

The **ANGELS** Journey



100 REGIONS | DECEMBER 2027

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MAY 2025 | THE ESOC EDITION



THE BIG FIVE

The Czech Republic on the front foot

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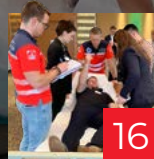


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100 REGIONS | DECEMBER 2027

When Regions Rise, Stroke Falls

Welcome

to the ESOC edition of The Angels Journey.



“This work is not always visible. It rarely makes headlines. But every time someone picks up a stopwatch, delivers a training, fills in a RES-Q form, or simply says, “We can do better” – they’re helping to rewrite the future for stroke patients.”

A few weeks ago, I received a photo from Ukraine. It showed a group of stroke physicians and nurses gathered inside a dimly lit room – concrete walls, a makeshift projector, and a banner that read “Khmelnyskyi – First Angels Region in Ukraine”. You could almost miss the detail that made the photo unforgettable: in the background, a staircase leading to the street, and just beyond it, the ever-present risk of war.

They had chosen to hold their celebration in a bomb shelter. Not because it was symbolic – but because it was safe.

It stopped me in my tracks. In a place where daily life is measured in moments of calm between sirens, a community still found a way to come together, to celebrate, and to reaffirm their commitment to patients. That kind of determination humbles me. It reminds me of what it truly means to belong to the Angels community.

And they are not alone. This past quarter, I’ve seen that same spirit in so many places. In Poland, a team in the Olsztynski region turned solidarity

into strength. In Portugal’s Algarve region, fractured systems gave way to collaboration, and paramedics once underestimated were now met with standing ovations.

There’s a moment in every movement when the impossible becomes inevitable. It’s the moment a nurse in Pretoria turns a patient after arranging a pillow under their arm and whispers, “You’re going to walk again.” It’s the moment a paramedic in Slovakia shaves more seconds off on-scene time, not for a trophy, but because “the patient deserves it”. It’s the moment a doctor in Colombia looks at a blank RES-Q dashboard and thinks, “Let’s fill it with hope.”



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

We are witnessing movements – both quiet and loud – across the globe.

These are not just stories of stroke care improvement – they are stories of people refusing to accept the way things are and choosing instead to imagine what could be.

In this edition of The Angels Journey, you'll read about those choices – about Dr Wiebren Duim's decades-long journey in South Africa, about Zsófia Reichert's courage in Hungary to push beyond her comfort zone, carried – literally – by the paramedics she inspired, and about the continued ripple effect from Spain's Almería region, now inspiring transformation far beyond its borders. You'll read about Moldova, Latvia, Kazakhstan, Brazil, the Czech Republic, and many others – places where change is happening, not because it's easy, but because someone decided it was necessary.

This work is not always visible. It rarely makes headlines. But every time someone picks up a stopwatch, delivers a training, fills in a RES-Q form, or simply says, "We can do better" – they're helping to rewrite the future for stroke patients.

So, thank you – for your work, your courage, and your belief in what's possible.

I hope these stories inspire you as much as they've inspired me.

Warm regards,



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

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The big five



Team Czechia in a celebratory mood at ESOC.

Will the Czech Republic be the first country in Europe, or indeed the world, to convert its entire territory into an Angels Region? With five down and nine to go, one more year may be all they need.

IN less than a year after Angels set itself the goal to convert 100 Angels Regions by December 2027, the Czech Republic alone has delivered five percent of the global target.

Five out of the country's 14 self-governing regions or kraje have already reached Angels Region status, which means they have achieved the hospital and EMS performance standards for stroke care set by the program and reached public awareness education targets.

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There's **no such thing as too much winning.**

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Over four million Czech citizens now officially live in safe communities for stroke, representing almost 40 percent of the total population. If you were to

add all five regions together, they would make an Angels Region measuring over 30,000 square kilometers, equal to 39 percent of the total terrestrial area. It seems just a matter of time before the Czech Republic becomes the first country in the world to be recognized as an Angels Region in its entirety.

Give us one year

Central organization, a national stroke center accreditation program, one ambulance service per region, and coordination with the Ministry of Health and regional authorities meant the Czech stroke community were on the front foot from the word go. This is the view of stroke neurologist and Czech Stroke Society Chair Assoc. Prof. Aleš Tomek who predicts that it will take another year for every region in the country to be converted.

His home turf, Prague, is not yet an Angels Region. They're missing one parameter, the FAST Heroes implementation goal, so involving more schools is on the agenda. Another limiting factor is that most but not yet all of the regional ambulance services have won EMS Awards. They have launched a quality program for EMS that was motivated by the Angels Regions strategy. Things are moving fast, he says. “We will get it done in a year.”

There's no such thing as too much winning. Of the 47 accredited stroke centers in the Czech Republic, 45 received ESO Angels Awards in 2024, and 35 are ESO certified centers (second only to Germany.) Nevertheless, the chance to become an Angels Region is a new motivating factor for hospitals that have been at the top of their game for years. It's also an opportunity for regional leadership to shine and be recognized for their work.





Countries wanting to borrow a leaf out of the Czech Republic's book should prioritize "cooperation, structure and organizing at central or regional level," Dr Tomek says.

"We are lucky to have central organization, but if you don't, go meet with your partners in the region. Meet regularly. For twenty years we have been meeting at least four times a year. That's why we're ahead."

A tool that works

"We built the system from the bottom up, with a lot of enthusiasm from doctors and Angels," says Prof. Robert Mikulik of RES-Q, the Czech-built international stroke quality registry that in under a decade has become one of the largest in the world. It is also the primary evaluation portal for the Angels Awards programs. Quality monitoring is now part of the national policy and data is overseen by a quality committee in the Ministry of Health. Tracking and reporting on a set of quality indicators is mandatory, and since 2015 data from RES-Q has been shared to all centers, creating the conditions for mutual competition.

"In RES-Q we have a tool that works very well," Prof. Mikulik says. There's also a high degree of organization at a human level, with people working together to define needs and meet gaps, and an important platform for sharing information – at over 50, the Czech & Slovak Cerebrovascular Conference may be the oldest stroke conference in the world. (The Czech and Slovak Neurology and Neurosurgery Journal is even older, dating back to 1938.)

RES-Q training is on the agenda, in a workshop where stroke center representatives can have their questions answered and receive information about new and upcoming developments.

Artificial intelligence is coming to RES-Q with the development of an AI tool to automatically populate data fields

from various sources that could be implemented as soon as next year.

"Standardizing discharge summaries will help improve the quality of data as everyone will be reporting the same things," Prof. Mikulik says.

Well certified and well-functioning

Stroke center certification has quite a long history in the Czech Republic, says Dr Ondřej Škoda, head of the neurology department at Hospital Jihlava in Vysočina Region, and a key driver of ESO certification for Czech stroke centers. National certification by the Ministry of Health began in 2011. The Czech Stroke Society designed the accreditation criteria according to ESO recommendations and when ESO certification was introduced in 2016, they were able to secure fast-track application for accredited Czech stroke centers along with those in Germany and Switzerland. As a member of the ESO stroke center committee, Dr Škoda had had the opportunity to bring the Czech experience to the ESO certification process.

The stroke unit and stroke center network are not only well certified but also well-functioning, Dr Škoda points out, although he agrees certification is an important reason why a high level of hyperacute care is available throughout the Czech Republic.

He says, "It's one of the reasons we are the second best in Europe in IVT and fourth or fifth in mechanical thrombectomy." It's arguably also why the Stroke Action Plan for Europe goal of treating 90 percent of stroke patients in a stroke unit by 2030 has already been achieved here.

Certification is valid for five years, but an annual evaluation process is built into the system, ensuring a continuous improvement mindset.

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Awareness campaigns and educational programs aimed at the general public are an **integral part of the care of stroke patients in the Czech Republic.**

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Vysočina is not yet an Angels Region, largely because mountainous terrain means its relatively small population needs an additional stroke center. The priority now is to prepare this hospital for accreditation in January 2026 and manage the impact on the distribution of ambulance services.

Educating the community

Awareness campaigns and educational programs aimed at the general public are an integral part of the care of stroke patients in the Czech Republic, says Dr Jiří Neumann of Hospital Chomutov in Ústecký Region. "For 20 years, the Czech Stroke Society has participated in awareness and information campaigns to educate the public about stroke symptoms and the importance of prompt action to save health and life. These campaigns also highlight the risk factors for stroke and promote lifestyle changes to prevent stroke."

Currently, annual awareness campaigns mark Stroke Awareness Day on 15 May and World Stroke Day on 29 October.

As well as support for the FAST Heroes campaign, awareness education projects include the 11-year-old HOBIT program, which aims to teach secondary school children to recognize and respond to stroke symptoms, with the emphasis on timely EMS activation.

1 Moravskoslezský kraj



Population: 1,189,000



Hospitals: 6



EMS: 1

In the Moravian-Silesian Region located in northeastern Czechia, the key drivers of change have familiar names. Prof. Michal Bar from Faculty Hospital Ostrava, Dr Daniel Václavík (Hospital Agel Vítkovice) and Petr Jaško (EMS education chief for the region) are all members of the multidisciplinary Angels steering committee in the Czech Republic. They took the lead, using data from RES-Q, the Ministry of Health and health insurance companies to conduct a comprehensive performance analysis to find and target weak spots in the region. Education and standardization delivered success. After an updated EMS stroke card was introduced that incorporated ASLS methodology (including the BE-FAST/

MEND evaluation scale) and specified rules for triage of patients based on factors such as time from symptom onset and mRS score, the EMS won a diamond award in Q3 of 2024. At Hospital Agel Vítkovice, Dr Václavík introduced a new hospital checklist that among other features mirrored aspects of the EMS stroke card to improve neurologist-paramedic communication. To meet awareness education targets, healthcare professionals supported FAST Heroes implementation in schools, an intervention lead by

Dr Hana Paloušková who, together with Dr Svatopluk Ostrý in the South Bohemia Region, was the first official FAST Heroes ambassador in the Czech Republic.



2 Karlovarský kraj



Population: 295,077



Hospitals: 2



EMS: 1



Karlovy Vary Region in northwestern Czechia is where we find Dr Aleš Novák from Hospital Sokolov and Dr Evžen Tarasov (Karlovy Vary Regional Hospital). They led the change along with the Karlovy Vary EMS team whose active support for the FAST Heroes campaign meant that the region exceeded the target by 340 percent. Both hospitals also promoted the campaign on social media and at Karlovy Vary Regional Hospital, Dr Tarasov and his colleagues visited schools and organized a seminar for

local teachers. The EMS in this region stood out, Angels consultant Martin Liptay says. "They were active users of our e-learning including the ASLS course and took the EMS Awards very seriously. The organization is quite small but in absolute numbers they have the second-highest number of registered users (94), and e-learning completed (92) in the Czech Republic, and proportionally, they're on top." This dedication to continuous learning plus regular data collection saw them win four diamond awards in 2024.

