to schedule theatre cases online, replacing the lengthy process of manually booking cases by phone. The platform's user-friendly electronic display

allows staff to see all patient cases awaiting surgery at a glance.

However, this is not only an example of technology innovation but also a process innovation. The anaesthesia department adjusted its senior registrar cardiac anaesthesia rotation from three to four weeks to allow for the new role of a 'triage anaesthesia registrar'. This registrar assesses each emergency surgery case, complementing surgical assessment and ensuring patients are scheduled according to severity and priority for surgical intervention. This simple process has enabled better coordination and communication amongst surgeons and anaesthetists, ward and theatre staff, as well as between surgeons and theatre management.

THE IMPACT ON PATIENT CARE

Previously patients were processed according to their time of booking, resulting in unnecessary morbidity and mortality because of delays in getting to theatre. This has been reduced through more efficient booking, assessment and triage. In addition, the system has enabled more efficient communication between departments and facilitates data collection.

KEY INSIGHTS FROM THE INNOVATOR

The project started small and tools were developed along the way: from a white board, markers and coloured magnets to the electronic board used today. It was also important to build bridges within the technical team at Groote Schuur to help support the project. Felipe recalls that one of the biggest challenges was trying to contact and coordinate a large number of people – and convincing them to use a new system. "Change is often slow, and it is a lot of hard work." It required a strong leader to champion the project and move it forward. A great motivating factor that kept the team working through challenges was seeing something coming to fruition after many years of work and refinement.

POTENTIAL FOR SCALE

This is the first system of its kind in South Africa. Felipe has presented at multiple conferences and advised other hospitals. His dream is to see other hospitals taking up the system and also see it applied in other departments requiring to prioritise patient procedures.



Supporting patients with information throughout their healthcare journey.

THE CHALLENGE

High levels of anxiety and uncertainty prevail in patients undergoing investigation or treatment for breast cancer. This is due to the lack of locally appropriate, context specific and easily understandable health information and education. Patients seen at Groote Schuur Hospital often do not have access to online sources of information and available existing information is not personalised or tailored to the local context.

THE SOLUTION

Galima is a motivated and passionate nursing sister at Groote Schuur Hospital. She has been appointed in a role dedicated to provide support and education to breast cancer patients, the first of its kind. Drawing on her years of experience as a nursing sister in oncology, Galima has developed educational tools and resources for patients with breast cancer, appropriately targeted at each stage of their care journey.

These tools and resources, grounded in research and evidence, have been refined with patient engagement over several months. This has allowed for the materials to provide person-centred information in easily understandable terms. All of this information is available in several local

languages. The breast wellness programme has also been extended to Mitchells Plain Hospital.

THE IMPACT ON PATIENT CARE

Through providing appropriate, comprehensive, person-centred tools and resources to women, Galima has improved the care experience of patients diagnosed with breast cancer. Her materials have equipped and empowered these patients with the tools to make well-informed decisions about their health. Not only has her work addressed a need experienced by patients at Groote Schuur Hospital, but she has further developed an outreach programme at Mitchells Plain Hospital. Here she is focussed on raising awareness of available breast wellness services.

