

The **ANGELS** Journey

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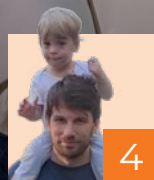
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Continuous improvement in action

Welcome

to this edition of The Angels Journey — a showcase of what happens when hospitals, ambulance services, and entire regions refuse to settle for “good enough”. Across the globe, we see proof that continuous improvement is not just a principle; it’s a way of life.



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The Angels Lean Consultancy is a promise to keep improving, to make every pathway faster, every hospital stronger, and every patient safer.

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In Latvia, the capital city raised the bar for an entire nation. Riga became the world’s first capital city to become an Angels Region, thanks to seamless coordination between hospitals and EMS, and a bold education campaign that turned schoolchildren into FAST Heroes. This achievement means more than a third of Latvians now live in a city where stroke care is standardized and swift.

In Hungary, perfectionism met idealism in the form of Ferenc Molnár, a paramedic and researcher whose relentless

pursuit of excellence transformed prehospital stroke care. His analysis of 80,000 cases revealed dramatic improvements in EMS performance — from near-perfect prenotification rates to faster on-scene times — proving that data-driven change saves lives.

In South Africa, a multidisciplinary team at Netcare Sunward Park Hospital turned vision into reality. By building a comprehensive stroke center and fostering a culture of collaboration, they achieved faster treatment times, higher recanalization rates, and two gold

awards — all driven by compassion and community responsibility.

In Indonesia, a neurologist’s determination gave Madura Island its second chance. Dr Jamilah transformed a hospital where thrombolysis was once a dream into a diamond-award winner, proving that even in remote regions, evidence-based care can become the norm.

And in Vietnam, five pioneering Angels Regions — from Hanoi to Ho Chi Minh City — demonstrated what integrated stroke systems look like when ambition meets action.

The Angels Initiative

The Angels Initiative is a healthcare intervention dedicated to improving stroke patients' chances of survival and a disability-free life. Since 2016, an estimated 16 million patients have been treated in over 8,000 Angels hospitals worldwide, including more than 1,400 new stroke-ready hospitals established across the world with the help of Angels.

Find out more by visiting angels-initiative.com

These regions combined hospital excellence, EMS coordination, and community education to set new standards for Asia and beyond.

These stories share a common thread: continuous improvement. They remind us that excellence is never static — it's a journey. And that's why we're proud to announce the launch of the Angels Lean Consultancy model.

This new approach applies lean principles to make our support more structured, data-driven, and sustainable. It's our commitment to evolve, just as the hospitals, EMS teams, and regions we work with do every day. Our opening story is from Fuerteventura, Spain, where this model was implemented in full for the first time. On an island where every minute matters, lean consultancy turned skepticism into success, proving that structured change can overcome even the toughest challenges.

The Angels Lean Consultancy is more than a process — it's a promise. A promise to keep improving, to make every pathway faster, every hospital stronger, and every patient safer. And with inspiring leaders like those in Latvia and Hungary lighting the way, that promise is already becoming reality.

Thank you for being part of this journey. Together, we're building a future where stroke care knows no boundaries — and the next wave of transformation starts now.



Jan van der Merwe
Co-Founder & Project Lead
– The Angels Initiative

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A new wave in Fuerteventura

A collision with a surfboard briefly landed an Angels consultant in an island hospital, in circumstances ideal for taking the new Angels consultancy model for a spin.

ON Saturday, November 1 Angels consultant Susana Granados joined friends in Tarifa on the Costa de la Luz in the province of Cádiz, Andalusia. Located at the southernmost end of the Iberian Peninsula, Tarifa is a premier surfing destination, especially around this time of year.

Susana, who's been surfing for over a decade, was showing a friend how to catch a wave when the board flipped and struck her on the nose. As she brought up her hand to her face and found it covered in blood, she was instantly worried about three things – what if she needed stitches, what if she lost

consciousness in the water, what about her flight?

The next day, Susana was due to fly to Fuerteventura, the second largest of the Canary Islands located about 100 km off the north coast of Africa, and a popular destination for watersports, including surfing. But although Susana had previously

surfing here at her favorite beach, Playa Punta Blanca, on this occasion she had an appointment with the neurology department at General Hospital Fuerteventura.

This hospital, until recently with a small neurology department, now had five neurologists including Drs Carla Vera and Montserrat Gonzalez, Canarias who had worked in Catalunya before coming home in pursuit of territorial equity. As Dr Carla explains, "After so many years of learning, I wanted to bring that knowledge back to the Canarian community, where we are still behind other regions of Spain and Europe in the availability of certain medical advances. This is even more noticeable on the non-capital islands, like Lanzarote and Fuerteventura, where the rapid growth of tourism often advances faster than the development of essential areas such as healthcare.

"A person who suffers a stroke should be able to access revascularization therapies quickly and effectively, regardless of where they are in the world."



Angels consultant Susana Granados (top right) and shortly after her surfing mishap (above).



Dr Carla reached out to Susana, who was in the process of organizing a multidisciplinary, multi-island meeting on Tenerife where doctors from hospitals throughout the archipelago would have the opportunity to share challenges and exchange ideas. Her first encounter with Carla and Montse on Tenerife in June 2025 left Susana in no doubt that change would come to General Hospital Fuerteventura quickly and decisively. At the end of July, she paid her first visit to the hospital where they talked about Angels and what they could achieve together.

The summer holidays came and went, and in September it was agreed that a simulation workshop would take place on 3 October. But when the idea was escalated to the hospital board, it encountered some skepticism. They kept the date but changed the agenda – the goal of Susana's second official visit to Fuerteventura would be to convince the board that Angels was the right medicine.

Lean makeover

In October, Susana had just returned from Rome where she and her colleagues from Portugal, Italy, Romania and Spain participated in a lean workshop that marked the official launch of the revised Angels consultancy model.

Because it is such an important differentiator of the Angels model, and so central to its success, the consultancy model undergoes constant revision to maximize its impact, but none so far-reaching as in the latter part of 2025. The “lean makeover”, implementing the principles of lean success, had taken almost 18 months of research, discussion and pressure testing.

In the past, an Angels consultancy would start with observation, employ tactics such as pathway simulation and multidisciplinary meetings to build consensus



Dr Carla Vera during her training in Neurovascular Pathology and Endovascular Treatment at Clínica La Sagrada Familia in Buenos Aires, Argentina.

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As it turned out, she had a somewhat unconventional tactic for getting the job done.

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around what needed to improve, and recommend and support improvement measures such as standardization, skills training and quality monitoring.