3 Jihomoravský kraj



Population: 21,277,000



Hospitals: 6



EMS: 1

The South Moravian Region is located in southeastern Czechia, and its capital, Brno, is where the stroke quality improvement registry RES-Q

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When it came to meeting awareness targets the South Moravian Region was **first across the line.**

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has its headquarters. Here, RES-Q training and a focus on quality in data capture saw Znojmo Hospital back in the awards after a three-year absence. The route to Angels Region status was charted by the regional working group that met to discuss opportunities to improve the care provided by hospitals and EMS. The region's EMS is a regular participant in the EMS Awards with two diamond awards to their credit, and because Brno itself is the nerve center for FAST Heroes implementation in the Czech Republic, when it came to meeting awareness targets the South Moravian Region was first across the line.



4 Jihočeský kraj



Population: 654,505



Hospitals: 3



EMS: 1

No-one was surprised when the South Bohemia Region was among the first Angels Regions in Europe. This region had everything going for it. At Hospital České Budějovice, the head of neurology Dr Svatopluk Ostrý is a passionate driver of change. Hospital Písek has an average door-to-needle time of 17 minutes, and the lead physician of the stroke unit Dr Robert Rezek is also an ASLS instructor. And the ZZS JČK is led by

Dr Marek Slabý who is also president of the National Association of EMS and represents the district Tábor in the Senate of the Czech Republic. Optimization of care at the regional level is made easier by the fact that all the hospitals including the three stroke centers are controlled by the regional authority. Martin says. "This means the stroke network is intensively discussed on the political level in the region, and there's close collaboration between the hospitals and the office of the mayor, Dr Martin Kuba, who happens to be a physician with experience in the emergency medical services." When we last spoke to the change makers in this southern part of historical Bohemia (in May 2024), Angels Region status was one hospital award away. Since then, training in dysphagia screening and improved data collection have earned Hospital Jindřichův Hradec its first ESO Angels Award, and the FAST Heroes campaign benefited from the high-level advocacy lead by Dr Ostrý and Dr Kuba.

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Training in dysphagia screening and improved data collection have earned Hospital Jindřichův Hradec its first ESO Angels Award.

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5 Ústecký kraj



Population: 811,169



Hospitals: 6



EMS: 1

Located between Prague and the border with Germany, Ústecký Region in northwestern Bohemia wasn't targeted for Angels Region conversion in 2024. However, having maintained standards achieved during previous Angels consultancies, they met the criteria for Angels Region status without further intervention besides ongoing national support. There are several reasons for this, including the leadership provided by Dr David Černík, leading stroke unit physician at comprehensive center, Masaryk Hospital in Ústí nad Labem, and Czech Stroke Society working group member Dr Jiří Neumann (Hospital Chomutov).

All six hospitals in the stroke network are owned by the same healthcare provider "Krajská zdravotní, a.s.", and the EMS is a diamond-winner and the only one in the country that provides primary air transport to stroke patients from remote locations in the region. Starting three years ago, ZZS Ústeckého kraje sends helicopters for FAST+ patients who are candidates for mechanical thrombectomy. This, along with a well-established drip-and-ship model, has resulted in Ústecký region having the highest number of recanalizations in the country. The EMS also benefits from ongoing

education incorporating aspects of ASLS, and in the town of Most, Dr Ján Macko invited local paramedics who had attended a seminar on evaluating stroke symptoms in the field on a tour of his department where they could meet patients and learn about their stories. Nurses offer another key to the region's success. Two of the nurses on the Angels Nurses Steering Committee – Kateřina Rusková and Petra Pöschlová – work in this region and are active in nursing education. At Masaryk Hospital in Ústí nad Labem, Dr David Černík has made Stroke Basics for Nurses in the Angels Academy an integral part of training for nurses who come into contact with stroke patients. To date, 82 nurses at this hospital have earned stroke nurse certification by completing the course, four times more than South Bohemia's Hospital České Budějovice in second place. They were in addition required to pass a written exam based on the course material. Drs Černík and Neumann and their colleagues are also long-standing supporters and initiators of public awareness activities including FAST Heroes.





Lleida's road to region status

Come aboard for a journey to Angels Region status that scoots along the twists and turns of the mountain roads in Catalunya where this story takes place.



Simulation training at University Hospital Arnau de Vilanova. Rocío González Gutiérrez is on the far right, Dr Francisco Purroy on the left.

ON Tuesday, 8 January 2013, Rocío González Gutiérrez, a 32-year-old accountant from Borges Blanques in the province of Lleida, Spain, suffered a hemorrhagic stroke five days after giving birth to twin girls Valme and Paula.

When Rocío's left leg suddenly gave way, she knew instantly something was wrong. The girls' father, who was then also her husband, fetched a nurse who lived nearby and who arrived within minutes. After a quick examination, the local ambulance service was notified of a code stroke. It took less than 30 minutes to reach the University Hospital Arnau de Vilanova, the largest public hospital in the province, and when Rocío arrived the medical staff were waiting for her.

She spent a week in the ICU and another month in the stroke ward before she was referred to Guttmann Barcelona, a neurorehabilitation institute in the Catalan capital. She underwent multiple therapies but when state funding dried up 18 months later, Rocío was still a wheelchair user with right hemiplegia preventing the use of her right arm and hand.

She is now able to walk, albeit with difficulty, and while she has completely recovered from aphasia, she struggles with memory, logic and calculations.

Almost 12 years after her stroke, we see Rocío on a stretcher being wheeled once more through the corridors of Hospital Arnau de Vilanova. This time, however, she is wearing a red vest that is labeled "patient", signaling that this is no ordinary emergency. Rocío is taking part in a simulation that neurology chief Dr Francisco Purroy hopes will help him identify gaps in the intrahospital pathway.

It does. En route to the CT, the pathway breaks down outside the special elevator that is supposed to facilitate speedy transfers. The elevator is card operated and neither one of the doctors present has a card. In the weeks that follow, a card will be issued to everyone dealing with emergencies.

If only all problems were as easy to solve.

But in fact, Lleida's journey to Angels Region status will proceed relatively smoothly, and there's a very good reason for that.

On the road with Paco

It begins in Basel, Switzerland, where Dr Purroy – Paco to his friends – visits the Angels booth in the exhibition hall at ESOC 2024 and learns of the 100 Angels Regions strategy. A picture taken on 16 May shows him sitting beside Angels consultant Maria Atienza. Paco is on the phone. He is also Lleida's regional stroke coordinator and he is talking to neurologists at the two spoke hospitals



in the stroke network – Pallars Regional Hospital in Tremp and Fundació Sant Hospital in La Seu d'Urgell – about making Angels Region status their common goal.

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Paco's hospital is headed for their second diamond, and the Medical Emergency System (SEM) managed by the Catalan Health Service has won a diamond award every year since 2022.

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FAST Heroes is already implemented in the region. Paco's hospital is headed for their second diamond, and the Medical Emergency System (SEM) managed by the Catalan Health Service has won a diamond award every year since 2022. Gold status for the two spoke hospitals is all that is needed for Lleida to become one of Europe's first Angels Regions.

Another journey begins at 8 am on 13 June when Maria and Paco set off from Lleida on a road trip that will take in the towns of Tremp and La Seu d'Urgell. All in all, they will spend four hours and thirty-six minutes in the car.

They're each grateful for each other's company. Paco because Maria is bringing a fresh approach that he hopes will refertilize the ground for his message about quality monitoring; Maria because access to new hospitals is much easier when you arrive in the company of the regional director.

Not many visitors come to this part of Catalunya to offer a path to improved care, so Maria receives a warm reception and after an introduction to Angels and the regional strategy, and a pathway analysis, dates are agreed for a simulation.

The simulations take place on 25 and 26 September. A steering committee is formed that same September and follow-up meetings agreed.

At the end of the third quarter of 2024, Pallars Regional Hospital and Fundació Sant Hospital each collect their first diamond award. Three months later Hospital Arnau de Vilanova clinches their third.

You have to fight

Taking part in simulation training – her first – was just one of the ways in which Rocio contributes to stroke care transformation in her region. Together with a fellow member of AMILL, the Association of Stroke Patients and Families of Lleida, she gives talks at institutes, associations, and municipalities to raise awareness of the disease that took so much from her 12 years ago.

Although the simulation triggered feelings of grief, nervousness and fear, she would do it again in a heartbeat.

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There is life after stroke – and the small details, those we sometimes don't give importance to, become very beautiful moments.

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Stroke has taught her that there are wonderful people, Rocio says. “You have to fight, especially when you are separated with twins, but there is life after stroke – and the small details, those we sometimes don't give importance to, become very beautiful moments.”

Although the current stroke network in Lleida meets Angels Region criteria for stroke care coverage, Maria and Paco have their eye on a fourth hospital in a remote Pyrenean town from where accessing the current stroke network can present a challenge.

The road trip to Vielha leads through peaks that exceed 2,000 meters, and is expected to take approximately two-and-a-half hours.





Call to action in the Algarve



Opportunity met courage in the beautiful Algarve which, as well as having arguably the best beaches in Portugal, is also the country's first Angels Region.

THE first Angels Region in Portugal was built out of many disparate pieces – a major hospital that had temporarily lost its award status after becoming a comprehensive center, a smaller hospital that had lost its stroke unit, and a fractured EMS service partly staffed with firefighters and volunteers.



Angels consultant Inês Carvalho with some local heroes.

Angels consultant Inês Carvalho took a tactical approach to turn the glorious Algarve into a safe region for stroke – but the result, she says, is due to people who were willing to lead and who responded to opportunity with courage.

Algarve Central Hospital in the regional capital Faro has been an Angels success story since at least 2019 when it became the third hospital in Portugal to meet the

criteria for an ESO Angels Award. Consultancy at this hospital had begun in 2016, immediately after Angels was launched in Europe. Supported by then consultant Claudia Queiroga, the hospital implemented the key priority actions in their stroke pathway and in 2020 won their first diamond award.

In 2022 the hospital sought ESO certification as a route to becoming a comprehensive center. A mechanical

thrombectomy service was introduced in 2023, but in Q2 of 2024 the hospital came up empty-handed when the new service failed to meet awards criteria. A multidisciplinary meeting analyzed the data and set new targets for door-to-groin times. By Q3, Faro was back in contention and in the journey to Angels Region status, an important box had been ticked.