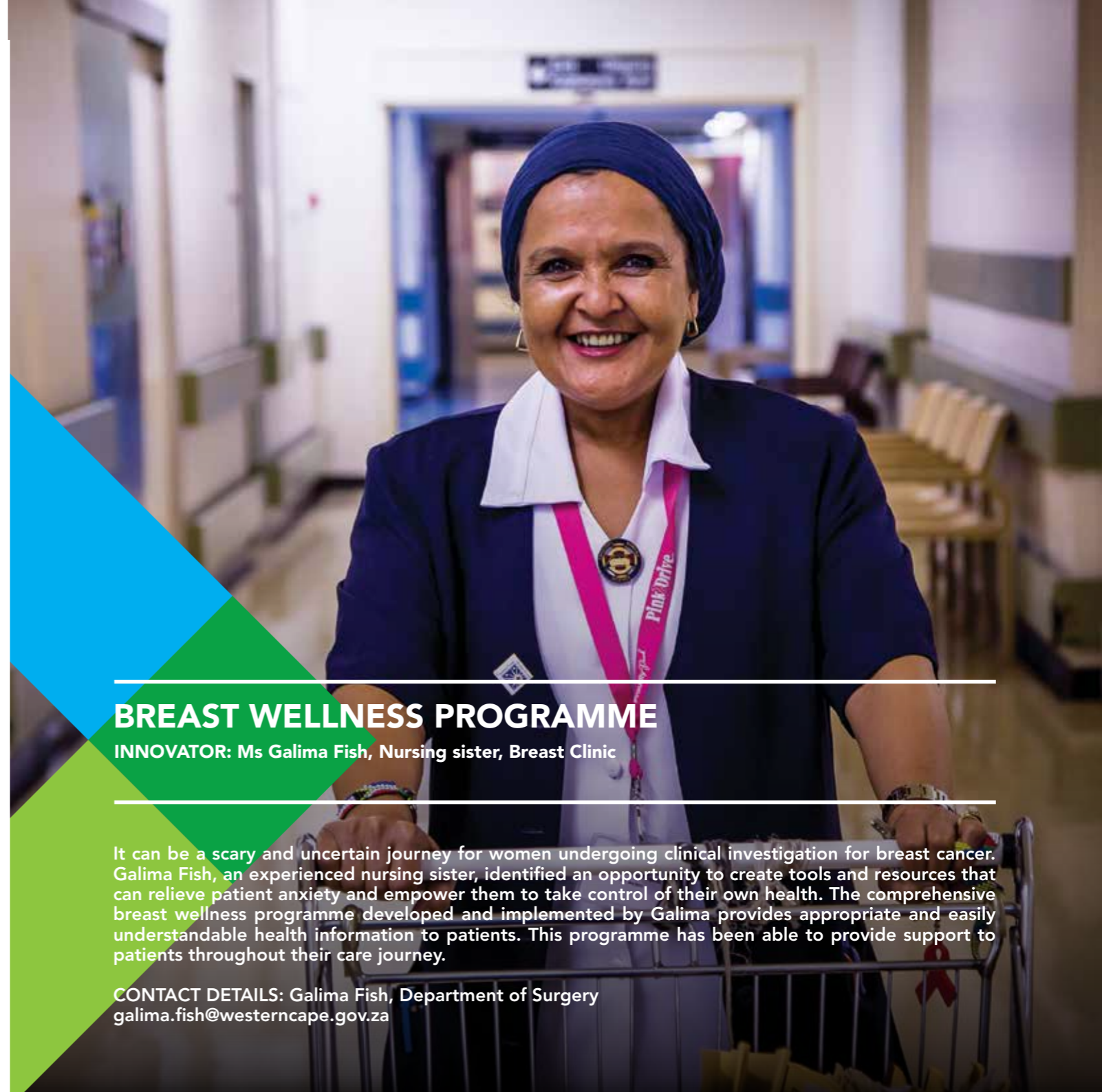
KEY INSIGHTS FROM THE INNOVATOR

Throughout the developmental stages of this programme Galima realised that the acceptance of change is very difficult. She needed to gain the support of various clinical teams including oncologists, surgeons and nursing staff to support her project. It required tenacity, diplomacy,

perseverance, and patience in building new bridges. She often felt like an outsider but as she says "you need to put on a very brave jacket, look beyond what people say, and see what is behind it."

POTENTIAL FOR SCALE

Galima has already replicated her model in Mitchells Plain, but would like to see her program grow far bigger. With many specialised units at Groote Schuur Hospital she sees opportunities to collaborate with other nurses to develop similar educational resources to assist patients in every step of their care journey.



BREAST WELLNESS PROGRAMME

INNOVATOR: Ms Galima Fish, Nursing sister, Breast Clinic

It can be a scary and uncertain journey for women undergoing clinical investigation for breast cancer. Galima Fish, an experienced nursing sister, identified an opportunity to create tools and resources that can relieve patient anxiety and empower them to take control of their own health. The comprehensive breast wellness programme developed and implemented by Galima provides appropriate and easily understandable health information to patients. This programme has been able to provide support to patients throughout their care journey.

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PROJECT FLAMINGO

INNOVATOR: Dr Liana Roodt (Surgical Registrar) with the support of Dr Lydia Cairncross (Consultant Surgeon)

In 2010, the breast surgery unit at Groote Schuur Hospital was faced with an enormous shortage in theatre time. This led to the devastating situation of newly diagnosed breast cancer patients waiting 10–12 weeks to receive the first step of their treatment – a mastectomy. The psychological effects on women with a breast cancer diagnosis and mastectomy, in terms of self-image and a loss of femininity, were amplified by the long waiting periods. Liana Roodt and Lydia Cairncross introduced an innovative solution to this challenge. Introducing privately funded “catch-up surgery lists” on public holidays or days when theatres would otherwise stand empty, and outsourcing some surgeries to secondary level hospitals, they have been able to reduce the waiting time down to 1–3 weeks. In addition, Liana has pioneered holistic support measures to affirm patients’ femininity and self-esteem.

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Improving the quality of care for breast cancer patients by reducing waiting times for mastectomy surgery and providing holistic patient care.



THE CHALLENGE

Long waiting times for surgical procedures is a pervasive problem in the public healthcare system in South Africa. Surgery is often the first step in the treatment process – not only in the treatment of breast cancer. A delay in surgery often leads to a delay in the entire process. The delays affect the patient’s prognosis and psychological wellbeing negatively.

THE SOLUTION

Liana and Lydia began by investigating the root causes for long waiting times. They soon realised that theatres were standing empty due to lack of funding – specifically for adequately trained staff. Counting on the goodwill of their colleagues (surgeons and anaesthetists donating their time) and the co-operation of hospital administration, Liana and Lydia calculated that the overall cost of a mastectomy (paying for nursing and consumables) is R3 000. Liana set to work to create Project Flamingo. This has now become a fully-fledged non-profit organisation, dedicated to supporting women requiring mastectomy surgery for breast cancer. Project Flamingo further provides ‘pamper packs’ to these patients before or after their surgery. The packs serve as a powerful reminder of each woman’s femininity and provide vital

supportive devices and information. These ‘pamper packs’ can often be the symbol that encourages breast cancer survivors on their healing journey.

THE IMPACT ON PATIENT CARE

After 3–4 “catch-up lists” per year, Liana and her team have reduced the waiting time for mastectomies from nearly three months in 2010 to a mere one to three weeks in 2014. With passionate care and creativity, Project Flamingo has made a huge difference in the care of breast cancer patients – not only performing approximately 50 additional privately funded surgeries, but also making a real effort to treat these women with dignity and holistic attention.

KEY INSIGHTS FROM THE INNOVATOR

Improving our health care system is not merely the responsibility of government. We all have a role to play. Every act of passion and creativity has a potential marvelous ripple effect and huge victories often lie within simple ideas. You have to be willing to push the boundaries and challenge the status quo. Simply

don’t take no for an answer and don’t be discouraged by institutional “red tape” and apathy. Empathy and a true desire to care for patients are powerful igniters of innovative ideas. Use passion and conviction to act on these ideas and you will be surprised by people’s capacity and willingness to help.

POTENTIAL FOR SCALE

Project Flamingo is working on providing similar support to the Groote Schuur Hospital Colorectal Surgery unit in order to reduce surgical waiting time for colorectal cancer patients.



Bringing humanity back to the practice of medicine.

THE CHALLENGE

In the highly stressful environment of a hospital, medical staff have to deal with the challenges associated with high disease burdens and low resources on a daily basis. With the push towards greater patient-centred care, the needs of the carers are often neglected. The result? Burnout, poor interpersonal interactions and demotivation amongst staff. The need for an innovative solution became evident from the regular engagement with junior staff through a departmental registrar exco.

THE SOLUTION

Lynette and her Deputy Head, Silke Dryer, have decided to invest and equip their registrars with the necessary self-reflection, self-care, community and relational skills to cope with working in a highly stressful environment as well as finding and retaining their humanity. A series of six resilience workshops, presented by professional integrative and mindfulness practitioners, facilitates registrars through a range of cognitive therapies and strategies to strengthen their resilience and make them more mindful and accepting of their situations.