The revised process would now follow a similar arc but proceed at a

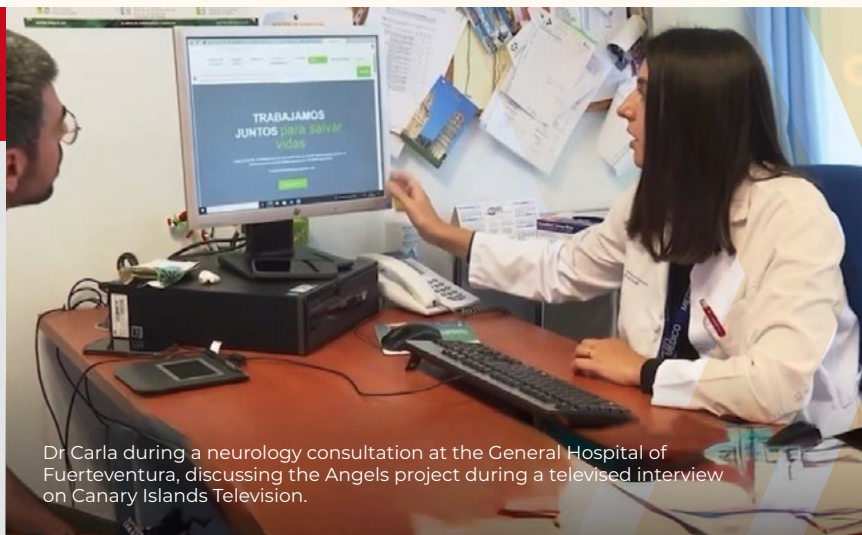
more deliberate pace. In the initial Discover phase, it would make use of lean tools such as value stream analysis and process mapping in a highly structured examination of the current state that would be captured in a critically important document, the Hospital Resource Form. This form contained vital insights derived from the pathway walkthrough, shadowing, interviews with a wide range of healthcare workers, and as much baseline data as it was possible to access.

Next, the process would develop consensus about the future state, and only then proceed to actions that would deliver that future.

After initial misgivings about fixing what wasn't broken, Susana warmed to the new approach as she believed it would help her become more organized, structured and professional. If anything worried her it was gathering all the granular information required by the Hospital Resource Form through observation and by putting the right questions to the right people who were all working in a high-pressure environment.

As it turned out, she had a somewhat unconventional tactic for getting the job done.





Dr Carla during a neurology consultation at the General Hospital of Fuerteventura, discussing the Angels project during a televised interview on Canary Islands Television.



A patient perspective

After her surfing accident in Tarifa, Susana appealed to a doctor friend for help rather than attend the busy ER on a Saturday afternoon. The following day, the wound on her nose closed with adhesive strips, she was disappointed when a flight delay ruled out catching a late Sunday afternoon wave at Playa Punta Blanca. But when she woke up in Fuerteventura on Monday morning, her face had become swollen and inflamed.

Susana had come to Fuerteventura to attend a multidisciplinary training session offered by Dr Jesús Juega, a neurologist from Catalunya, and, one month after the workshop in Rome, to commence a lean consultancy that would help the hospital reach its goals. But no sooner had she reached the hospital than she was whisked through triage and ordered to undergo an X-ray of her nose and jaw.

When Dr Carla laid eyes on the injured Susana, her first reaction was "concern, of course. Seeing someone arrive injured always activates the clinician's instinct. But once I knew she was fine, it actually reinforced what I already knew about her: she is extremely committed to her goals. Coming straight from a surfing accident yet immediately engaging with the team and the consultancy process only confirmed the level of dedication and passion I had seen in her before."

Susana didn't waste a minute of the three hours she ended up spending in the ER. While waiting to be attended, she took out the Hospital Resource Form and started recording her observations as well



Dr Carla snorkeling on the island of La Graciosa.

as her conversations with doctors, nurses, and the only radiologist on duty.

By the time she was discharged, Susana had also completed a spaghetti diagram, learnt how prenotification calls sometimes got lost in the system, spotted a bottleneck on the route to CT, and identified a second door that could solve it.

"These are significant, useful tools," was Dr Carla's assessment. "The Hospital Resource Form helps to make the reality of our resources, processes, and requirements quantifiable and visible. Once they are well-defined, many of the problems will become simpler to solve."

"The 'spaghetti chart' is especially insightful. By graphically visualizing the pathway, we can identify inefficiencies, bottlenecks, and unnecessary movements in daily practice. Every minute matters for a hospital in an isolated region like ours, and these tools help us to reduce time and advance in patient care. In my view, these tools will play a key role in our improvement process."

A true stroke-protected island

Dr Carla Vera was born in Arrecife, the capital of Lanzarote, and grew up between Lanzarote and a small island very close to it called La Graciosa. She says, "Growing up on an island has its peculiarities, especially in the Canary Islands, which form a tricontinental territory between Africa, Europe, and America. This creates an

extraordinary cultural and landscape richness.

"As César Manrique used to say, 'The Canary Islands are the origin of the Universe' and for that reason, being born and raised here is an enormous privilege.

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Susana did manage to catch a wave at Playa Punta Blanca before flying home.

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"My grandfather, who worked at sea like many Canary Islanders, often spoke about the health difficulties that sailors faced. He was responsible for basic care on board and would tell stories of sailors who, disoriented and hallucinating, tried to jump into the sea, and others who had a velvety tongue. With time, I learned these were episodes of delirium tremens and pellagra.

"From that moment, when I was very young, I became interested in health and its mysteries, in caring for people, and in promoting wellbeing. Medicine, among many other equally important professions, such as nursing, was a path to do so."

Her passion for neurology came later.

"After finishing medical school, I travelled to Buenos Aires to explore other healthcare systems, and there I discovered the richness of the specialty. It was also there, during that time, that I fell in love with my wife, who had just been diagnosed with multiple sclerosis. Experiencing these treatments firsthand, at a moment when new therapeutic tools were rapidly emerging, gave me a deeper understanding of the specialty. That experience is where my vocation for neurology truly emerged, realizing it was a field in constant evolution and progress."

Dr Carla's ultimate goal is for Fuerteventura to become "a true stroke-protected island". This means developing a sustainable system that functions effectively regardless of seasonal population fluctuations, staff shortages, or the challenges of being a non-capital island. The key pieces of the plan are training for every professional involved in the diagnosis and treatment of stroke patients, standardized protocols, better secondary prevention, more population education, achieving access to thrombectomy, measuring progress through systematic data recording in registries like RES-Q, and improving coordination across all levels of care, especially with EMS in the prehospital setting.