Under the leadership of Dr Ana Paula Fidalgo, who is now the hospital's clinical director, and Dr Ana Varela who has succeeded her as stroke coordinator, this hospital has long been a bright spot in the Portuguese stroke community. Dr Fidalgo is also a strong ally of FAST Heroes whose example has encouraged other doctors and nurses to get involved in the schools-based stroke awareness campaign. As a result, the FAST Heroes implementation targets for Angels Region status were easily met, with almost 900 children educated about stroke in 2024.



Inês notes that in areas where the campaign has already been implemented, the average symptom-to-door time for stroke patients is 165 minutes, compared with the national average of 208 minutes. It's not an exact science yet, but a hunch will tell you that a correlation between public awareness and stroke patients arriving in the emergency room sooner, is no coincidence.

Inês opened her Angels Regions strategy with a formal invitation to stakeholders that explained what was at stake. After setting out the goals, she wrote, "This challenge will not only enhance the quality of stroke care in our region but also set a benchmark for others to follow." It was a call to action that was impossible to refuse.

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As for the outcome, **“success story” doesn’t begin to describe it.**

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The invitation was important for several reasons, Inês says. “It had to feel meaningful and clarify strategy. It also had to make clear that this was a special project and that the time spent on it was justified.”

Her abilities as a tactician would face its toughest test when it came to the EMS service which in this region is composed of many small units not all of whom were enthusiastic about working together. This made it difficult to standardize care, Inês says, and mandatory training was out of the question. Low awareness among some of the technicians, firefighters and volunteers who staffed the ambulances

meant strokes were missed; not everyone was familiar with the Cincinnati scale, and not everyone was keen to adopt the iTeams system of digital reporting to replace the unreliable paper system.

Workshops and simulations were held in Faro and Portimão, where participants were also able to raise concerns in small groups. Some of these concerns were related to hierarchy, making it difficult, for example, for firefighters to be heard regarding issues with hospitals, Inês explains. As for the outcome, “success story” doesn’t begin to describe it. The EMS service in Algarve now holds two diamond awards and during an important stroke conference in February, doctors in the audience spontaneously gave a standing ovation to the firefighters collecting their award. It was a gesture of deep significance, and an indicator of how the Angels Regions approach of working towards a common goal can impact communities.

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“It is very important to be seen,” she says, “to be there in person.”

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There’s a success story unfolding, too, in the port city of Portimão, where last year a hospital that had no stroke unit until 2023, won two diamond awards. It’s another case of courage meeting opportunity in the person of Dr Isabel Taveira, whom Inês describes as a “very tenacious, very motivated” young doctor who in her drive for stroke care excellence at her hospital puts in extra effort and hours. Being stubborn and motivated had served Dr Taveira well in her campaign to have a stroke unit established at her hospital, but by early 2023 she was close to giving up. Inês realized that recognition of Dr Taveira’s efforts by the wider stroke community could give her a bigger



Lorenza Spagnuolo, Angels team leader Europe

platform in her own hospital, and nominated her for an ESO Spirit of Excellence Award. Being honored at ESOC 2023 in Munich, alongside stroke heroes such as Prof Aleš Tomek of the Czech Republic and Prof Giorgios Tsivgoulis of Greece, lead to the breakthrough Portimão had been waiting for.

Yes, she is a strategist, Inês confirms. “I try to make a map of influencers and the good relationships they have. Understanding who the key people are and the influence they have, can help you reach others who may be reluctant to work with Angels.”

It is just as important to give recognition to people, she says, recalling the goosebumps moment at the stroke conference. “If you do this, people are more open to change.”

And nothing is quite as important as showing up. “I don’t email, I call,” Inês says. She also spends more time at hospitals than she can strictly afford to, but not a minute of it is wasted. “It is very important to be seen,” she says, “to be there in person.”

Ensuring the Algarve maintains its Angels Region status is now in the hands of a regional steering committee whose members have each been given a folder with relevant materials and responsibility for a specific area such as quality monitoring, awareness and so on. It is here that Inês played a strategic masterstroke by involving the stroke patients society in the committee. No one understands the importance of integrated stroke care more viscerally than someone who has survived a stroke, giving them a unique role in the regional body.

As Inês says, “They may not know medicine, but they know their rights.”



Counting on community in Khmelnytskyi

The three districts that make up Khmelnytska Oblast weren't obvious candidates to become Ukraine's first Angels Regions – but proactive leadership and purposeful community building ensured their place in the record books.

WHEN choosing a venue for the January get-together where the three districts of Khmelnytska Oblast will celebrate becoming Ukraine's first Angels Regions, one of the chief requirements would be a sturdy and capacious bomb shelter. Though Khmelnytskyi was located in the west of the country, the war had been edging closer. A nuclear power plant near Netishyn in the most northern district of the oblast had recently been targeted by Russian missiles and drones. There would nevertheless be a great deal to celebrate...

This jarring reality brought about by a 1000-day-old war makes it all the more remarkable that Ukraine is among the first countries in Europe to convert Angels Regions.

When the 100 Angels Regions strategy was launched at the start of 2024, consultants Lev Prystupiyuk and Tamara Zabashta knew that their regional conversion process would have to address the needs of a population

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Not much attention had been paid to this region and we felt we could help a lot of people there.

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Consultants Lev and Tamara with Prof. Sergii Moskovko.

fractured and exhausted by two years of Covid and three years of war. Security was part of the reason why they decided to start with Khmelnytskyi – it was, or at least appeared to be, at a safe distance from the war. But even more than that they wanted to focus their efforts on a region that needed help fast, Tamara says. “Not much attention had been paid to this region and we felt we could help a lot of people there.” And as they soon found out, Deputy Director of the Department of Health in Khmelnytska Oblast, Tetyana Kosovska, would be a powerful ally.

Khmelnytska Oblast consists of three districts or administrative raions – in order from south to north, Khmelnytskyi Raion, Kamianets-Podilskyi Raion, and Shepetivskyi Raion. The stroke network consists of 10 hospitals, evenly distributed across the territory but all at various stages of their stroke care journey, and a central EMS.

For a region to become an Angels Region, hospitals, emergency services, local authorities and public educators all have to work together towards a shared goal – to make their community safe for stroke. But in Khmelnytska Oblast, the pandemic and then the war had worn away at the connections that bind a society together and across the region people were struggling with exhaustion from air alerts disrupting their sleep and their work.

Lev and Tamara set out to rebuild a community in which everyone felt supported – by the authorities, by Angels and by each other. Their goals were to create a community of hospitals, cooperate with local health and educational authorities, and instill a culture of teamwork in the region. Working methodically, they identified the main challenges and drew up an action plan for each, then broke it down into an integrated program of scheduled meetings, trainings and follow-ups across four quarters. These included emphasizing the importance of quality monitoring in round table discussions and regional training sessions; providing training on fast-track systems for stroke patients to address hospital admission delays; training to support decision making, and introducing measures to improve community awareness.



The campaign to become an Angels Region had strengthened their community.



Lev and Tamara wanted everyone in the region to work together, and they practiced what they preached. They drew up a spreadsheet that detailed the activities for each month, but didn't divide up the duties. Instead, they worked as a team, ticking the boxes as they went.

Quarter two was the most challenging one, Tamara says. The Khmelnytskyi group was split into two for the Angels Initiative stroke simulation training in Kyiv and Lutsk, in addition to neurologist training, RES-Q trainings, an EMS simulations, and consultancy visits to all 10 hospitals. They also got to participate in national events such as the Ukrainian Stroke Medicine Society's

Stroke National Conference and the Schools for Young Neurologists.

The minimum criteria for Angels Regions status is an ESO Angels gold award for every hospital and EMS. In Khmelnytskyi like elsewhere, some hospitals started out with an advantage while others had some catching up to do. But Lev and Tamara, mindful of teamwork, deliberately steered clear from singling out hospitals for their awards status.

"It wasn't a case of this is a gold and this is a diamond hospital or this is Lev's hospital or mine," Tamara says. "Our priority was to become a 'gold region', and for everyone to achieve it together."

Every team needs a cheerleader and health Deputy Director Tetyana Kosovska was both enthusiastic and proactive about Khmelnytskyi's three districts becoming the first Angels Regions in Ukraine. Her good leadership made it easy and she was a regular participant in the program, Tamara says. "She really understood the deepest sense of this work."

Khmelnytskyi Raion and Kamianets-Podilskyi Raion were first to attain Angels Region status, with Shepetivskyi Raion joining them as soon as the quarter four results were official. But the region had achieved something even more profound and worthy of celebration: The campaign to become an Angels Region had strengthened their community with the knowledge that they could count on each other for support.

March 6 2025 brought joyful news from Ukraine – and word of a celebration unlike any other. On this day, all 10 hospitals in Khmelnytskyi Oblast gathered at the Kamianets-Podilskyi City Hospital and later at the Dunayevets Multi-profile Hospital to walk through the patient's journey together, alongside the community built over the preceding year.

It was a valuable opportunity to share experiences, discuss challenges, and explore opportunities for future improvements. Having a celebration in



this format emphasized the power of community and the shared mission of saving lives, Lev and Tamara said.

After completing the hospital walkthrough, the hospitals, emergency medical services (EMS), and the regional department of health were honored with Angels Region status certificates in recognition of their dedication and achievements.

These are the hospitals and EMS who worked together to make their community safe for stroke:



KNP "Kamenets-Podilsk City Hospital" of Kamianets-Podilsk City Council



KNP DMR "Dunayevets Multi-Profile Hospital"



KNP "Volochnysk Multi-Profile Hospital"



KNP "Krasylivka Multi-Profile Hospital" of Krasylivka City Council, Khmelnytskyi District, Khmelnytskyi Oblast



KNP "Starokostyantynivka Multi-Profile Hospital"



KNP "Khmelnytskyi Regional Hospital" of Khmelnytskyi Oblast



KP "Khmelnytskyi City Hospital" of Khmelnytskyi City Council



Communal Non-Profit Enterprise "Horodotsk City Multi-Profile Hospital"



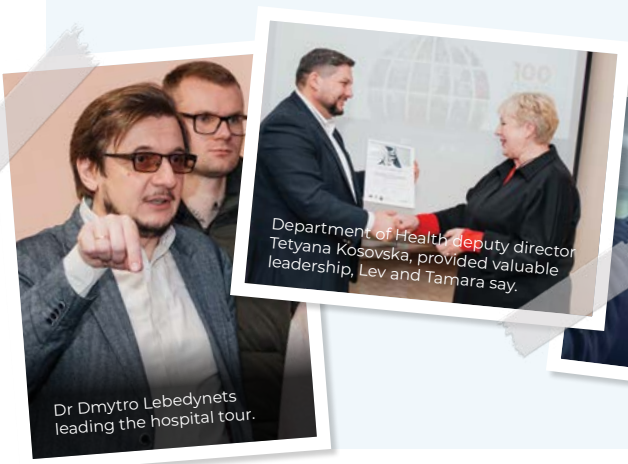
KNP "Shepetivka Multi-Profile Hospital"



KP "Slavutsk City Hospital named after F.M. Mikhailov" of SMR



Khmelnytskyi Regional Center for Emergency Medical Care and Disaster Medicine



Dr Dmytro Lebedynets leading the hospital tour.