THE IMPACT ON PATIENT CARE

The envisioned outcome of these workshops is that the doctors in this department will be more attune, present, and able to provide empathetic patient care. The traditional view of just 'toughening up' and moving forward despite the harsh realities experienced by doctors is being reconsidered. Removing such unreasonable expectation and investing in the active empowerment of junior staff is a bold step towards developing well-rounded medical professionals. Although only half way through the programme, Lynette has already noticed a marked change in her staff. These changes include increased motivation and morale and in turn this is reflected in enhanced patient-doctor interactions.

KEY INSIGHTS FROM THE INNOVATOR

If you want to be a change agent you need to take risks and push the boundaries, even to the extent that people may think you have 'gone off the wall'. For us, leadership has meant 'walking the talk', by making compassion and improved patient care the number one departmental issue. One of the most important things has been recognising the resources in one's

colleagues, especially when working in a highly stressful environment. By investing in and nurturing our departmental relationships we are fostering a greater capacity to deal with issues.

POTENTIAL FOR SCALE

Lynette's strategy is based on the principle of self-care and compassion. Lynette believes that staff in other departments could be equipped with these skills simply by discussing the philosophy of mindfulness with those who have already learnt it and integrated it into their practices. Similar workshops could also be hosted in other departments.



STAFF RESILIENCE TRAINING

INNOVATOR: Prof Lynette Denny, Head of Department, Department of Obstetrics and Gynaecology

Hospitals are complex and stressful environments to work in. Often staff are often viewed as a 'means to an end'. In the push to improve patient outcomes, the humanity of care providers is often neglected and forgotten. Lynette Denny, Head of the Obstetrics and Gynaecology Department, has adopted a different approach and view of her junior staff members. She sees junior staff members as individuals with psychological and emotional needs. By introducing a series of resilience workshops for staff in her department, she is building a more positive and supportive work environment, staffed by people aware of their own humanity and capacitated to provide empathic and effective patient care.

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COMACARE

INNOVATOR: Ms Jan Webster, Department of Neurosurgery

ComaCARE is an independent not-for-profit organisation, made up of a cross-disciplinary team. This team offers bedside care and counselling services for survivors of brain injury and their families. ComaCARE illustrates the importance of lay-trained community workers in providing psycho-social services in hospital as well as in the community. ComaCARE has been successful in becoming an integral part of a highly specialised neurosurgery unit.

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Improving patient care through an NGO partnership.



THE CHALLENGE

In public hospitals there is an emphasis on medical interventions and treatment. It is difficult for busy staff to listen and counsel patients and their families about their fears and concerns. Recovering brain injury survivors, vulnerable patients and their families need time, attention, emotional support and accessible, culturally sensitive information in their own language. Frequently, family members are not fully engaged as partners in the long term recovery process which takes place when the patient leaves the hospital.

how collaboration can achieve a positive impact on patient care. Appreciation has also grown for the role that community caregivers, with their deep understanding of cultural and social dynamics can play in supporting survivors, family members and medical staff. ComaCARE has further developed self-care practices to prevent burnout, manage conflict, and a process to help healthcare workers and families cope with death and dying.

in an intensive care unit was no easy task. Gaining trust and support from clinical teams took time. It was vital for the ComaCARE team to develop an understanding of the ward functions and to create a space for collaboration within the existing care processes. It was necessary to ensure that nurses did not feel their roles were being substituted by the ComaCARE workers but that a value added service was being offered. After ten years and many milestones, Jan humbly acknowledges that the organisation is still in a constant state of development to tailor its services to best meet patients' needs.

THE IMPACT ON PATIENT CARE

After ten years of working in Groote Schuur Hospital, the presence of ComaCARE in the Neurosurgery ward has had a remarkable impact on the quality of patient care. Patients have fewer restraints, staff members are less stressed and overburdened, and families feel supported. Patients have more support as they recover in the wards and when they are discharged, their families have greater access to information and support.

POTENTIAL FOR SCALE

ComaCARE has already extended its work into the community by offering brain injury prevention and family support services in Khayelitsha. As there are few resources available to support the rehabilitation of traumatic brain injury patients, it has become important to equip family members as best as possible. The presence of these community-based services is allowing proper care coordination from the hospital to the home.

THE SOLUTION

ComaCARE is a psychosocial support service that employs community caregivers in the acute-care setting to bridge the gap between medical providers, patients and their families. Jan Webster founded this not-for-profit organisation in 2005, based on her belief that the experience of every person is significant, even those in altered states of consciousness. She and her team work to humanise the interactions in the acute neurosurgical setting. Over the past ten years ComaCARE has provided patient care, training of care givers and medical staff, research and family counselling. The symbiotic relationship between ComaCARE and the neurosurgical staff has demonstrated

KEY INSIGHTS FROM THE INNOVATOR

The process of establishing ComaCARE in an acute neurosurgery ward and



Growing public sector capacity through innovative funding models.

THE CHALLENGE

Sleep-disordered breathing is a significant problem in South Africa – with a prevalence of 40% amongst men and 20% amongst women. Of these, 10% will have significant obstructive sleep apnoea. Consequently, metabolic and cardiovascular complications that include strokes and heart attacks occur. Until 2000, the Respiratory Clinic at Groote Schuur Hospital offered sleep service screening and management of patients with particularly obstructive sleep apnoea. Due to a lack of funding and equipment disrepair the service had to be stopped.

provision of services to private sector patients is channelled towards care provision for public sector patients. The funding flow for this service is 'ring-fenced' for the Sleep Clinic by the Groote Schuur Hospital Facilities Board, a registered not-for-profit entity. This cross-subsidised model has allowed the Division of Pulmonology to increase service delivery to public sector patients and support further training and research.

business model. Most importantly, if staff members have guidance, administrative support and an enabling environment, it is possible to develop excellent, sustainable models of care that improve patient experiences.

THE IMPACT ON PATIENT CARE

The re-establishment of this service has contributed significantly to the wellbeing of patients that suffer from sleep-disordered breathing, whereas before, no services were available. Through appropriate management, long-term complications of this condition can be prevented – thus minimizing inpatient costs and care. In addition, the development of a novel and innovative funding model has enabled a more sustainable program with expanded public health service delivery.