She says, "Early and efficient stroke code activation begins long before patients reach the hospital, and this coordination becomes even more critical in an island environment, where every minute truly matters."

One final wave

Susana did manage to catch a wave at Playa Punta Blanca late on Monday afternoon, before flying home the following morning. Surfing is something she does as often as she can, and she's not the only one.

Dr Carla says, "Growing up surrounded by the ocean makes it almost inevitable to develop a connection with the sea, even if my skills on the board are still modest. I truly admire the surfing culture of the islands, and I hope that with Susana's influence, my technique in the water will keep improving – just as our stroke care continues to rise to the next level with her support."

Latvia's capital gains

Latvia scores a first as the city of Riga is recognized as an Angels Region, marking more than a third of the country's population safe for stroke.

HERE are some of the things that make the Latvian capital Riga different from capital cities elsewhere in the world.

- › It has the highest density of Art Nouveau buildings in the world.
- › It has an enormous market located in five former World War I Zeppelin hangars.
- › It has the tallest tower in the European Union – at least on hot days, when the metal expands and it beats its German rival by 3 cm.



And, cue drumroll – because Riga recently became the world's first capital city to be recognized as an Angels Region.

This Latvian first isn't all that surprising when you consider that Riga is the home of Pauls Stradins Clinical University Hospital, a diamond hospital 28 times over. Having more awards than any other hospital in Europe doesn't mean they got there ahead of the others – the hospital only won its first award in 2018, one year after the ESO Angels Awards were launched. But since becoming a diamond hospital they have demonstrated the same level of excellence an unbeaten 28 times.

The secret is consistency, says neurologist Dr Kristaps Jurjāns, a 2025 recipient of the Spirit of Excellence award. Under his larger-than-life leadership, Pauls Stradins CUH has become so synonymous with stroke care excellence that



Dr Kristaps Jurjāns receiving the Spirit of Excellence Award from Jan van der Merwe and Belén Velasquez during ESOC 2025.

one risks forgetting that Riga has another superstar – Riga East Clinical University Hospital, with the same number of awards certificates (including seven diamonds) on their trophy wall.

These hospitals are located on opposite sides of the Daugava river, and serve different referral networks, so it's fair to say that the city more than meets the first criterion for Angels Region status – access to a high standard of stroke care for all its citizens.

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We can have a door-to-needle time of six or seven minutes but there's **no point if the patient came too late** or not at all.

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But as Dr Jurjāns always tells members of the national ambulance service (NMPD) in training workshops, there's no point in the hospital having record-breaking door-to-needle times if patients don't arrive in time for treatment.

“I always say to them the hospital can work like a factory. But if you don't bring us the patient or provide us with the information we need, there's no point in being a super factory. We can have a door-to-needle time of six or seven minutes but there's no point if the patient came too late or not at all.”

The significance of a seamless and immediate connection between EMS and hospital is of course the precise foundation for the Angels Regions strategy, coupled with the need to educate the community so people can recognize the signs of stroke and the importance of calling 112 without delay.

So with two hospitals at the top of their game, when Angels team leader Rita Rodrigues introduced the goal of converting Riga into an Angels Region early last year, it was understood that their focus would be twofold – a first EMS Angels Award for the ambulance service, and rolling out the FAST Heroes

stroke education campaign in the city's elementary schools.

An auspicious beginning

Rita began working with Riga hospitals in 2018 and led simulations with Riga East Clinical University Hospital in April, and at Pauls Stradins CUH in September. By then, neurologists from the hospital had already attended an Angels Train the Trainer program in Wiesbaden, Germany, and before

in order to demonstrate that hospital excellence was matched by prehospital excellence, and that stroke patients in Riga reached the “factory” in time to be given a second chance at life.

Data extraction and filtering and getting the appropriate permissions from national coordinators took time, but in March 2025, the project got a boost when, at Dr Jurjāns suggestion, the first joint hospital and EMS Train the Trainer event was held in Mainz, Germany. Twenty



Angels' Rita Rodrigues with Assoc. Prof. of Neurology, Guntis Karelis, during a simulation at Riga East University Hospital in April 2018.

the simulation commenced, a younger Dr Jurjāns proudly pointed out their first gold certificate outside the stroke unit door.

In the first round of simulation, the team resolved the first case in a fleeting 20 minutes, then found a way to improve on it. What if the hypothetical ambulance team, having pre-notified the hospital, delivered the patient directly to the CT scanner? It was a case of small change, massive impact. By employing these two key priority actions, the second dummy patient was treated within 9 lightning-quick minutes.

Prenotification of suspected strokes is one of five criteria for the EMS Angels Awards that were launched in 2021. For Riga to obtain Angels Region status, the NMPD would have to submit patient data for at least 30 patients to RES-Q

pairs of attendees from 10 countries were nominated for the event, each pair consisting of a neurologist and EMS professional from the same region. The expectation was that this would positively impact regional performance, and in Latvia, that was exactly what happened.

At the end of July, Rita announced to the Angels team that Latvia had won an EMS Angels platinum award, having submitted data for 1,231 patients in a single quarter. Three months later, they earned a diamond award.

Everyone can be a hero

FAST Heroes implementation targets are population-based. In Riga it was estimated that 48 class rooms would have to join the campaign to keep grandparents in the capital safe. That in the end with a great effort from the Center for Disease Prevention

and Control, Riga sailed over the finish line with 63 classes under its belt owes a great deal to Dr Jurjāns, who, as campaign ambassador, became something of a cheerleader and Pied Piper.

Several things fell in place almost at once. The education department in the mayor's office agreed to encourage participation in schools. The Center for Disease Prevention and Control set aside some money to support the project, and, as is fitting in a city with a thriving cultural scene, a play based on

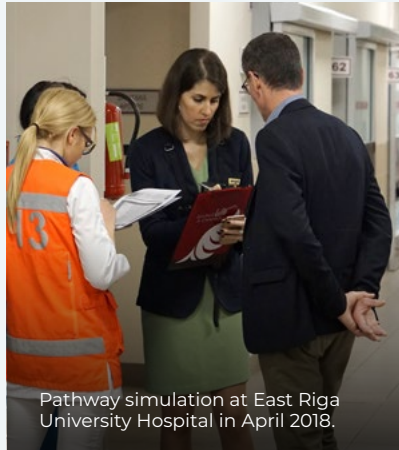
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By educating children at an early age, we are creating a society where **everyone can become a real hero.**

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the FAST Heroes campaign was performed for an audience of aspirant superheroes from four schools – Incukalns Elementary School, Džukte Elementary School, Jurmala Pumpuru High School and Valmiera Pārgauja Primary School.