Department of Health Deputy director Tetyana Kosovska, provided valuable leadership, Lev and Tamara say.



Building an Angels region in Olsztyński

The ceremony to mark the first Angels Region in Poland captured the very idea behind the regional strategy – the sense of a community working towards the same goal and becoming part of something bigger than themselves.

IN Olsztyński, what it meant to be the first Angels Region in Poland all came together on the day of the celebration. Hosted by the Voivode of Warmińsko-Mazurskie in the provincial capital Olsztyn, the tone of the occasion was appropriately formal, the guest list well-considered, the expressions of gratitude heartfelt.



Marta (right) with Director of Niepubliczna Szkoła Podstawowa Art School Joanna Kileńska.

But there was above all the recognition of belonging to something bigger than themselves.

Being the one to set an example was certainly a proud moment for a region that wasn't the biggest or wealthiest in Poland. It was also a reunion of sorts, for people who'd last seen each other as students or residents and were now reconnected in such favorable circumstances.

"Some were surprised at the size of the event and the people who were there," says Angels consultant Marta

Jędrzejewska who'd planned the event right down to the last thoughtful detail. "Until the celebration they hadn't quite realized what it meant, becoming an Angels Region. It brought the realization that 'it's not just us; there are many of us!'"

"Seeing how many people had been working towards the same goal as them gave them a sense of the bigger picture, and that they were a part of it – that all along there had been small teams building a bigger, regional team."

“

Dr Aleksandra Wińska was no newcomer to excellence in stroke care. **She knew she could count on Angels for support.**

”



Marta congratulates Dr Jacek Zwiernik who played a pivotal role in the region's success.

Making friends

She'd been lucky, Marta says, to have this region chosen for her by her predecessor, Agnieszka Tymecka-Woszczerowicz, when she joined Angels last May. Angels was already known to nearly everyone in the medical community in Olsztynski, and, no less important, they were very friendly people who could be counted on to support her mission.

There were four stroke-ready hospitals in the region including, in Olsztyn itself, the University Clinical Hospital with a string of diamond awards to its credit, and two more diamond hospitals, the Provincial Specialized Hospital and the MSWiA Clinical Hospital, of which the latter was in temporary disarray due to the neurology department undergoing renovations.

A little to the north was John Paul II District Hospital in Bartoszyce, a new hospital that had only just established its stroke service but whose head of neurology Dr Aleksandra Wińska was no newcomer to excellence in stroke care. She knew she could count on Angels for support.

"All" Marta had to do was get to know the teams at all three hospitals, understand the unique set of conditions in each, convince them of the merits of continuous quality monitoring, encourage and support the process, stay in touch, and have them line up behind the common goal of becoming the first Angels Region in Poland.

Finding an ally

Even so, the situation regarding the EMS seemed alarming by comparison after Marta learnt that there were no fewer than 22 EMS companies in the province. It was a relief to hear that of the nine operating in Olsztynski alone, only two transported enough stroke patients to meet the participation criteria for the EMS Angels Awards.

Neither had heard of Angels before, but this was less of an obstacle than it appeared. Because at the Provincial Specialized Hospital, Marta had met Dr Jacek Zwiernik who as well as the head of neurology was also a key opinion leader and the provincial neurology consultant.

Dr Zwiernik was instantly convinced of the merits of the Angels Regions strategy, and on board to help her drive change, Marta says. "He knew the cooperation between hospitals and EMS could be better. With just four hospitals with stroke units in the region, it was crucial for the emergency services to know that suspected stroke patients should be taken to one of these hospitals."

“

Everyone in the room
had done their part and
every contribution was
recognized.

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With Dr Zwiernik's help, training was arranged that included the seven smaller emergency services along with the two larger ones whose performance in the awards would be decisive for Angels Region status. Following in-person training in Olsztyn and Bartoszyce and a webinar in November, both the Provincial Emergency Medical Service Station in Olsztyn and the one at John Paul II District Hospital in Bartoszyce easily met the criteria for EMS Angels Awards.

At a regional meeting in October, Dr Zwiernik announced the mission to become an Angels Region to a gathering of decision-makers that included the local director of the national health fund and the head of the department of safety and crisis management. With the support of local leaders secured, the collective effort was underway. Implementing the FAST Heroes campaign benefited from their influence, and with 958 school learners having earned their capes by November, it was soon time for Marta to start planning a celebration.

Sharing success

The ceremony commenced shortly after midday on Friday 28 March.

Marta welcomed the dignitaries whose participation in the event underlined its significance. Next, she welcomed representatives of the medical community – the hospital and EMS directors and the heads of neurology who together with their teams had built Poland's first Angels Region.

Everyone in the room had done their part and every contribution was recognized.

Marta thanked Dr Jacek Zwiernik for being an advocate of cooperation in the region and for his support in implementing the regional approach of the Angels Initiative in the Olsztyn region. She singled out Dr Wioletta Wojtyra-Michalak of the MSWiA Clinical Hospital for maintaining the quality of stroke care at diamond level throughout a major renovation of her department. Among others she acknowledged Prof. Marcin Myćko of the University Clinical Hospital for keeping his finger on the pulse throughout the year and ending each quarter with a diamond award; Dr Aleksandra Wińska of John Paul II District Hospital for leading her newly opened stroke unit to diamond status; Dr Magdalena Zakrzewska from the Provincial Emergency Medical Service Station in Olsztyn for her pivotal role in educating the paramedics, and Paramedic Łukasz Mysakowski of the Medical Emergency Department in Bartoszyce, who'd personally conducted the quality monitoring process at his station.

Applause greeted the performance of children from a local school, who sang the FAST Heroes song in superhero costumes they had fashioned in art class, and the testimony of stroke survivor Mrs Barbara Wlaźlak who used her turn at the podium to thank the paramedics who'd saved her life and the hospital staff for their kindness.

While small groups gathered for pictures that will someday tell the story of how Olsztynski became an Angels Region, the celebration wound down to a sweet note with a large and special cake which – like the responsibility, the effort and the achievement – they all shared.



Small teams built a big regional team.

The light in their eyes



Achieving Angels Region status in two counties in Hungary was the result of key people, good relationships, and the legacy left by her predecessor, says consultant Zsófia Reichert.

ONE year after becoming an Angels consultant, something Zsófia Reichert seems quite certain of, is that it's people who create change.

Not standardized practices, although they help shrink the change. Not new protocols, even though they're necessary to help deliver change. Not even quality monitoring, although without it you wouldn't know where to start or how far you still had to go.

"Key people matter," she says about the process that saw Baranya and Somogy, two counties in south-western Hungary, become the first Angels Regions in her country, and among the first 15 in the world.

The right people can change the entire conversation about stroke.

“

If you give people a chance you will find a lot of stars.

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People are at the heart of the 100 Angels Regions strategy, with its focus on creating safe communities for stroke. To become an Angels Region, targets must be met in four categories – hospital coverage, hospital performance, EMS performance and public awareness. With better outcomes for stroke patients as their shared goal, leaders at hospitals and emergency services, in schools and

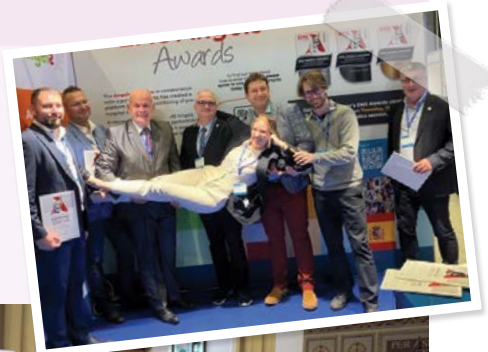
local government have to work together – because for anyone to succeed, everyone must succeed.

Zsófia was “born into” the regions strategy, joining Angels just days before the goal to convert 100 regions by 2027 was formally announced at ESOC in Basel last May. She had a lot to think about on the trip home from Basel to Budapest where fortunately, despite being the only consultant in Hungary, she was not completely alone.

Her predecessor Zsolt Lakatos had left a legacy for Zsófia to build on, and he made himself available to share his wisdom and experience.

Zsolt's work as an Angels consultant had included interventions in Baranya and Somogy which were now well on the way to becoming Angels Regions. Somogy County Kaposi Mór Teaching Hospital and the University of Pécs Clinical Centre in Baranya were comprehensive centres and in terms of access to treatment, adequately served the populations in their respective counties. Both had achieved ESO Angels Awards in 2024.

Although the boxes were therefore already ticked for hospital coverage and performance, Zsófia listened intently to Zsolt's insights about the merits of a person-centered approach and how adopting an emergency mindset helps optimize the stroke pathway.



Zsolt's strategy had been to identify potential change-makers at target hospitals, invite them to attend Angels-facilitated training, and then ask them to train others. The experience made these doctors more serious about stroke care, and prepared to set an example. Bright spots became leaders.

The approach resonated with Zsófia. She finds it easy to put herself in the shoes of someone young and perhaps feeling a little overwhelmed who knows they can make a difference if given the chance. And she's been around long enough to know what a beautiful thing

it is when you reach someone's soul and they start to change. She says, "You can see the light in their eyes." In Hungary, she says, "if you give people a chance you will find a lot of stars."

Among the stars who light her way are some who have been shining brightly for some time. Zsófia has found an invaluable ally in Dr László Szapáry, head of stroke at the University of Pécs Clinical Centre, president of the Hungarian Stroke Society and a 2021 recipient of the ESO Spirit of Excellence Award. Dr Szapáry is also Hungary's RES-Q coordinator, and a member of the Angels Steering Committee in Europe. He is very effective at facilitating communication between Angels and the Hungarian stroke community and Zsófia is deeply grateful for his involvement and active support.

Key people matter.

Good relationships matter too.

A picture taken at the October 2024 conference of the European Society for Emergency Medicine (EUSEM), is one that will almost certainly be kept and shared with future generations. In it, Zsófia is being literally carried on the steady hands of Hungary's diamond award winning EMS chiefs. It's a picture so filled with goodwill and collegiality it's hard to believe that some of them she had only just met.