POTENTIAL FOR SCALE

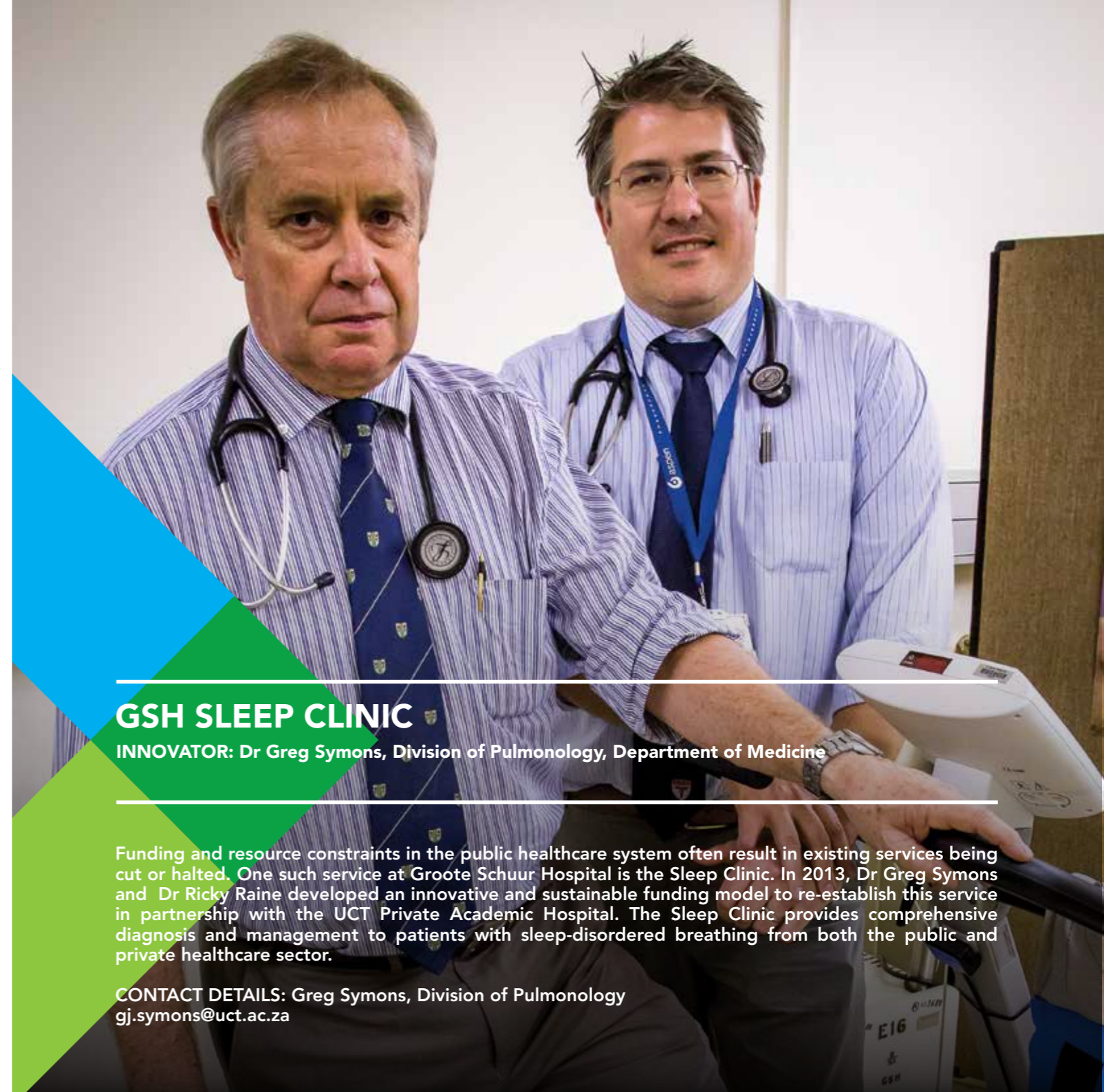
The cross-subsidised funding model illustrates that collaborating with the private sector can expand public sector services. Specialised clinics with high levels of expertise could offer their services to the private sector by using a similar funding framework. Using a not-for-profit fund holder assists in channelling financial gain back into the public healthcare service. This strengthens the health system and ultimately improves patient care.

THE SOLUTION

Pioneered by Greg and Ricky, two consultants in the Division of Pulmonology, the Sleep Clinic was re-established at Groote Schuur Hospital in 2013. The clinic provides patients with a comprehensive assessment by a multidisciplinary team of ENT surgeons, dieticians and pulmonologists. New smaller, efficient and cost effective medical devices were acquired to enhance the quality of care. The service is made possible through an innovative funding model between UCT Private Academic Hospital and the Groote Schuur Facilities Board. The model allows for services to be offered to both private and public patients. In this way, a significant proportion of the income generated through

KEY INSIGHTS FROM THE INNOVATOR

Setting up new services requires time, money and the development of a sustainable