The play was created in collaboration with independent theatre group Kvadrifons, and the script underwent expert scrutiny from Dr Jurjāns himself, who also made an on-stage appearance to answer questions from the audience.



Pathway simulation at East Riga University Hospital in April 2018.



“By educating children at an early age, we are creating a society where everyone can become a real hero,” Dr Kristaps says. In Latvia, where basic health education is no longer part of the curriculum, teaching children how to prevent stroke will certainly benefit the overall health of the community.

With close to one million people living in the Riga metropolitan area, Angels Region status for the capital means well over a third of Latvians are now living in safe city for stroke and can expect standardized care no matter where they are.



Now, here are some of the things that make Latvia different from countries elsewhere in the world.

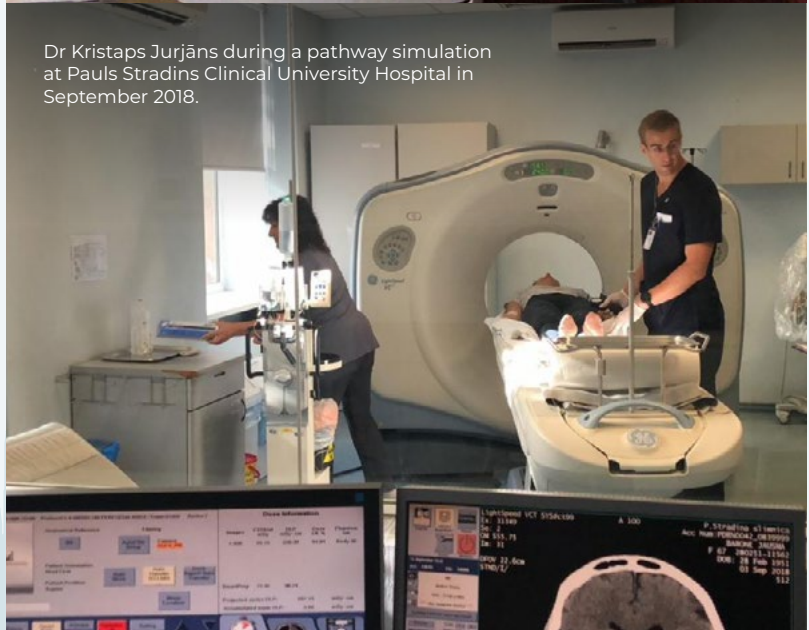
- › *It has the widest waterfall in Europe.*
- › *It has one of the world's oldest flags – the red background with a white stripe dates back to the 13th century.*
- › *Its national animal is a ladybird.*
- › *In 1510, it was the location of the world's first decorated Christmas tree.*

By 2027, will it be the world's first Angels country?
You'll hear it here first.

100
Angels
REGIONS
by **DECEMBER 2027**



Dr Kristaps Jurjāns during a pathway simulation at Pauls Stradins Clinical University Hospital in September 2018.



Show up and tell for Sunward Park

A team transformed stroke care at Gauteng's Netcare Sunward Park Hospital, and a team showed up to share their story of community and compassion.

THE secret of Netcare Sunward Park Hospital is right before your eyes because, present on a Tuesday morning, for a video call to share their stroke story, are:

- Hospital manager and former engineer Greg Mokgoatlheng whose desire to serve the community shapes the culture at the hospital.
- Neurovascular surgeon Dr Phila Mpanza, whom Greg headhunted last year to head up Sunward's neurovascular service.
- Dr Mpanza's colleague, endovascular neurosurgeon Dr Rambelani Khohomela, who is also a consultant at Johannesburg's megahospitals, Chris Hani Baragwanath and Charlotte Maxeke. His colleagues call him Dr Rambe.
- Sr Lucille Pillay, emergency department unit manager and stroke champion. Nursing is in her blood.
- Matron Gwen Naidoo, nursing service manager and key supporter of the stroke project, along with her deputy, Matron Ravina Jairam.
- In the driver's seat, Dr Nelson Alves, chief clinical officer at ER Consulting, Africa's largest a consultative emergency medical services provider in the private sector. Hospitals that outsource emergency care to ER Consulting
- have won over 40 WSO Angels Awards, including two gold awards for Sunward Park.
- Sharing a screen with Matron Gwen and Lucille, is new principal clinical manager Dr Carla Caldo, also from ER Consulting. She's the new kid on the block, having only joined Sunward Park this past July.
- Also joining the 10 am call is physician Dr Palesa Portia Mentoro, and Angels consultant Wendy Mandindi who is beaming with pride.



The stroke team at Netcare Sunward Park Hospital.

The short version of the Sunward Park story is that, last May, a revamped cath lab sent hospital manager Greg in search of neurosurgeons who could establish a thrombectomy service and turn Sunward Park into a comprehensive center for stroke. Plus, a multidisciplinary team established last October streamlined the stroke pathway, resulting in faster treatment times, a higher recanalization rate, more lives saved, and two gold awards.

But there's of course a longer version of the story, and it's no accident that the people who created it, have shown up to share it.

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Stroke gives no warning sign, and it **increasingly strikes younger patients** which causes even more trauma to families.

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Men on a mission

He could tell Greg was serious when he came all the way across Johannesburg to meet with Dr Mpanza, Dr Rambe says. Trekking from Boksburg on the East Rand to Baragwanath in Soweto, he was evidently “a man on a mission”.

Greg told the doctors what he had and what he needed, and when they visited Sunward Park shortly afterwards, it was a mission accomplished.

They were amazed by the equipment, Dr Mpanza says. Good equipment combined with a good team equaled better outcomes, so here was the opportunity for better stroke care both he and Dr Rambe strived for. And when they arrived to take up residence at Sunward Park, they received a warm welcome that humbled them, Dr Rambe says.

Dr Rambe realized he wanted to become a surgeon while practicing medicine in “the bundu”, in the northeastern corner of Limpopo Province. After qualifying as a neurosurgeon (because he “loved the brain”), he did a subspecialty in neurovascular surgery and became passionate about redressing the want of adequate stroke care.

Changing the narrative around stroke is now a passion project shared with Dr Mpanza and a small “clique of neurosurgeons” committed to providing world-class neurovascular services to patients in their communities.