The Hungarian National Ambulance Service, the OMSZ, is already the stuff of legends. They made history in 2023 when all seven regions of the OMSZ won diamond awards – testimony to the director-general Dr Gábor Csató's innovative leadership, the embrace of AI-driven performance analysis and improvement, and of course their hard work.

Prior to 2024 the OMSZ only submitted their data in March, but Zsófia encouraged them to take part in the global data collection activation, Angels

Insights Month, in September as well. Just in case you were wondering how the Hungarian heroes turned seven diamonds into fourteen last year.

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This job really gives me the feeling that I'm not just improving at a professional level, but also at a personal level.
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The final piece of the puzzle would turn out to be the hardest one. Due to uncertainty surrounding data reporting processes, it was initially difficult to verify the data for FAST Heroes implementation (necessary to meet the awareness target for Angels Regions). When it emerged that there was a gap to be closed, a massive last-minute effort got Baranya and Somogy over the line and into the record books before the end of 2024.

One year after becoming an Angels consultant, Zsófia Reichert knows that change is hard and changing can be even harder.

"It's been a long journey from any perspective," she says of a rollercoaster year that included a September wedding. "This job really gives me the feeling that I'm not just improving at a professional level, but also at a personal level. I keep feeling my borders are pushing me far from my comfort zone.

"Sometimes it's not so convenient. Changing can mean hard times."

Zsófia hopes that the new year will bring more balance into her life and that

focusing on physical as well as spiritual health will reflect in her work too.

"I have to believe that I am doing my best," she says, acknowledging that she can be hard on herself. Accustomed to measuring herself against her peers, as the only consultant in her territory she's had to adapt to rating her performance against herself and to keep improving by her own standards.

Being part of a bigger team helps. She can count on the support and encouragement from colleagues in her territory and in the core team, and on Zsolt cheering her on from the sideline.

In her first full year as a consultant, Zsófia will work with a large number of hospitals including, in Budapest, a diamond hospital whose reputation precedes them. She has heard about the boundary-pushing achievements at Péterfy Hospital and has met some of the diamond-winning team at local congresses.

"They're really motivated to be first," she says.

She cannot wait to learn from them.

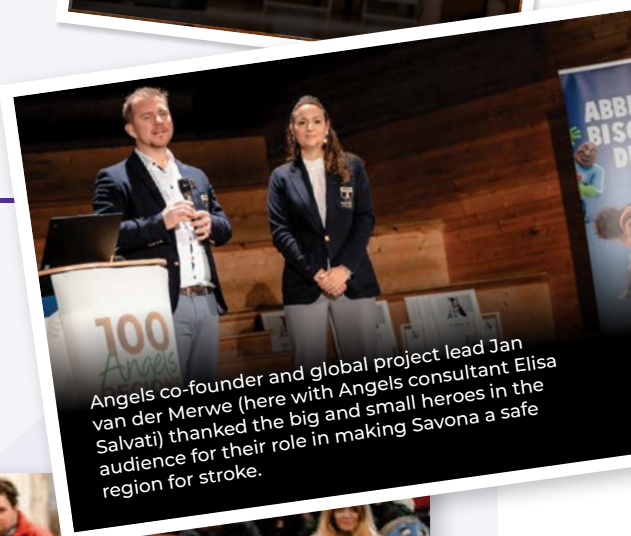


A night to remember

These pictures tell the story of a community that worked together to make Savona province Italy's first Angels Region, and held a memorable gathering to celebrate each other's and their own success.

FINALBORGO in northwest Italy is considered one of the most beautiful villages in Italy and the pearl of Western Liguria. It is in this splendid medieval village that a momentous gathering took place on 31 January. This was a celebration attended by the very people who were being celebrated – the community that had worked together to make this picturesque part of the western Ligurian Riviera the first Angels Region in Italy.

The Angels Regions strategy is informed by the idea that “if one doesn't do it, no one can do it”. Or put another way, for one to succeed, everyone must succeed. Everyone in the Auditorium di Santa Caterina had played a role in achieving Angels Region status for Savona. These included more than 50 children and their teachers along with mayors and municipal councillors, directors of neurology and neuroradiology departments, doctors and nurses, EMS, coordinators of the regional stroke network and of the Italian Stroke Association, and the president and representatives of the stroke patient association, ALICE.



Students from the schools Dottor Sordo, Papa Giovanni XXIII and Primaria Borgio Verezzi sang the FAST Heroes song about stroke symptoms and the “magic” number 112 to call an ambulance.



The EMS team 118 Savona Soccorso achieved diamond status in the EMS Angels Award in quarters two and four of 2024. Here their director, Dr Danilo Cimolato, receives the award from Jan van der Merwe. Angels consultant for the region, Elisa Salvati, is on the right.



A special moment for proud teachers Gloria Fossati and Livia Pastorino from Dottor Sordo and Papa Giovanni XXIII in Pietra Ligure, and Barbara Parodi from Borgio Verezzi. With them on the right is Andrea Vianello, president of the stroke patient association, ALICe.



Dr Tiziana Tassinari (second from right) is director of Neurology and the Stroke Unit at the Santa Corona hospital in Pietra Ligure. Since 2020, her hospital has won six gold and two platinum awards. She is joined by (from left) Elisa Salvati, Jan van der Merwe and Silvia Ripamonti.



Dr Giuseppina Manno is head teacher of the Istituto Comprensivo Pietra Ligure, one of six schools that helped the province of Savona become an Angels Region.



They made it happen. Living proof of the power of community are Barbara Parodi, Livia Pastorino, Maria Luisa De Giorgi, Caterina Maffongelli, Danilo Cimolato, Cinzia Finocchi, Tiziana Tassinari, Riccardo Padolecchia, Elisa Salvati, Silvia Ripamonti, Jan van der Merwe, Mauro Boetto, Michela Vignone, Veronica Aicardi and Luigi De Vincenzi.



Work together, win together



History-making Almería has shown that it takes a community to become an Angels Region, and a community to celebrate it.

THE race to convert the first Angels Region in Europe ended in a photo finish.

Reaching for the tape more or less simultaneously were two regions in Ukraine (Khmelnitskyi Raion and Kamianets-Podilskyi Raion), Savona in Italy, the Algarve in Portugal and Albacete in Castilla-La Mancha, Spain. But the highest platform on the podium belonged to Almería where the stroke community gathered on 30 October to celebrate this important milestone.

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Converting an Angels Region means **generating change on a grand scale.**

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When at the start of 2024 Angels consultant for Andalusia, Susana Granados, joined the race to convert Europe's first Angels Region, Almería looked like a strong contender. Torrecárdenas University Hospital in the capital city was already a champion. The two smaller hospitals, Hospital Universitario Poniente and Hospital La Inmaculada, had both attended Angels Days and were looking forward to working with her. And the region's emergency service, the Centro De Emergencias Sanitarias (CES) 061 Almería, already had two EMS Angels Awards on their trophy wall.

But to reach her goal she would have to put in the hard yards. Both Poniente and La Inmaculada would have to reach at least gold status for the region to be in contention; and there were targets to reach for FAST Heroes implementation to ensure that Almería's population would know what to do if someone had a stroke.



Converting an Angels Region means generating change on a grand scale, and getting hospitals, emergency services, local authorities and public educators to all work together to provide safe hands for stroke patients in their communities. It helps when there is a bright spot to light your way.

The bright spot spreads its light

Of all the bright spots in Almería there was one that shone brighter than all the others. In 2022 Torrecárdenas University Hospital had become the first diamond hospital in Andalusia and would go on to become the first hospital in Spain to achieve four consecutive ESO Angels Awards. The award put Almería on the national map, and marked a turning point for stroke care in the region.

“There was a before and after,” Susana says of this watershed moment. There was every chance that Torrecárdenas's success could help unlock the potential in the rest of the province and score another first for Almería.



For her consultancies at Hospital Universitario Poniente and Hospital La Inmaculada Susana followed the same script – holding multi-disciplinary meetings, and enrolling them with RES-Q so they and she could analyze the pathway and evaluate their performance.

She recalls: “The simulation training at Hospital Poniente was my first simulation ever, and it went pretty well. Right away, we also agreed on plans to implement key priority actions and improve post-acute care at both hospitals.”

Hospital Inmaculada is situated in the north, which is the only part of the region not covered by the region's EMS, the Centro De Emergencias Sanitarias (CES) 061 Almería. Primary care physicians attend patients in medicalized vehicles up to an imaginary line called km 21, where they are transferred into the care of the CES and transported to the hub.

Susana organized a training event involving doctors from Inmaculada, the CES and primary care, and laid the groundwork for implementing the RACE scale, which is a simple and rapid neurological scale to detect acute stroke patients with a high probability of having a large vessel occlusion.

A contamination of motivation

Because a stroke patient's journey starts in the community, public awareness of stroke is the first link in the chain of survival. For Almería to become Europe's first Angels Region, they therefore had to meet targets for implementing FAST Heroes – the award-winning stroke awareness campaign that has already educated over half a million children about stroke. In Almería, a pilot project undertaken some time before had not had much impact but Susana had a breakthrough when Joaquín García, the chief neurology nurse at Torrecárdenas University Hospital, had the brilliant idea of working with the school nurses.

After first securing the support of the ministers of health and education, they introduced the FAST Heroes a campaign to more than 50 school nurses, and by July the program had been implemented at 22 schools.

To get her hospitals over the line, Susana had a plan to consolidate her work in the region. She says, “It was important after working with each hospital separately to get them all together in order to create momentum. This opportunity came when the steering committee in the region invited me to help them organize their annual stroke day, which gave me access to all the regional key opinion leaders at the same time, on the same day, in the same room.

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By working together towards the same goal, Almería had made sure that **stroke patients in the region would have second chances.**

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“I introduced the Angels Region strategy, of course, and I would say there was a contamination of motivation especially when we talked about the Angels Awards.

Of course all the hospitals wanted one and we talked about what the next steps could be; what we could do, and how we could help each other.”

A joyous celebration

The next time the stroke community of Almería met in the same room, was on 30 October 2024, and this time it was for a celebration. The quarter two results had confirmed that Hospital Poniente had won a platinum award and La Inmaculada their first gold. Torrecárdenas collected another diamond, of course, and CES 061 Almería their third platinum award.

By working together towards the same goal, Almería had made sure that stroke patients in the region would have second chances.