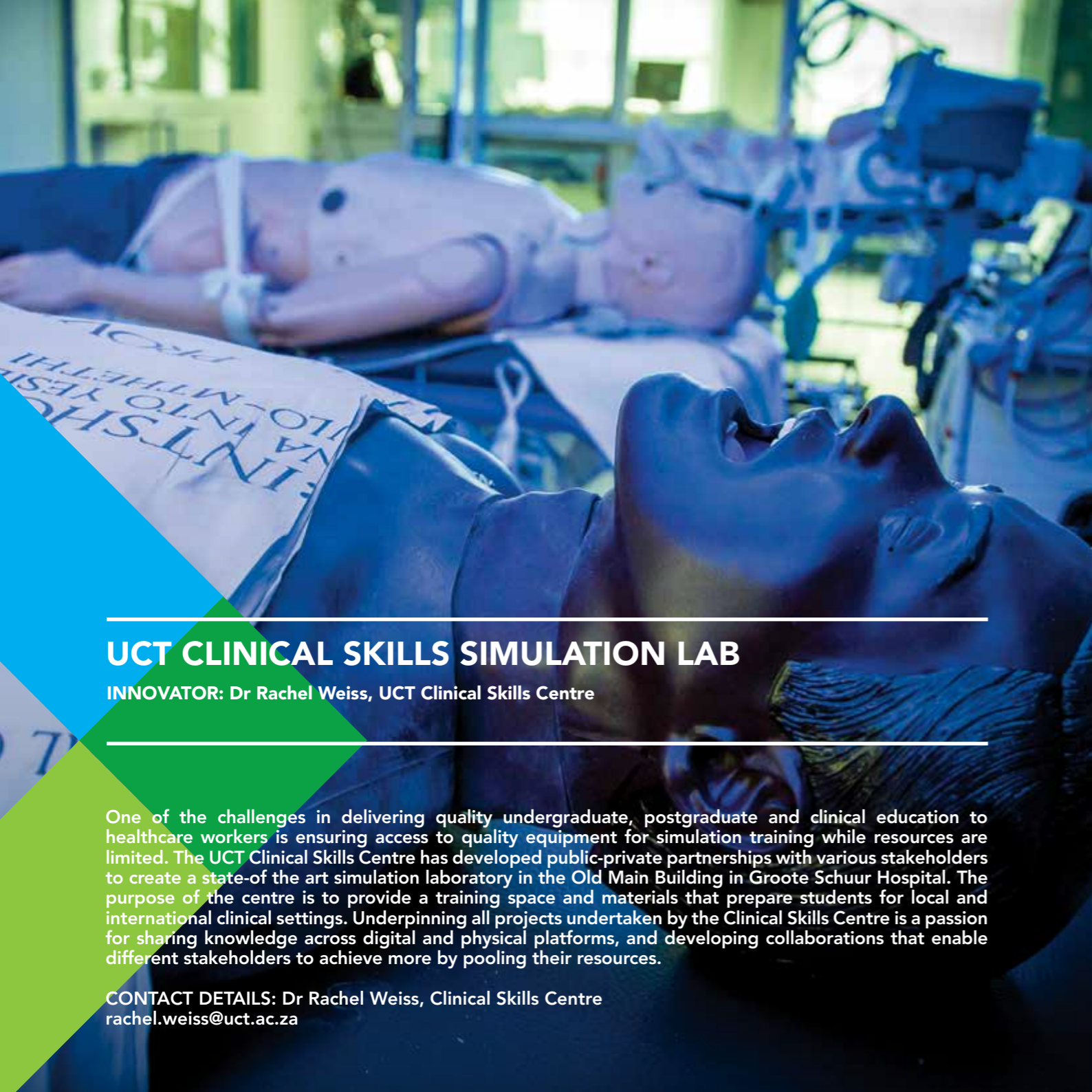


GSH SLEEP CLINIC

INNOVATOR: Dr Greg Symons, Division of Pulmonology, Department of Medicine

Funding and resource constraints in the public healthcare system often result in existing services being cut or halted. One such service at Groote Schuur Hospital is the Sleep Clinic. In 2013, Dr Greg Symons and Dr Ricky Raine developed an innovative and sustainable funding model to re-establish this service in partnership with the UCT Private Academic Hospital. The Sleep Clinic provides comprehensive diagnosis and management to patients with sleep-disordered breathing from both the public and private healthcare sector.

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UCT CLINICAL SKILLS SIMULATION LAB

INNOVATOR: Dr Rachel Weiss, UCT Clinical Skills Centre

One of the challenges in delivering quality undergraduate, postgraduate and clinical education to healthcare workers is ensuring access to quality equipment for simulation training while resources are limited. The UCT Clinical Skills Centre has developed public-private partnerships with various stakeholders to create a state-of-the-art simulation laboratory in the Old Main Building in Groote Schuur Hospital. The purpose of the centre is to provide a training space and materials that prepare students for local and international clinical settings. Underpinning all projects undertaken by the Clinical Skills Centre is a passion for sharing knowledge across digital and physical platforms, and developing collaborations that enable different stakeholders to achieve more by pooling their resources.

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Creating new platforms for simulation, training, and collaboration.

THE CHALLENGE

Until recently the acquisition of medical and simulation equipment for students based at Groote Schuur Hospital was dependent on university funding. With limited resources, it became a challenge to provide undergraduate and postgraduate students with the clinical skills that they will need when practicing.

THE SOLUTION

In response to shrinking budgets in the Higher Education sector, the UCT Skills Centre has established a public-private partnership with Dräger Medical and other stakeholders. This has enabled the full renovation of the clinical simulation lab and the installation and maintenance of medical equipment to the value of over R10 million. This new, user-friendly space is available for the training of medical staff across public and private institutions. The focus is on facilitating skills building and knowledge sharing.

In the same spirit of 'sharing knowledge', the skills lab has also created an e-learning platform. This includes, for example, the prototyping and development of shared learning materials for the continuing professional education of nurses in both private and public institutions, as well as

THE IMPACT ON PATIENT CARE

the development of ECG learning modules in partnership with cardiologists based at Groote Schuur Hospital.

The simulation lab was completed in 2014. This has turned the spotlight on the role of simulation training. Furthermore it has stimulated interest and growth in this aspect of clinical education. Students have reacted very positively to the renovation of the simulation space and enjoy learning in a modern, clean and welcoming space. The lab also creates potential for training students and healthcare workers across disciplines in public and private institutions, such as scenario practice for resuscitation teams working in Groote Schuur Hospital. Rachel Weiss, who spearheaded the project, believes that access to quality learning materials and simulation training for every member of the care team is essential in achieving optimal patient care.

KEY INSIGHTS FROM THE INNOVATOR

Rachel is inspired by the challenge of providing quality training with limited resources. She believes that collaboration

POTENTIAL FOR SCALE

The silo mentality is pervasive. Rachel is however convinced that developing a culture of sharing among institutions is essential when resources are limited. Formal partnerships can provide benefits to different parties while maintaining transparency and ethical standards. Educational collaborations often lead to clinical benefits in unexpected ways. The educational collaboration with Dräger Medical has led to similar collaborations, enhancing the understanding of how the needs of the public sector, universities and private companies can be met through sound partnerships.





Engaging patients and their caregivers in group therapy for maximum therapeutic impact.

THE CHALLENGE

Lymphoedema therapy is relatively new and the demand for it is increasing. Only a limited number of therapists have been trained to provide this specialised service. Training, in South Africa, only takes place every two years. Taking into consideration the constraints of the South African context, the Occupational Therapy Department at Groote Schuur Hospital had to find an innovative way to provide this treatment with limited time and number of therapists.