Healthcare chose him, says Dr Mpanza who gave up dreams of being an engineer to become a neurosurgeon, and then undertook a subspecialty in neuro-endovascular medicine in order to help vulnerable people reclaim their lives. “Stroke gives no warning sign, and it increasingly strikes younger patients which causes even more trauma to families,” he says.

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At first the cath lab nursing staff **were worried about the new doctors**, we had to go in and calm them down.

”

He doesn't need thanks. Seeing a patient regain their abilities makes him happy, Dr Mpanza says. Dr Rambe agrees: “Nothing beats it.”



It's no wonder they're affectionately called "the twins".

'Proud, absolutely proud'

Matron Gwen Naidoo, whom one suspects of being the source of that pet name, is "proud, absolutely proud" of her hospital's stroke care journey. With 30 compassion-driven years of nursing behind her, she has the experience to recognize the impact Drs Mpanze and Rambe have had on her team.

"At first the cath lab nursing staff were worried about the new doctors, we had to go in and calm them down," she says. But Matron Gwen assured the angio nurses that this was a learning opportunity and so it proved to be. The twins' training culture has spilled into other departments, boosting the confidence of staff working in the emergency department, the intensive care unit and on the wards.

It doesn't take very long to discover that Sunward Park is a compassion-led hospital.

Sr Lucille has it. Raised in a family of nurses, her parents predicted she would make her career in healthcare because compassion for others was simply second nature.

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As an engineer you serve the community indirectly, but I knew I could be more impactful in healthcare.

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Matron Ravina has it. "I just have it in me," she says. "I love to see good outcomes. We have the expertise to provide outstanding care and change someone's life within an hour and that is so satisfying."

Dr Portia Mentoro has it. "As a person I am a carer," she says. "I love to hold hands and educate patients about their disease."

And then there's hospital manager Greg Mokgoatlheng whose sense of community responsibility runs

so deep that he changed his career because of it. "I started in engineering, and I enjoyed it, but it lacked fulfillment," he says. "As an engineer you serve the community indirectly, but I knew I could be more impactful in healthcare."

Sunward Park may be a private hospital, but for Greg the duty to provide the best and safest patient care to the community comes first. It's about making the right promises and delivering on them and doing what they're capable of as well as they possibly can. "I see the hospital as a service provider," he says, "that's where my passion lies."

Word is out

Dr Carla Calldo felt the passion the very first time she saw an elderly stroke patient treated by the Sunward Park team. Doctors gathered round to help, she says; it was a spontaneous display of teamwork such as she had never observed elsewhere. The outcome was "momentous", she says, as not long after undergoing mechanical thrombectomy, the 92-year-old patient was discharged home.

Dr Nelson Alves calls himself an old hand – an emergency physician who provides leadership in the ED, he has been at the coalface for more than 12 years. By now, when he sees a stroke patient, he can predict what will happen if the patient receives emergency thrombolysis, and what will happen if they don't.

He had always been interested in stroke, Dr Nelson says. And from the first time he saw a thrombolysed patient recover their function and return to normal, he was hooked. "Once you see the difference it can make, it ignites something that makes you want to replicate the effect for as many patients as possible," he says.

An organized pathway and an engaged team with shared goals now means fewer missed opportunities. And with neurointerventionists on board, they're finally able to assist patients with large vessel occlusion who may derive limited benefit from thrombolysis.

Treating stroke is not a one-man-show, Dr Nelson says. Nor is it a process that begins at the hospital door. A stroke starts in the community, and close cooperation with and prenotification by the EMS Angels award-winning team at Netcare 911 Gauteng South, has

helped reduce the interval between symptom onset and patient arrival. (Netcare 911 Gauteng South includes Netcare 911 EMS bases in Johannesburg South, the East Rand & the Vaal.)

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She realized that her hospital had what it took to become a center of excellence and provide outstanding care to their elderly community.

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"Word is out to the EMS and primary healthcare services," Dr Portia says. The community is taking note that this East Rand hospital can treat stroke to prevent disability and dependency – and that's perfectly aligned with Greg's community-focused vision.

Treating stroke may not be a one-man show, but sometimes it can take a one-woman thunder bolt to get the ball rolling. Although she insists Greg and Matron Gwen were the initiators, Sr Lucille played a critical role in assembling the multidisciplinary team and stroke group that transformed stroke care at Sunward Park.

A trauma nurse, Lucille's interest in stroke grew as she learnt more about it, both from Wendy and by doing courses in the Angels Academy. She realized that her hospital had what it took to become a center of excellence and provide outstanding care to their elderly community.

Her next project is WSO Stroke Center accreditation for Sunward Park, which involves a rigorous certification process to demonstrate that the hospital follows evidence-based practices, maximizes efficiency, achieves continuous quality improvement, and ultimately reduces stroke-related mortality and disability.

Lucille's deadline for certification is the end of 2026 – when hopefully the Sunward Park team will be back to share an even bigger story.

Ferenc Molnár's perfect world

Hungarian paramedic and researcher Ferenc Molnár follows a road that doesn't exist in pursuit of a future he insists upon. Now this perfectionist has delivered on a promise to quantify the impact of Angels collaboration on prehospital performance, with an analysis of over 80,000 cases.

THE difference between perfectionism and idealism comes down to how things ought to be done versus how things ought to be.

In other words, the perfectionist focuses on how to do something flawlessly, whereas the idealist focuses on what to do based on their noble vision.

It's of course possible to be both, just as long as you don't expect to get a lot of sleep.

"Sleep is overrated," says Ferenc Molnár, expert paramedic and leader of research at the Hungarian National Ambulance Service, the

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The perfectionist in him never ceases to look for errors and propose **ways to fix them**, spurred on by the idealist belief that perfection is possible.

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OMSZ. Three to four hours are all that's necessary to fuel Ferenc's dedication to advancing prehospital research and restoring the scientific life of the OMSZ, scrutinizing data for opportunities to rid the system of flaws, completing his PhD in disaster medicine, and cherishing every moment spent with his two-and-a-half-year-old, Albert.

During the EUSEM Congress in Copenhagen last October, Ferenc promised members of the EMS Angels Steering Committee that he would write a good article on the impact of the EMS Angels Awards on prehospital stroke care in Hungary.