This spirit of collective goodwill and shared purpose was evident at a gathering of everyone who had played a



role in elevating Almería into an Angels Region. Taking turns behind the podium were Minister of Government of Almería, Ms Aránzazu Martín Moya, Minister of Education, Mr Francisco Alonso Martínez, Regional coordinator of School Nurses, Ms Sonia Martínez Giménez, Minister of Health Mr Juan de la Cruz Belmonte Mena, regional stroke coordinator Dr Patricia Martínez Sánchez, and Regional Stroke Coordinator of CES 061, Gabriel Navarro Lorenzo.

The stroke coordinators from all three hospitals, Dr Salvador Maroto of Hospital de Poniente, Dr Mateo Silvente of La Inmaculada and Dr Antonio Arjona of Torrecárdenas, shared the stage, as did a stroke survivor, Mr Rogelio Manuel Parrilla Vargas, and an entire class of little heroes from the public rural school, Tres Villas in Nacimiento.

The award was of great importance, Ms Martín said. “It represents a recognition for which many regions across the continent and the rest of the world are working to become the first in Europe to achieve this level of collaboration.”

Since making history by becoming Europe's first Angels Region, there has been more occasions to celebrate. Hospital Poniente and La Inmaculada have each won their second award, and Torrecárdenas has reeled in its eight diamond, showing the world that a community that works together, wins together.



Quixeramobim

Community of care

The story of an Angels Region in one of the poorest corners of Brazil starts with an exceptional hospital and ends with a city's wholehearted embrace of the collective responsibility that defines a community.

Quixeramobim is a small city and municipality located in the Sertão Central region in the semi-arid northeast of Brazil. It is the second largest urban center in the state of Ceará, and located at its geographical heart, as the 10-meter-high granite and steel obelisk on Dias Ferreira Square reminds you.

Despite the great economic progress of the last two decades, Quixeramobim remains for the time being a relatively low-income region, with bands of lower purchasing power in its diverse population.

But about 4 km from the city center, towards the neighboring city of Quixadá, you will find an imposing building that has expanded health opportunities in the hinterland of Ceará, won international praise for patient care and changed the outlook for stroke patients in the region.

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One of the great forces is the engagement of the team, because the flows of care are not simply imposed – they are **built by the professionals themselves.**

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Affectionately known as the Giant of the Backlands, the Regional Hospital of the Central Backlands (HRSC) is an expressive example of the regionalization of health to guarantee that complex services are available not only in the capitals, but in the places where the patients live. Its long list of achievements includes twenty-one consecutive WSO Angels Awards – more than any other hospital in Brazil – making it a guiding light for the mission to make more and better stroke care available to populations around the world, and make the world safe for stroke.

Giant strides

Team engagement emerges as the magic ingredient for delivering one of the best stroke services in the world to one of the poorest communities in Brazil. Yes, the hospital has well-established protocols to enable fast and efficient service, and ongoing professional training ensures everyone knows exactly what to do. But, says HRSC general director Dr Cristiano Rabelo, “one of the great forces is the

engagement of the team, because the flows of care are not simply imposed – they are built by the professionals themselves. This makes everyone feel part of the process and have a real commitment to the quality of care.”

Before the creation of the stroke unit at HRSC two years after the hospital opened in September 2016, stroke patients in the Sertão Central region faced a challenging reality, Dr Rabelo says. “There was no CT scan or MRI available for quick and accurate diagnosis and the nearest stroke-ready center was 200 km away in the state capital Fortaleza.”

But starting in 2018 the Giant of the Backlands brought about a fundamental shift in the assistance given to stroke patients, Dr Rabelo says. “The hospital, which is strategically located in the center of the state of Ceará, started to offer rapid diagnosis, specialized treatment and early rehabilitation, facilitating the recovery of many patients and reducing sequelae and disabilities.”



However, to ensure that patients arrived at the hospital in time to benefit from these services, it was necessary to reach out beyond the hospital walls.

Partnerships promote performance

Strategic partnerships with the Mobile Emergency Care Service (SAMU) and primary care facilities are the key to the rapid arrival of patients at the hospital, Dr Rabelo says.

“The SAMU is an essential partner in the treatment of stroke, since the time of arrival of the patient to the hospital is one of the most critical factors to guarantee effective treatment. The partnership between the HSRC and the SAMU is an example of how the public health network can function efficiently when there is organization and commitment to the patient.”

It is also an example of how partnerships promote performance.

The launch of the EMS Angels Awards in Brazil in 2023 provided an important building block for the pioneering concept of Angels Cities, as gold status in the EMS Awards became a criterion for Angels City status. And after the concept was expanded to become the global strategy, 100 Angels Regions, there was a surge in the number of EMS organizations around the world being recognized for their stroke care.

SAMU Ceará Base Polo Quixeramobim joined these ranks in 2024 with two consecutive diamond awards, raising the possibility that the city of Quixeramobim could become an Angels Region ahead of candidates in more prosperous parts of the country.

There was just one more box to be ticked.

Something special

In order for a region to gain Angels Region status, population-based targets must be met for the implementation of FAST Heroes, a schools-based campaign that leverages the relationship between children and their grandparents to spread life-saving knowledge about stroke to vulnerable populations.

Dr Victor Abreu, neurologist and head of the HSRC stroke unit, is a champion of the campaign. He says it's the engagement of children in learning, especially with the playful and fantastic world of superheroes versus villains, that accounts for its success both in and beyond the Sertão Central region.

“The family relationship is very important for the growth and formation of dignified citizens willing to do good,” Dr Abreu says. “Between grandparents and grandchildren, however, it is

something special that involves care, zeal and attention – and that certainly facilitates learning.”

“

As a result, Quixeramobim did not meet its FAST Heroes targets – it overshot them by almost 300 percent.

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Recognizing that education and health needed to work together, HSRC stepped in to present the Angels Regions concept to the Quixeramobim City Hall, explaining how it would benefit the entire population.

Dr Rabelo says, “The mayor immediately supported the initiative and mobilized his health and education staff to make the project feasible.”

As a result, Quixeramobim did not meet its FAST Heroes targets – it overshot them by almost 300 percent.

It's not only about targets

Alessandro Rômulo has been an Angels consultant for six years, and has been working in this region for the past year. Children play a crucial role in this scenario, he says. Therefore, when planning a FAST Heroes activation, they're not focused on reaching a specific target. Instead, their goal is to reach as many children as possible, as this creates a significant impact on the community.

“We didn't say, we need this many children,” his colleague Andrea Giordano says. “We knew the more children trained the better, so we didn't make a calculation, we just made a plan to reach the maximum number of children, and the maximum number of schools.”

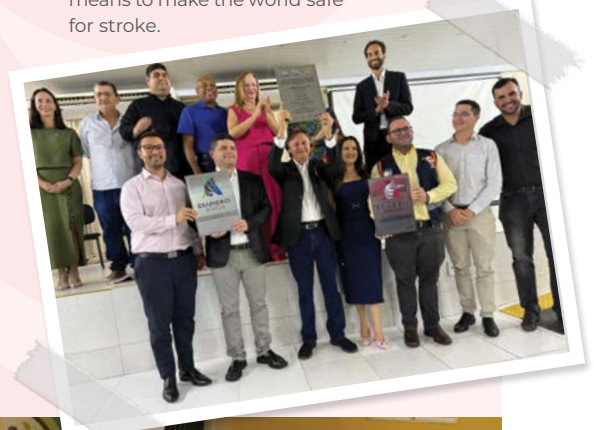
At the same time, they keep the focus on public schools, which over 80 percent of students attend in the north of the country. “Our priority is the public,” Andrea says. “We only convert regions if we are successful in public schools.”

But this is not the only way in which Brazil has moved the goalposts for Angels Region status, thereby multiplying the impact of the program.

For them the goal of public awareness education is only met when FAST Heroes has officially been made a mandatory part of the curriculum for public school learners aged six to 10. This requires close cooperation with municipal education departments, but the rewards are enormous, Andrea explains.

“This ensures the project stays active in schools year after year and continues to benefit families in the region. For us as Team Angels, if a city embraces FAST Heroes in this way, we can have even more and continuous impact on the population's knowledge about stroke and help even more people prevent the disease.”

They can also increase the likelihood that these patients will receive rapid diagnosis and treatment, leading to better outcomes – and that's what it means to make the world safe for stroke.





Leading by example

If you want to know how to win 10 consecutive diamond awards, the answer is here. Matej Polák, director of ZaMED, shares his toolbox with five common sense actions, and a very important piece of advice.



The top is indeed where you will find ten-times diamond winner ZaMED whose record of success in the EMS Angels Award is unbeaten and probably unbeatable. But their reputation precedes the awards. When the EMS Angels Awards were launched in Lisbon in 2021, partly as the result of Matej's advocacy, Komárno, where ZaMED is headquartered, was already synonymous with excellence in prehospital care. Their principles had been adopted as the national guidelines for Slovakia, and Komárno Rescue, their annual competition

THEY didn't expect it to be easy, says Matej Polák, director of Slovakia's leading provider of prehospital care. "We didn't want to walk the easy way. The easiest road is always down the hill – it won't get you to the top."

that tests the skills of the best rescue teams in Central Europe, was drawing more participating teams every year.

A close ally of Angels from the start, Matej had been convinced that the positive impact of the ESO and WSO Angels Awards on in-hospital stroke care could be replicated in the prehospital setting. It wasn't possible to incentivize performance with money or vacations, but Matej believed the combination of personal pride and public recognition would do the trick. The bragging rights that came with winning an international award would help motivate change and encourage

paramedics to take the most important step towards change – the first one.

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The **total number of awards is about to pass the 500 mark**, and the winners include teams from Pichinca province in Ecuador to Da Nang in Vietnam.

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It worked.

Four diamond winners in Lisbon had grown to 45 by Q4 of 2024. The total number of awards is about to pass the 500 mark, and the winners include teams from Pichinca province in Ecuador to Da Nang in Vietnam, from Hong Kong to Chile, from South Africa to Kazakhstan. In cities and regions around the world, more stroke patients are reaching the right hospitals at the right time.

Did the awards exceed Matej's expectations?

They did not.

They did however meet his expectations, says Matej, noting that these expectations had been very high.

A simple tool set

"High achievement always takes place in the framework of high expectation," said American engineer Charles Kettering, whose brilliant inventions revolutionized the automobile industry. Within ZaMED the expectations of excellence are high indeed, with monitoring and feedback central to their model. What they have managed to do is infect their employees with the same belief in holding themselves to a higher standard.

"They are competing against each other for who has the shortest time on scene, they compete to be as fast as possible. Our employees now want to get better themselves and they have the tools for it."

Those tools are simple, Matej insists. "We didn't invent anything special. Many others use the same tools, maybe just not as consistently or in the same combination or long enough."