THE SOLUTION

The demand for treatment of lymphoedema is increasing. When Rogini initially started therapy sessions each patient was seen individually. She soon realised that she would not be able to meet the rising demand in the public sector on her own and that the therapy needs to be adapted for the local context. The gold standard of treatment, as prescribed by international standards, is difficult to adhere to in a developing context. In addition, no extra staff members were appointed despite the demand for the service. "Patients couldn't afford to come in every day, and medical aid didn't necessarily cover all the required sessions. We had to provide an alternative."

Rogini decided to find a way to work

'smarter, and not harder'. Working with her team in the Department of Occupational Therapy, she piloted Lymphoedema group therapy sessions. Patients and caregivers are now facilitated through four weekly group sessions providing education, support and self-care training. Through these interactions therapists are able to identify candidates that qualify for more intensive, individualised therapy. The aim is to provide the patients with individualised maintenance programmes once the group sessions are complete, so that the lymphoedema can be managed long-term.

THE IMPACT ON PATIENT CARE

The group therapy sessions have allowed for greater efficiency. More patients are being seen despite limited staff numbers. The quality of care is maintained as each group member receives a full assessment and continuous evaluation throughout. Customised informational pamphlets, designed by Rogini and her team, are available for patients and caregivers to refer to at home. These sessions have also allowed for early screening and identification of those requiring intensive therapy and the group therapy sessions have provided psychosocial support to patients and their caregivers. This model allows for holistic

care, taking into consideration patient needs, social circumstances and support networks.

KEY INSIGHTS FROM THE INNOVATOR

Early on in her career Rogini became aware of the danger of healthcare worker burnout. Hence the necessity to innovate in order to provide quality care to her patients, whilst keeping her passion for her work alive. In addition, she realised the importance of providing a space where patients can share experiences, support and learn from one another. "The best guide to determine the pace and extent of therapy can be gained from patients, and not arbitrary guidelines."

POTENTIAL FOR SCALE

Many clinical departments face the challenge of ever increasing demands for services, with limited resources available to meet the need. Group consultation is a way to offer care to a greater number of patients and in the process, enable patients to connect, support, and learn from one another.

GROUP LYMPHOEDEMA THERAPY

INNOVATOR: Ms Rogini Pillay, Department of Occupational Therapy

Rogini Pillay and her team, including volunteer private and public occupational therapists, have developed an innovative model of group therapy for patients with lymphoedema. This model has led to greater patient and caregiver empowerment by providing information, support and training in the management of this condition. Despite limited resources and resistance from the other sector, Rogini has expanded the reach of this new therapy in the public sector, reducing waiting times and increasing patient satisfaction in the process.

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ELECTRONIC CONTINUITY OF CARE RECORD (ECCR)

INNOVATOR: Dr Peter Raubenheimer, Head of General Medicine, Department of Medicine

When patients are discharged from hospital, vital information required for continuity of care is often lost or illegible; and the discharge diagnosis (ICD-10 code) is not routinely captured. A team from the Western Cape Department of Health worked with the Groote Schuur Department of Medicine and they developed an easy-to-use computer-based discharge application. The eCCR improves the documentation of patient care as there are now standardised discharge summaries which allow us to capture this vital information and hand it over for further analysis.

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Integrated medical records for a patient-centred, streamlined discharge process.



THE CHALLENGE

Poor patient records are a prevailing challenge across the healthcare system. Paper-based discharge information was often missing, illegible, or incomplete. This is of particular significance when a patient is discharged, as poor continuity and coordination of care can result in patients not receiving the necessary follow up treatment. A further challenge is that of insufficient ICD-10 coding. A lack of this internationally prescribed, population-based data negatively impacts on morbidity surveillance.

THE SOLUTION

A collaboration between Peter Raubenheimer and Robyn Dyers, public health registrar at the Western Cape Department of Health, has led to the development of the first electronic discharge application. Evaluating the various discharge forms utilised by healthcare facilities across the Western Cape Province and engaging with providers was the starting point to this project. A prototype was developed and refined through many cycles of iteration within the general medical wards. The outcome was a single form that captures all the vital patient information and provides a printed discharge summary. Simultaneously it captures the ICD-10 codes on all discharged

patients. Subsequently, by working with software programmer Shane du Plooy, the discharge form is now a computer-based application. The eCCR ensures that comprehensive discharge information is available for each patient. Importantly, it is user-friendly, robust, and allows users to learn how to handle it without extensive training.

THE IMPACT ON PATIENT CARE

The eCCR has been in use for over six months in the Department of Medicine. All patients leave the hospital with typed, coded and printed discharge letters. This ensures that after patients are discharged from Groote Schuur Hospital, accurate information is available to healthcare workers at other facilities, potentially enabling seamless continuation of care. It has also had a dramatically positive effect on capturing ICD-10 codes. For the first time analysis of discharge diagnoses has been possible.

KEY INSIGHTS FROM THE INNOVATOR

In a busy clinical environment it's often difficult to convince people to adopt a new system. Despite phenomenal advances

in electronic technology, paper based records are still often easier and simpler to use. Therefore, electronic systems should save time, be fool proof, and simpler to use than paper. It was essential to work with users directly for quick feedback and refinement. By listening to the perspectives of health workers, problems could be fixed timeously. It was also helpful to think big, developing a program that could be used beyond the local context. All important stakeholders were engaged, participating in lengthy discussions and months of (often painstaking) collaboration. It was essential to for the developers to create space and time outside of their everyday responsibilities to develop this program.

POTENTIAL FOR SCALE

The software has been developed with the Health Impact Assessment Unit at the Department of Health. It has provided the foundation for a web-based version currently being developed by a private vendor. Eventually, the format of patient discharge summaries will be standardized, electronic and networked across the province. This will all be based on the application that was developed locally.



Streamlining radiation oncology planning and treatment processes to increase efficiency and reduce patient waiting lists.

THE CHALLENGE

Throughout the public health sector, waiting lists for treatment are exceedingly long. During 2009, the Division of Radiation Oncology identified the need to improve the service delivery to patients requiring life-saving or life-enhancing radiotherapy.