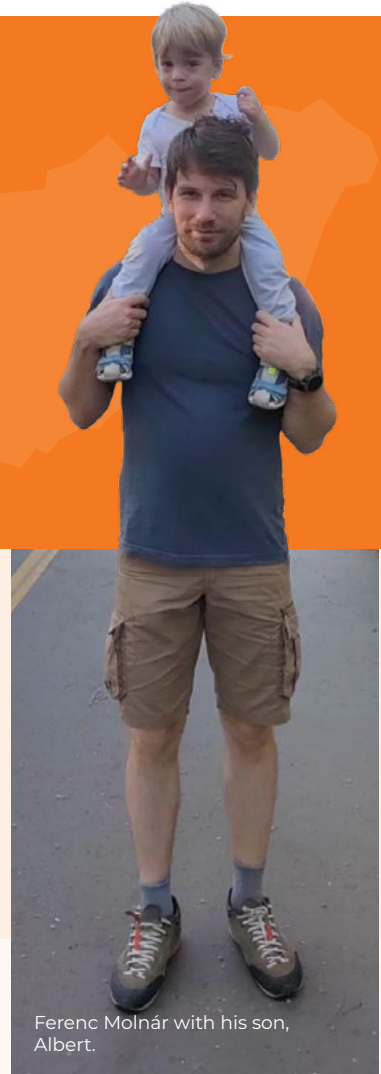
It was only once he arrived back in southeastern Hungary's "city of sunshine", Szeged, that Ferenc realized he'd given himself rather a lot to do.

One year later, the article is pending publication. Based on an analysis of over 80,000 cases, it details OMSZ performance improvement in five key areas in the four years after it adopted the quality-improvement

measures recommended by the Angels Initiative and expressed in EMS Angels Awards criteria.

Between January 2021 and December 2024, median on-scene time fell from approximately 21 minutes to 19, documentation of medication history rose from 29 percent to 99 percent, and onset-time recording reached nearly 100 percent after being made mandatory in 2023. Hospital prenotification improved from 11 percent to 97 percent, and direct transport to stroke-ready hospitals from 59 percent to 99.8 percent.

In 2023, Hungary became the first (and so far, only) country in the world to reach diamond status in the EMS Angels Awards in every one of its regions, a feat it repeated in 2024 and 2025. A perfect record, you might say, although Ferenc would disagree. The perfectionist in him never ceases to look for errors and propose ways to fix them, spurred on by the idealist belief that perfection is possible.



Ferenc Molnár with his son, Albert.

The quote on the screen is his favorite, Ferenc says. It means "Because every person is worth as much as they can serve their fellow human beings and their homeland." It is by Zoltán Kodály, a famous Hungarian folk song collector and composer, and the creator of the Kodály Method, a holistic, singing-based approach to music education.



Love at first sight

Ferenc grew up in a small town called Komló in southern Hungary, in an area once home to Jurassic dinosaurs assigned to the species *Komlosaurus carbonis*. His boyhood dream of becoming a firefighter was thwarted by weak eyesight that required him to wear glasses. His subsequent search for a purpose in life led him to the ambulance service; it was "love at first sight".

Inside an ambulance car there's a different universe, he says. "It's good to be there. Every EMS worker feels the same way. It's so good to help other people. Every time I work in the ambulance car, I feel better because I am doing something for society, for someone. It's a very inspiring environment for me."

Naturally inclined to want to improve what he sees, Ferenc was initially frustrated by the absence of a research culture in the ambulance service, and by his limited ability

to influence the system. The daily pressure to provide quality care to over one million patients per year left little room for research, so he began analyzing the data in his spare time, motivated by the potential for improving outcomes for a fragile group of patients. There was one fragile patient in particular he had in mind. His own father had had a stroke and, although he'd made a good recovery, Ferenc had nevertheless found a few flaws in his treatment that the perfectionist felt compelled to change and improve.

A new head of department led to a breakthrough in 2024. Dr. Miklós Constantinovits did him a great favor, Ferenc says. "He said, do not care about everyday challenges, you should work only with science."

Working only with science has allowed Ferenc to complete the PhD for which he examined the usability of 3D-printed medical devices in emergency and military disaster

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After he arrives home, **his focus will be on his family until Albert falls asleep surrounded by ambulance cars – the childhood bedroom of a future firefighter.**

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medicine care. He has studied the use of non-invasive ventilation (for which he and Miklós received the best presentation award at the EUSEM regional conference in June), fulfilled his promise to the EMS Angels steering committee with a paper on the impact of Angels collaboration on EMS quality

indicators in Hungary, and trained his scrutiny on the efficiency of secondary air transport. And he has his eye on an Italian master's program in European Disaster Medicine, through which he hopes he can reduce the loss of young lives to trauma.

Idealism loves company

Those who are driven by strong principles and the goal of making a positive impact on the world, need mentors to bridge the gap between their vision for how the world could be and the reality of how to achieve it. Ferenc is grateful to two men in particular who have shaped him in this way – his close friend and namesake, Ferenc Toldi, who brought the Angels program to the OMSZ, and Dr Gábor Göbl, an iconic emergency physician whom he describes as “the most inspiring person in the world”.

“Dr Göbl wrote the books that my generation studied from, the very foundations of our knowledge. His name was synonymous with excellence long before we ever met him. Years later, when I began working in Budapest, I had the privilege of becoming his colleague. And that was when I

truly understood what made him exceptional.

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When you know something like this about someone, you know everything about them.

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“Dr Göbl is not only a brilliant physician – he is a true gentleman and the finest teacher I have ever had. From him, I learned lessons that went far beyond clinical skills. He taught me how to think like a scientist, how to question assumptions, and how to embrace critical thinking. He taught me how to navigate among decision-makers with integrity, and how to quietly and persistently achieve my goals without losing sight of my principles.”

Ferenc is interrupted for a moment by a text message from his wife,

also a researcher. She wishes him luck with the interview and reminds him to collect Albert from daycare on his way home. After he arrives home, his focus will be on his family until Albert falls asleep surrounded by ambulance cars – the childhood bedroom of a future firefighter. Then Ferenc will be back at his desk, looking for errors, aiming for perfection, building his legacy out of changing “the worst possible into the best possible”.

He guesses that makes him an idealist.

Angels consultant Zsófia Reichert remembers the exact words Ferenc said to her during this past November's EMS Angels steering committee meeting in Cordoba when they were in a bus en route to the local emergency coordination center.

“He said, ‘This is my main goal, to follow a road that doesn't exist now, because I know these steps will make things easier for the next generation.’”

These words struck a chord, Zsófia says.

“When you know something like this about someone, you know everything about them.”



Ferenc (second from right) with his closest colleagues and friends, from left: Kálmán Kiss, Miklós Constantinovits, Ferenc Toldi, and László Pusztai.



Pioneering Angels regions in the Ropu Askan area

Vietnam's Angels Regions represent a holistic approach to stroke care — combining hospital excellence, rapid EMS coordination, and public education.