So here, from the horse's mouth, are the five tools that, if you use them consistently, could bag you 10 diamond awards:

1 Awareness

They put a lot of effort into raising public awareness about stroke and, among their members, awareness of the importance of EMS care for stroke patients, Matej says. "Ten years ago, stroke wasn't perceived by paramedics as a super sexy great job. These guys loved blood and broken bones more." Stroke patients are generally silent and often don't look like emergency patients, which is why it's important to make the EMS teams aware that these are cases where every minute counts.

2 Education

It's not enough to be aware, you have to know what to do, Matej says. They are strong believers in the value and impact of education. Before Angels, they created their own learning tools, but they now use Angels elearnings, in particular the ASLS course, and compensate ZaMED paramedics who complete the course. They are also, in partnership with the University of Miami, the only ASLS educators in Slovakia.

3 Quality monitoring

When it comes to quality monitoring, ZaMED goes deep. They monitor performance for 100 percent of their stroke care, which means scrutinizing all the records for every case, and reviewing all the steps, including selecting the right hospital and prenotifying them.

4 Feedback

Feedback is provided to every employee for every case, Matej says, adding that changing attitudes towards feedback "in a post-socialist society" had been their biggest challenge. They had to convince their workforce that

feedback wasn't negative but in fact a chance to become better.

"Feedback is the most important thing," says ZaMED education coordinator Patrik Brna whose responsibilities span points 2 to 4 – education, quality monitoring and feedback. It's no wonder he doesn't get to work as many shifts in the field as he would like.

Patrik believes it's thanks to feedback that ZaMED paramedics now approach stroke cases as a challenge, trying to outdo each other in the field. The feedback process is also activated for cases of myocardial infarction and resuscitation – one of several instances of stroke best practices having spread to other areas of emergency care.

5 Motivation

Good work deserves praise, preferably in public – which is one of the premises of the EMS Angels Awards. Winning makes people look good and feel good. "They're the cherry on top," Patrik says of the awards, but adds a disclaimer: "The system is the cake. If the system works, if the patient gets the best quality treatment, that is what matters. Diamonds are fancy but the important thing is the patient."

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I am happy that we became an example, or maybe an **inspiration for others**. I have been surprised to learn how important a positive example is.

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More winning

Patrik is one of the key organizers of the Komárno Rescue, an event he got to know as a competitor before joining ZaMED five years ago, and of which he is now the main referee. The competition, which was launched in 2013, tests paramedics' technical and decision-making skills, teamwork and resilience in a series of tasks that simulate real-life situations including stroke. Feedback is instant, which means learning is instant. But Komárno Rescue is also a celebration of their work, Patrik says. It's quality time with team mates and an opportunity for experience-sharing, brainstorming and making new friends.

Last year's event was the biggest yet – with 26 teams from five countries competing, including Czech Republic, Austria, Hungary and Slovenia – but the trophy stayed in Slovakia thanks to a winning team from ZaMED.

To people who say winning is easy in Slovakia because it's an EU country, Matej is quick to point out that the Slovak Republic is one of the poorest nations in the EU. The largest part of their "own" hospital in Komárno was already over 100 years old back in 2014 when their stroke door-to-treatment times beat those of most hospitals in Europe – "it looked like a castle."

It's not about resources, he says. "It's about the mental strength to improve."

More advice

That ZaMED is the only EMS so far to have earned 10 consecutive diamonds surprised him, Matej says. "I expected many would be that good. On the other hand, it has made me happy to learn how much influence a positive example can have.

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The first step is always the hardest and is rarely perfect. But the **most important thing about the first step is that it happened.**

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"I am happy that we became an example, or maybe an inspiration for others. I have been surprised to learn how important a positive example is."

Does he have more advice besides his five-point plan? Yes, he does.

"Just begin," he counsels. "Don't wait until you can imagine the whole road to a 100 percent result. Begin even if not all the areas have been solved. Don't wait for the 100 percent plan."

"Your effort will bring results even if it is not all satisfactory, and you will solve the rest along the way. I have seen people stop working on improvement just because of some doubt over a single issue – even though the rest of their plan for getting better was perfect. Not knowing how you will resolve all the issues is not a reason not to begin."

"The first step is always the hardest and is rarely perfect. But the most

important thing about the first step is that it happened."

And for those still uncertain about where to begin, he adds: "Just do our five common sense things, it isn't rocket science. You can improve things one by one, solve problems one by one, deal with other issues one by one."

"But don't wait. Begin!"



A winning strategy

No country has won more EMS Angels Awards than Italy, an extraordinary achievement for which, as Team Italy explains, you need a solid plan and an exceptional man.



Dr Matteo Rovera of 118 Novara (centre) with Angels project lead Jan van der Merwe and Angels consultant Elisa Salvati.

A wise man once said that to be a winner, you must “plan to win, prepare to win, and expect to win”. To see what planning to win looks like, come to Io Stivale, the boot-shaped peninsula whose other nickname means “the beautiful country”.

Already famous for architecture, art, opera, literature, film, and fashion, Italy has also won: four FIFA World Cups, two UEFA European Championships, one Olympic 100-meter gold medal, the Eurovision Song Contest (three times), and in June last year Jannik Sinner became the first Italian tennis player at the top of the ATP rankings.

And if the EMS Angels Awards were a contest – which in a way they are – then put your hands together for the beautiful country, because they’re also winning that.

The most EMS awards in 2024? Italy.
The most EMS awards since 2021? Italy.
Most participating teams in 2024? Italy.

Largest number of participating teams ever?

Yes, that too.

Something else that strikes you when you study the numbers is that, had Italy won the same number of EMS awards in 2024 as in 2023, they’d have ended in third place behind Spain and Brazil. Instead, they won more than twice as many awards in 2024 than in 2023 – 43 compared to the previous year’s 21. Almost one-fifth of last year’s total awards went to a country 28 times smaller than Brazil, which raises two questions – how did they do it, and what exactly happened in 2024?



‘We decided to go for it’

The answer to the first question seems to be that, as soon as the EMS Angels Awards were launched in 2021 (an occasion on which they won not a single award), Team Italy started planning for success. They launched MonitorICTUS – an acronym for ictus territorio urgenza, meaning stroke territory emergency – a twice-yearly data collection activation similar to the already successful MonitorISA that was driving quality monitoring in hospitals.



Those who had completed the course were better at recognizing stroke symptoms, more accurate, and, most importantly, **they were getting patients to hospital faster.**



“As soon as the EMS awards were launched, we created a program with

branding specially for EMS,” team leader Silvia Ripamonti says. “The EMS in Italy is complex, it differs from region to region, but we decided to go for it, so we gave it a big push.”

The Italian emergency system is indeed complex. Emergency medical services are controlled regionally under local public health authorities, and their delivery differs by location. In some places EMS is undertaken by the local hospital; elsewhere it's driven by volunteer organizations. Ambulance services are provided by varying combinations of volunteers, doctors and nurses. On-scene medical care is usually provided by doctors and nurses who also perform advanced life support procedures.



No one understands this complexity better than Dr Matteo Rovera of I18 Novara, the award-winning operations center that coordinates emergency resources in four neighboring provinces in northwest Italy's Piemonte region. In Piemonte, an emergency will activate one of three types of emergency medical vehicles (EMVs) – a rescue helicopter, an advanced EMV carrying doctors and/or nurses supported by volunteer rescuers, or a basic EMV carrying a rescue team of volunteers with basic life support skills.

In 2023, after conducting a survey of prehospital care in his region, Matteo made stroke training for volunteers a priority. He created an online education course dedicated to stroke basics and local protocols and within three months trained almost 1,000 volunteers. Those who had completed the course were better at recognizing stroke symptoms, more accurate when using the Cincinnati Stroke Scale to assess stroke probability, and, most importantly, they were getting patients to hospital faster.

The fifth Angel

Matteo knew nothing about Angels when in October 2021 his director dispatched him to the inaugural EMS Angels Awards in Lisbon on the grounds that Matteo's English was somewhat better than his own. It was year two of the pandemic and a long battle with Covid had left him dispirited. He'd been contemplating a career change and his motivation was low. But in Lisbon things changed.

The next few days would culminate in the formation of the first international EMS steering committee, with Matteo among its ranks. This group, he observes, had a common language besides English. They spoke the language of their profession,

and Matteo found himself “playing with joy in the team”.

Now established as Italy's “fifth Angel”, Matteo is also the national EMS Angels and RES-Q coordinator, and one of the most positive factors in the winning spurt of 2024.

“What happened last year was that we launched the regional Angels strategy, which made EMS part of every conversation. There were lots of regional workshops and we were talking about the awards everywhere.”

“Everywhere” included the regional webinars where Angels consultants provide feedback twice a year on the MonitorISA and MonitorICTUS results. Seeing what others are achieving in the same region drives collaboration, friendly competition, and regional pride.

In July 2024, the EMS Angels Italy Steering Committee held its first meeting – a working group composed of regional representatives, with the aim of

sharing local and regional strategies and creating a community. In September, the results of a prehospital stroke network questionnaire confirmed the disparity among regional organization models. These findings informed the agenda of the first National EMS Angels Workshop that took place in Rome on 29 November.

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The EMS community in Italy continues to “plan to win, prepare to win, and expect to win”.

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Future meetings of the EMS Steering Committee (in June and November) form part of an action plan for 2025, during which the emphasis will be on driving awards participation and activating a new prenotification protocol.

The steering committee's approach is very “practical and pragmatic”, the Italian team says. Their 2024-2027 plan sets targets of at least 60 percent success and 80 percent participation. This means a minimum of gold awards status for 40 out of the 72 operations centers nationwide, and 58/72 participating centers.

The EMS community in Italy continues to “plan to win, prepare to win, and expect to win”. For countries that want to join them on the awards table, the Italian teams have three pieces of advice.

One, leverage your relationships with hospitals to drive change in EMS.

Two, create a group of people with a common goal.

Finally, it helps to know the right people, which includes finding that someone who will be your third or fourth or fifth Angel, and be right beside you from the moment you decide to “go for it” and win.



A flame in the soul

As a student on his first shift in the ER, Dr Ángel Corredor heard an answer he didn't accept and saw a future he didn't want. Then he set out to change it.

ABOUT nine years ago, Dr Ángel Corredor happened to visit a medium-sized city located on Colombia's famous coffee-growing axis, and decided that this was where he wanted to live.



A walkable city surrounded by snow-capped mountain peaks and rain forests, Armenia reminded him of Cúcuta, the city on the border with Venezuela where he'd been born and raised.