THE SOLUTION

Radiotherapy treatment is often a complex process with many different steps within various stages. This includes treatment planning, administrative processing, the treatment itself and the follow-up process. Due to this complex process, inefficiencies at any stage can create bottlenecks that affect the number of patients receiving treatment. Conversely, by maximizing productivity at each stage, more patients can be put through the treatment process. Recognising this, Raymond and his team adopted and implemented lean management principles at each stage. They rigorously investigated different systems of booking, treatment slot allocation and technique simplification. This has allowed the department to make significant quantitative gains in patient output.

THE IMPACT ON PATIENT CARE

Since 2009, regular meetings have taken place in which each step of the planning and treatment process has been unpacked and reviewed. Radiotherapy techniques have been streamlined, new techniques incorporated into the overall list of those available, and booking procedures digitalized. Medico-legal records of treatments have also been reviewed and reworked, making the process simpler and more user-friendly. In 2013, the Oncology Department recorded its highest number of patients treated since its inception.

KEY INSIGHTS FROM THE INNOVATOR

Collaborative effort and teamwork in a "no-blame" culture is invaluable for success in any project involving a large number of people. This does not only apply to planning, but also to execution as well. Staff must be kept informed of successes by means of published progress reports and regular report backs. Assembling representatives from various departments; Radiation Oncology, Medical Physics, Radiation Therapy and Radiation Laboratory Technology allowed some of these issues to be addressed in an innovative and collaborative way.

POTENTIAL FOR SCALE

Applying lean management principles has merit and could potentially be used by any department for the outcomes they wish to achieve, whether it is in the areas of workflow, time saving or increasing treatment capacity.

New strategies and procedures were also identified to find fresh ways to increase efficiency. Although treatment unit usage has increased noticeably, it still stands at around 85%. This shows that there is still room for improvement, and that innovation is a constant and continual process.

PATIENT FLOW OPTIMISATION

INNOVATOR: Prof Raymond Abratt, Head of Department, Radiation Medicine

In response to lengthening lists of patients awaiting radiotherapy treatment, Raymond Abratt and his colleagues decided to tackle the challenges posed by unnecessary bureaucracy. Representatives from each of the various divisions in the Oncology Department formed a team to find solutions to the long waiting lists that were becoming increasingly unmanageable. They worked together to apply lean management principles to enhance efficiency. Through this process, care planning and treatment for patients was streamlined and it increased the capacity of the division.

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ABUNDANT LIFE PALLIATIVE CARE PROGRAMME

INNOVATOR: Sister Jenny Arendse, Department of General Medicine and Mr Andre de Vos, Head of Department of Social Work

The Abundant Life Palliative Care Programme is a comprehensive service that provides support, information and empowerment for patients at the last stage of life and their families. The programme offers support within Groote Schuur Hospital through counselling and expert advice in the management of end of life care conditions. Through this programme, unnecessary hospital admissions are avoided, families are empowered to care for their loved ones and patients receive a dignified death.

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Caring for patients and families at the end of life.



THE CHALLENGE

For many patients at Groote Schuur who are diagnosed with life threatening and chronic illnesses, curative care is not possible. It is estimated that over 18% of inpatients require end of life care. In many cases, patients live in difficult social circumstances and do not have access to hospice facilities. After diagnosis, patients and their families often lack information about their illness, what to expect, and how to cope with a terminal condition. As a result, patients have repeated readmissions to hospital and families struggle to care for their loved ones unsupported. Pain control in particular is often misunderstood and neglected.

THE SOLUTION

The Abundant Life Palliative Care Programme is a holistic service that offers comprehensive care to patients and their families. The programme was adapted from the service initiated at Victoria Hospital in 2009 and tailored to Groote Schuur Hospital. Jenny is the first dedicated nursing sister appointed to provide this service. She works closely with a multidisciplinary team of physicians, social workers, nursing staff, operational managers and social workers to ensure a coordinated, holistic care. This includes pain control, symptom

management, informational material on coping with symptoms at home, and extensive follow up after discharge. A key aim of the programme is to ensure continuity of care when discharged into the community. Pioneered by Dr Tom Crede, Head of the Medical Emergency Unit, a new palliative care ward has been established. Here, Jenny is able to support and care for patients and families during the last hours of life. Families, for the first time, are able to spend uninterrupted time with their loved ones. Jenny is also developing a 24-hour lifeline, so that patients and their families can phone after hours, preventing unnecessary hospital admission.

THE IMPACT ON PATIENT CARE

Patients and their families often feel overwhelmed after difficult diagnoses, but this service facilitates the process of adjustment. Patient and family feedback have emphasised the importance of facilitating end of life care in the community and the importance of understanding diagnoses and self-administration of medication. Patients and their families report feeling supported and cared for in a manner that surpasses the job descriptions of the clinical team. According to Jenny, this program has created awareness about the need for palliative care – but more needs to be done.

KEY INSIGHTS FROM THE INNOVATOR

Jenny has realised that families are often scared to take ill patients home. She has come to learn that this fear can be relieved through good support, sharing information, equipping families, and preparing them adequately for the process. She also emphasises that working in a supportive team is essential, and requires an appreciation of differences and perspectives. Jenny is passionate about holistic care. "I want to see that everyone gets the care they deserve, and are looked after until they die. This must comprise of not only medical care, but social, psychosocial, and spiritual care. Every patient is unique and needs different care." Her message to those who have ideas is to "be driven, work hard, and go beyond your job description. Anyone can do it – we've all got something to give back."

POTENTIAL FOR SCALE

This service is currently available in the general medical ward and casualty wards, but will be expanded to other departments in the hospital. Jenny is a great example of the impact which can be had on patient care through a nurse-led, multi-disciplinary supported service.



Holistic evaluation and support for smoking cessation.