BETWEEN 2024 and 2025, Vietnam officially recognized five Angels Regions: An Giang, Da Nang, Ho Chi Minh 1, Hanoi 1, and Can Tho — marking a milestone in building comprehensive and sustainable stroke care systems in Asia.

Each region integrates hospital networks, pre-hospital emergency services, and community awareness programs, meeting rigorous Angels Initiative criteria: a network of stroke-ready hospitals, RES-Q data participation, WSO Gold or higher awards, certified EMS systems, and community education scaled to stroke incidence.

Hanoi 1 region – strengthening pre-hospital emergency care

Hanoi is making strong progress in developing its pre-hospital emergency network, backed by the commitment of the Department of Health and the active participation of local hospitals. The region now has five hospitals recognized with WSO Angels Awards, including Bach Mai Hospital, which ranks among the top four hospitals worldwide for the highest number of Diamond Awards. Meanwhile, the Hanoi 115 Emergency Center achieved the Gold EMS Angels Award, expanded its satellite stations, and strengthened coordination with hospitals to ensure timely patient transfers and faster emergency response. Despite challenges such as traffic congestion and limited public awareness, Hanoi

continues to advance community training programs and outreach activities to improve stroke recognition and response at the grassroots level.

Da Nang region – national model in EMS stroke care

Da Nang's 115 Emergency Center handled nearly 400 free stroke transports in 2024, earning five consecutive Diamond EMS Angels Awards. With three WSO-certified stroke units and public campaigns reaching over 1,400 participants, the

city has set a benchmark in hospital-EMS coordination and stroke awareness, making it one of ASKAN's first certified Angels Regions.

Ho Chi Minh 1 region – scaling quality across a megacity

Ho Chi Minh City boasts seven WSO-certified hospitals (3 Diamond, 1 Platinum, 3 Gold) and 53 satellite EMS stations, achieving two Diamond EMS Awards. Results include 29% more treated cases, onset-to-door time cut to 344



minutes, and late arrivals reduced to 7%. Public campaigns such as “Stroke: Understand to Prevent Disability” attracted over 1,000 participants and strong online engagement.

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These pioneering models are setting **new regional standards** for integrated, sustainable stroke systems.

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Can Tho region – community engagement and local innovation

Can Tho leads the Mekong Delta in stroke care, with three WSO-certified hospitals (2 Diamond, 1 Gold). Despite challenges in implementing the FAST Hero program, hospitals launched alternative outreach initiatives. Training reached over 1,000 medical students, 4,000 runners, and 800 community members, spreading stroke awareness using the FAST method and fostering a stronger community-based response.

An Giang region – grassroots EMS and volunteerism

An Giang stands out with four WSO-certified hospitals (2 Diamond, 1 Platinum, 1 Gold) and a 200-ambulance volunteer network managed by the Red Cross — the largest in Vietnam. With Angels’ guidance, volunteer drivers were trained in FAST recognition and emergency coordination, enabling the province to earn a Gold EMS Angels Award and establish a sustainable, community-led EMS model.

Conclusion

Vietnam’s Angels Regions represent a holistic approach to stroke care — combining hospital excellence, rapid EMS coordination, and public education. These pioneering models are setting new regional standards for integrated, sustainable stroke systems across the ROPU ASKAN area and beyond.



Madura island's second chance

First, a doctor arrived who was determined to treat acute stroke according to evidence-based guidelines. Next, a patient arrived in time for life-saving treatment. RSMZ on tranquil Madura Island was on its way to becoming a diamond hospital.

INDONESIA is an archipelagic state consisting of many beautiful islands including tranquil Madura Island just off the north coast of East Java. It is the home of many delightful duck dishes such as Bebek Madura, fried duck cooked with a black spice paste, and Bebek Sinjay, which is served with mangoes and hot sambal.

Since 2009, the Suramadu bridge, a cable-stayed bridge that at 5,4 km long is the second-longest bridge in the southern hemisphere, has connected the island to East Java. Although this means it is now possible to reach the capital by road, the three-and-a-half-hour journey is too time-consuming for acute stroke patients to access urgent care.

On Madura Island itself, the main hospital in the island's Sampang Regency is the RSUD dr. Mohammad Zyn Kabupaten Sampang, known locally as RSMZ. It is a major referral hospital for the entire Madura Island region, and equipped with modern facilities, but when neurologist dr. Jamilah, Sp.N, joined the hospital in March 2022, thrombolysis for acute stroke was not yet available.

Dr Jamilah had gained experience in treating acute stroke at one of Indonesia's leading hospitals, Dr. Kariadi Central General Hospital in Semarang, where thrombolysis had saved many patients from disability and death. When she joined RSMZ,



Angels consultant Wasiat Rani Peni with Dr Jamilah (right).

about 60 km from where she grew up, she knew she wanted to make the therapy available to patients there. She started immediately to advocate for the importance of creating a stroke protocol for the hospital.

It was not an easy road. There were regulations to be considered and resources to prepare, but nothing could get in the way of learning. Dr Jamilah trained healthcare professionals from nurses to ED doctors about stroke emergency and prepared the stroke team that would become vital players in code stroke once the system was officially activated in the hospital. It would be up to them to give acute stroke patients a second chance at life.

They anticipated challenges such as patients arriving outside the golden hour, the CT-scan machine being unavailable due to maintenance, or delays in interpreting the CT image, and decided in advance that reading the CT image would be the duty of the neurologist on call.

In February 2023, not quite a year after Dr Jamilah came to RSMZ, a 76-year-old man was brought to the hospital's emergency room with left side weakness and slurred

speech. This patient and their family were aware of the golden period for treating stroke and realized the journey to one of the WSO Angels award-winning hospitals in Surabaya would take too long.

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All the training they had received had been in anticipation of this moment.

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So, it was in the emergency room of RSUD Dr. Muhammad Zyn Sampang, five minutes from their home, that they decided to seek help.

This was a crucial moment for everyone in the room. In the past, stroke patients had arrived late,

as many as 24 hours or more after symptom onset. But this time was different. This patient knew there was a possibility that emergency treatment could prevent his stroke from becoming a catastrophe, and he'd arrived in time for that life-saving treatment to become his second chance. Dr Jamilah's team knew they had to treat their patient.

All the training they had received had been in anticipation of this moment and, with Dr Jamilah's guidance, everyone knew what their role was and what to do. Less than 60 minutes later, the patient had started to improve before their eyes.

This experience now became a benchmark for acute stroke management at the hospital. The realization that they could help many more people sparked a new spirit, and the team started collecting data and submitting it to the RES-Q registry to receive feedback on what could be improved, and to measure their progress against international standards and evidence-based criteria.

Their commitment to continuous improvement landed them a WSO Angels platinum award at the start





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Angels always remind us to **keep in touch**, to have a **community**.

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of 2025, which only encouraged them to work even harder. They became a diamond hospital in Q2.

The stroke team from RSUD Dr. M. Zyn Sampang now conduct workshops and educational symposiums for doctors in Puskesmas (first-level health facilities) which are often the first place people seek help when stroke symptoms occur. During these events, the importance of the golden period for treatment is emphasized.

Are these efforts having an impact? Suffice to say that the director of the hospital has made additional beds available for stroke patients, many more of whom are now reaching the emergency room at Madura Island's diamond hospital in time to get a second chance at life.



Dr Jamilah

Q&A with Dr Jamilah

Where were you raised and educated and what motivated your decision to study medicine?

I grew up in a small village called Paseseh in Bangkalan Regency, Madura. My father was a trader and my mother was a batik craftsman. I grew up in a family that was quite strict about education. My motivation to enter medicine was

because most of my mother's family worked in the health sector.

Why did you specialize in neurology?

I was encouraged by my best friend, who is a neurologist.

How was acute stroke being managed at RSMZ when you arrived?

Initially, acute stroke was treated with anti-platelet and anticoagulant drugs, as well as risk factor management.

What was your initial assessment of the likely challenges to treating ischemic stroke with thrombolysis?

Initially, I was doubtful because inside RSMZ the human resources were not yet adequate, and then there was the culture of the Madurese people. Sampang patients, in particular, won't come to the hospital immediately the signs of stroke appear. They will first go to a local healthcare worker or the community health center, and even resort to alternative medicine. This meant many patients arrived at the RSMZ emergency room more than 4.5 hours after symptom onset.

Did the staff welcome the changes regarding stroke treatment?

Many were concerned about the risk of bleeding and the high cost of the treatment, but we were fully supported by the director of RSMZ who at the time was Dr. Agus Akhmadi, MKes.

The hospital won its first WSO Angels Award this year – and then converted platinum into diamond status. What key actions led to this achievement?

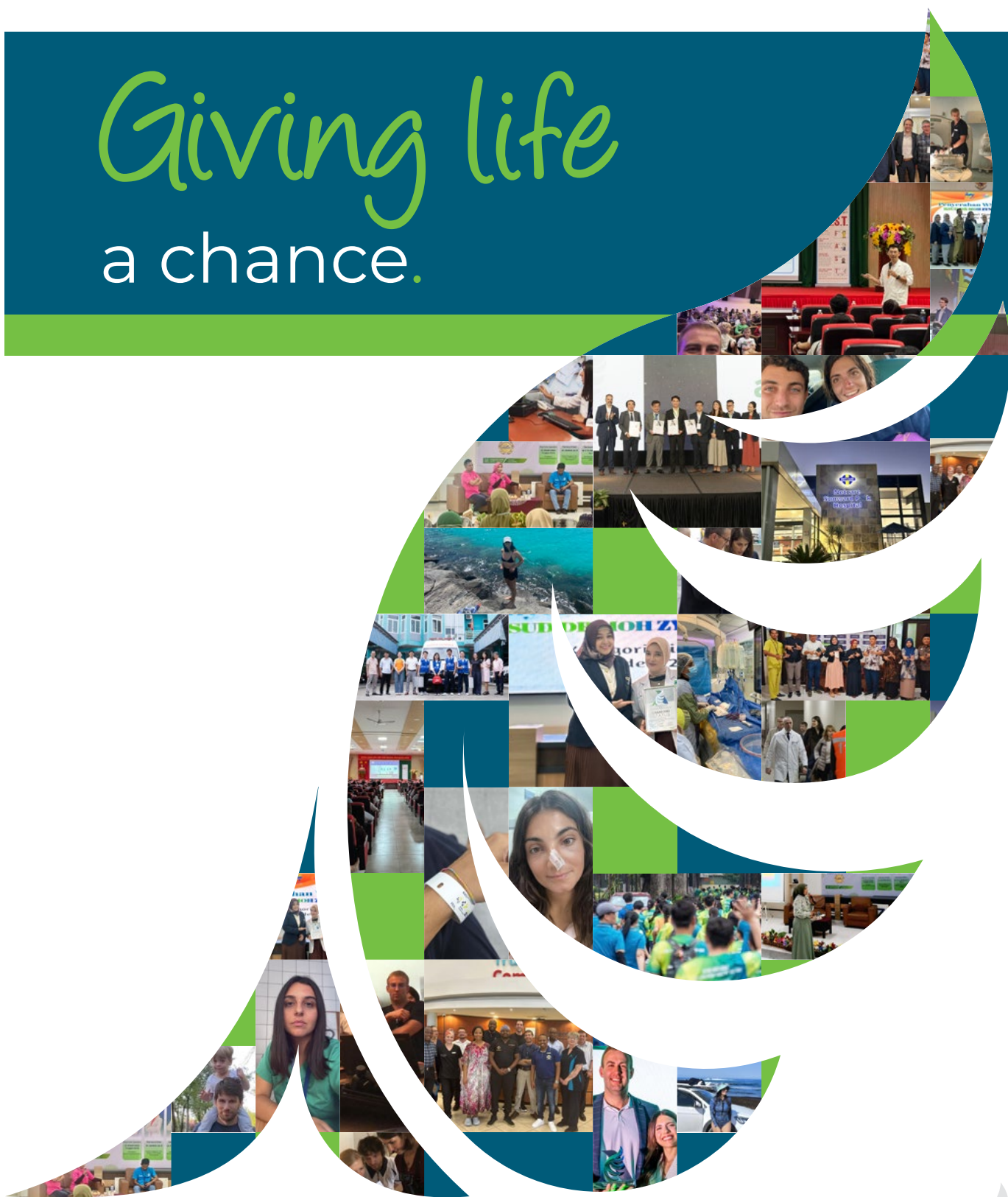
We are consistent with our commitment to patient recovery and regularly discuss stroke cases in routine morning meetings.

What do you find most satisfying about your work?

I am very grateful that I have reached this point. This is inseparable from my senior, Dr. Tera Kusuma, SpN, who always supports me (we do everything together), as well as the stroke unit team. My job satisfaction now is when patients trust us to seek treatment, even though previously they thought stroke patients could not be cured.



Giving life a chance.



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