THE CHALLENGE

Tobacco smoke kills over six million people a year, almost twice the mortality rates of HIV and TB. Smoking is also associated with the world's top five causes of death. The use of tobacco is a contributing factor to many adverse health outcomes experienced by patients at Groote Schuur Hospital. Individuals trying to stop smoking face several challenges. There is a lack of facilities with adequately trained staff and they have insufficient time to counsel patients. There is also a lack of support and medication for state patients. Providing holistic, preventative care is less expensive than the treatment cost associated with long-term complications associated with smoking. To date, there have been no dedicated services to assist patients in quitting smoking.

patients comprehensively – including details of smoking history, nicotine addiction tests, nicotine withdrawal scales, emotional attachment assessments, and a depression score. The application ensures that all assessments are completed and it calculates the relevant scores to provide an instant results summary. This has ensured that the clinician has real-time information to make an informed decision about the best treatment options for a patient and to identify their specific risks.

support is limited by systemic challenges. Currently, smoking cessation medication is not freely available in the public service and many medical aids don't pay for them. In addition, there is a shortage of independent drug efficacy research. Richard has learned that technology is not a silver bullet. Using technology in clinical practice requires refinement. It is only once the app is being used in practice that one becomes aware of the mistakes and flaws in the system.

THE IMPACT ON PATIENT CARE

The smoking cessation service provides much needed preventive support through the full evaluation of relevant medical and mental health conditions, counselling, treatment, and weekly progress reports. Patients can have a comprehensive evaluation completed using a tablet or iPad, reducing the use of paper, saving time, and assisting in monitoring progress from week to week.

POTENTIAL FOR SCALE

The clinic is embedded in the Pulmonology Service, but all health care practitioners can provide smoking cessation advice and evaluation using the smoking cessation app. If it is tablet- or web-based, this app can be used in the Outpatients Department, on the wards and potentially across health care institutions, general practices and private hospitals. This innovation could expand far further than Groote Schuur Hospital.

THE SOLUTION

In November 2012, Richard and his team started the Smoking Cessation Clinic to assist patients on their journey to stop smoking – a first at Groote Schuur Hospital. The clinic provides holistic counselling and treatment options to smokers, many of whom have other major illnesses. In addition, a software developer assisted Richard in developing a computer-based application. The application evaluates

KEY INSIGHTS FROM THE INNOVATOR

Setting up new services requires time and money. In addition, smoking cessation



SMOKING CESSATION CLINIC AND ELECTRONIC APP

INNOVATOR: Dr Richard van Zyl-Smit, Sessional Consultant, Division of Pulmonology, Department of Medicine

Smoking tobacco is a major contributing factor to the burden of disease in the Western Cape Province. Despite this there is very little support in the public service for patients with nicotine/tobacco addiction. To assist motivated patients to stop smoking, Richard van Zyl-Smit and his team started a clinic at Groote Schuur Hospital dedicated to smoking cessation. They also developed a computer- and tablet-based application that assists in comprehensive screening and clinical decision-making.

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STRAIT ACCESS TECHNOLOGIES

INNOVATOR: Prof Peter Zilla, Director of UCT's Cardiovascular Research Unit and Head of the Chris Barnard Department of Cardiothoracic Surgery at Groote Schuur Hospital.

Strait Access Technologies aims at addressing the needs of patients with Rheumatic Heart Disease (RHD) living in developing countries. Traditional cardiac care is costly and requires significant clinical expertise. Peter Zilla and his team have developed low-cost cardiac valves and easy-to-use deployment systems. These are now available to patients who would not otherwise have access to these services. These innovations enable treatment for heart valve diseases that are not reliant on the specialised infrastructure needed to perform open-heart surgery.

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Life-saving, cost-effective, non-invasive cardiac devices for patients with rheumatic heart disease.



THE CHALLENGE

New estimates predict that globally up to 75 million people are affected by Rheumatic Heart Disease. Every year 1.4 million people die of the condition, most before the age of 26. All existing heart valve technologies required to treat this condition are highly sophisticated. In addition, these are often not appropriate for use in low-income developing settings with underdeveloped healthcare systems. Due to this, of every 100 patients requiring heart valve replacement worldwide, only two patients are treated.

SAT evolved from years of research conducted at the UCT Chris Barnard Department of Cardiothoracic Surgery. It was established as a 100% owned subsidiary of Strait Access Technologies Holdings. R11 million in funding was provided by the Technology Innovation Agency to develop this technology. The shareholders are the three co-founders (Peter Zilla, David Williams, Deon Bezuidenhout), the BidVest Group and the University of Cape Town.

many setbacks, they maintained a long-term approach from the early stages of development. They gained an intimate understanding of the sheer size of the problem of valvular disease from decades of experience in cardiac surgery. "There are twice as many sufferers of RHD as HIV – but no one is speaking up for them. This problem has been ignored for too long." Peter believes that entrepreneurship can flourish where "the ideas are great and the need is great."

THE IMPACT ON PATIENT CARE

This innovation has the potential to provide less invasive, life-saving treatments to patients suffering from Rheumatic Heart Disease who would otherwise die at an early age. These devices are produced at a substantially lower cost than any conventional devices. Prototype valves have already been produced and the first set of animal tests have been successfully conducted. Human studies are expected to commence in the next three years.

POTENTIAL FOR SCALE

SAT has developed as a result of years of pioneering work conducted at a well-funded research unit, with an enabling infrastructure. The funding model is an innovation in itself. By generating revenue at an early stage, the costs of the clinical trials for projects will be partly covered by revenue generated by the deployment device, thus reducing the capital needed to get each project to market. This strategy also reduces the risk exposure for investors. In addition, with safety and efficacy tests imminent, SAT has global market potential and could also spur a shift away from open heart surgery to trans-catheter heart valves.

THE SOLUTION

Strait Access Technologies (SAT), under the leadership of Peter, has developed heart valve replacement and repair devices that do not require open-heart surgery. Instead, the devices are delivered to the heart via a small incision in the chest wall or via a catheter. This cuts out the need for sophisticated operating theatres, imaging or specialised knowledge. This innovation has the potential to provide access to heart valve therapies for millions of patients suffering from Rheumatic Heart Disease across Africa. These devices are cheaper than those available internationally and better suited to a younger patient population.

KEY INSIGHTS FROM THE INNOVATOR

Peter and his team tried many avenues to develop a robust funding model. Despite

The intention of this Health Innovator's Review was to share the stories of inspirational innovators who have developed solutions that are transforming healthcare in South Africa.

And just like them,
we believe you can do the same,
wherever you may be.

What will your one next step be?

TAKE A FEW MOMENTS TO REFLECT ON THESE QUESTIONS:

1 > What is your vision for innovation at Groote Schuur Hospital?

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2 > What is the one thing you can do to make a positive change in healthcare?

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