Figuring he had nothing to lose, and a lot to learn and grow, Dr. Corredor presented himself at the University Hospital San Juan de Dios to ask if they had a job for a neurologist from Bogotá. They might, they said, and promised to call after a month. The call came eight months later, long after Dr. Corredor had stopped expecting it, and in February 2017 he settled in the city he would eventually place on the global stroke map.

But when he arrived the hospital had no stroke service. Stroke patients were treated as if beset by "a mysterious clinical condition" that excited no urgency or alarm.

It was a throwback to his first shift in an emergency department when he was still a student. When a stroke patient was brought in, one hour after symptom onset, he readied himself for

a rapid sequence of CT scan followed by thrombolysis, only to be told to relax – "We don't do that here."

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You have to organize your house before you receive visitors.

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Having studied medicine in the expectation of being able to "do something to help someone else's suffering", he didn't accept the answer, Dr. Corredor says. This was not the future he had in mind.

Years later in Armenia Dr. Corredor learned something that is known to everyone who has tried to change the future, namely that people don't

listen to you just because you're right. Recognizing that he needed a different plan, he put his faith in the future doctors he was teaching. He would show them what he believed and make them believe in it too.

Organizing the house

"You have to organize your house before you receive visitors," he says philosophically of what would end up as a five-year project to transform stroke management in Armenia. In 2019, an Angels-facilitated preceptorship at Carlos Molina's Barcelona hospital made him realize how far he still had to go – "I realized I was in diapers," he says. The following year, he turned the challenges of triaging stroke patients with Covid into an opportunity to demonstrate the merits of an organized stroke pathway.

Organizing his house also meant training for everyone, from doctors and nurses to security guards; collecting data in RES-Q – a task he carried out himself, sometimes with the assistance of students, or helped by his wife in the

evenings; and forming a virtual network of young doctors including former students he had infected with his ideas.

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Thanks to the hard work, the long hours and the late-night calls, **fewer people were dying.**

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Fielding texts at all hours from young doctors seeking advice and support gave Dr. Corredor another insight familiar to people who try to change the future – the realization, at once terrifying and exhilarating, that “if I don’t do it, no one else will”.

But in 2022, when a new future was finally in view for stroke care in Armenia, a financial decision was made to suspend the stroke service at his hospital. For the first time in five years, Dr. Corredor considered giving up.

‘You will say yes’

The turning point was a phone call from Angels consultant Claudia Guazaquillo, an important support for Dr. Corredor in the organization of an education plan. Claudia had something to show him on the website that managed the mortality indicators for different diseases in Colombia. Pre-2017, the graph for Armenia was erratic, with a lot of missing data. But from 2017 onwards, the line representing stroke mortality curved steadily downwards.

Ángel saw what Claudia wanted him to see – that thanks to the hard work, the long hours and the late-night calls, fewer people were dying.

In June 2022 he joined a private hospital in Armenia, the Clínica Central del Quindío, where he had agreed to establish a stroke center on two conditions. The first was that he would need a dedicated person to collect data. The second was that no stroke patient would be turned away, irrespective of whether they had insurance or not. “You will say yes because it’s an emergency,” Dr. Corredor told his new employers.

A year later in September 2023 Clínica Central del Quindío became the first hospital in the region to be certified by the World Stroke Organization, an achievement soon followed by their first WSO Angels Award. Dr. Corredor used the momentum created by international recognition to expand the stroke service and solve a problem that had been bothering him for some time.

Clínica Central del Quindío had no thrombectomy service, which meant that patients with large vessel occlusion had to be referred to a hospital two hours away. Thanks to an optimized emergency transport service, of the 12 patients that had been referred to the comprehensive center, 85 percent had left hospital with a Modified Rankin Score score of 0-2, indicating slight or no disability. Imagine what could be achieved if they could treat these patients themselves.

A bigger stage

Dr Corredor’s efforts were meanwhile starting to attract national and international attention. To his surprise he was selected as academic coordinator for the Stroke Group of the Colombian Association of Neurology. He learnt more about his own capacity for leadership as one of the young



neurologists in the forefront of ALATAC, a professional organization that seeks to resolve disparities in stroke care in Latin America. And he was set a task within the WSO.

A long-standing advocate of exercise for stroke prevention, his first foray into awareness activations had been a local 6 km run against stroke. Inspired by witnessing “more than 240 people running for my ideas”, he began to dream of a world marathon against stroke and, having proposed the idea to former WSO president Prof Sheila Martins, found himself co-chair of the WSO Campaign Committee behind 2024’s #GreaterThanStroke challenge.

With his private hospital on course for four consecutive diamond awards during 2024, the new Angels Regions strategy saw Dr. Corredor



expand his influence to the ambulance service, schools and local authorities. Local government support is essential if Armenia is to become an Angels Region – perhaps Colombia's first – and Dr Corredor is becoming adept at appealing to political vanity to win support for his ideas.

Better stroke care must be an order not just a wish, he says, so it can function independently of his presence and influence.

His drivers are both moral and personal, his vision both global and local. "I believe I must be useful to my city," Ángel says. "This is where my family are, I have to do something for them."

'I didn't accept the answer'

In a small village on the northern frontier of Colombia, not far from Cúcuta, you will find another reason why Dr Corredor won't give up on the future he wants.

Here lives a man who once cut a powerful figure on horseback, one you might describe as a "typical Latin American man. He was a farmer and a leader. A big guy like me," says Ángel who himself towers over most people in any room.

When this strong man felt a weakness in his arm, he thought he was just tired. At the local hospital in their remote mountain village, the doctor treated him for flu. When Dr Corredor, already a neurologist, heard what had happened he tried everything in his power to have his uncle moved to a hospital where he could receive the proper care.

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What you need is leadership and passion. In medicine, we are taught rules and checklists, but the checklist alone doesn't bring about change

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But what was done couldn't be undone. The stroke left the powerful farmer bedridden with hemiplegia, dysarthria, epilepsy and an



overwhelming sadness. It left Dr Corredor even more deeply convinced of the need to do something, to work continuously against the suffering of his family and his uncle. His response was the same as it had been in that ER many years ago: "I didn't accept the answer."





A flame in the soul

In October 2024, at the World Stroke Congress in Abu Dhabi, Dr Corredor witnessed something extraordinary. Others saw it too and no one would forget it.

As Angels project lead Jan van der Merwe tells it, he had run into Dr Chrissi Tunkle, a German neurologist who needed advice concerning her efforts to support the stroke community in Nepal. Jan, who had just been talking to Claudio Jiménez, knew just the man. At the Angels exhibition booth, he introduced Chrissi to Claudio and his colleague, Ángel Corredor, and then watched the magic of the Angels community unfold.

Jan recalls: "Claudio explained how he mentored new treating hospitals in circumstances similar to those in Nepal, and encouraged them to create their own communities within their hospital. Chrissi then called the Nepalese delegation over to meet Claudio and learn how to apply these strategies in Nepal.

"Soon an impromptu workshop had formed around a small table next to our booth, where the seven Nepalese doctors, Claudio and Ángel from Colombia, and Chrissi from Germany, were all passionately discussing how to help the Nepalese improve their stroke care."

It was, said Jan, the most vivid example he had seen of the power of the Angels community, this spontaneous gathering of like-minded people with one goal – "to help each other provide the best outcomes for their patients".

It left a deep impression on everyone, including Ángel. Within ten minutes, he says, a symposium had been arranged out of nothing, to talk about how to create a stroke

center and a stroke network. "There was no organization or preparation. It wasn't part of the congress; it wasn't on the agenda."

What he has learnt is that it's not always necessary to be on the agenda.



"What you need is leadership and passion. In medicine, we are taught rules and checklists, but the checklist alone doesn't bring about change. With leadership and passion, you can make a flame in the soul of somebody so that they wake up and realize, 'I can do this'."





Next stop Astana

Kaunas Stroke Simulation Team went to Kazakhstan for the opening of the first simulation center in Central Asia. Doctors from Lithuania conducted a cross-national simulation training to equip Kazakh physicians with the skills and confidence to carry out the rapid expansion of stroke services in the country.

“IT was Lev’s idea,” says Dr Sabina Medukhanova, a neurologist and public health specialist who heads up the Republican Coordination Center for Stroke Problems (RCCSP) in Astana, Kazakhstan. The fact is, they’d been thinking about it for some time – the impact a stroke simulation center could have on the region.

New stroke centers were popping up in Kazakhstan all the time, staffed by young and inexperienced physicians who needed to be trained. Sabina and Dr Yerzhan Adilbekov, a neurosurgeon and stroke specialist who is chairman of the Kazakh League of Stroke, reasoned that a stroke simulation center in Astana could even train doctors in neighboring countries.

The idea became more concrete in the autumn of 2023 when Sabina and some of her colleagues attended an Angels Train the Trainer workshop in Frankfurt, Germany. “I’d been talking to Lev,” Sabina says. “He told me no worries; I will organize it.”

well-equipped simulation center (that had so far only been used to train trauma specialists) already existed at the newly constructed National Coordination Center for Emergency Medicine. And Angels consultant Lev Prystupiuk knew just where he would find experts to run the first simulation.

Since 2018, a state of the art simulation center in Kaunas, Lithuania, had transformed stroke training in Lithuania and become a catalyst for stroke care quality improvement in the region. Located at the Hospital of Lithuanian University of Health Sciences (LSMU), it benefited from the combined expertise of four stroke specialists – Prof Antanas Vaitkus and Dr Prof Vaidas Matijosaitis from the Department of Neurology

at LSMU, and Dr Prof Aleksandras Vilionskis and Prof Dalius Jatuzis, respectively the head of the stroke center at Republican Vilnius University Hospital, and of the Clinic of Neurology and Neurosurgery at Vilnius University. During ESOC 2024 in Basel last May, this foursome received an ESO Spirit of Excellence Award in recognition of their contribution to stroke training in Eastern and Central Europe. The simulation in Astana would be only the second one conducted outside of their center, for which they would draw on recent experience in Moldova.

Dr Aleksandras Vilionskis was no stranger to the Kazakh stroke community, having on more than one occasion lead training at the annual



A



School of Stroke in Kazakhstan. But for Dr Matijosaitis who accompanied him, the visit to Astana in October 2024 would be his first.

Learning while laughing

Kazakhstan's stroke services have seen significant improvement since 2016 after the ministry of health approved a four-year implementation roadmap for stroke management. Thrombolysis rates increased from 1.33% in 2016 to 5.40% in the first half of 2024; and the rates for endovascular thrombectomy rose from 0.05% to 2.10%. At the same time, the number of stroke centers increased from 40 to 81 comprising 30 comprehensive stroke centers and 51 primary stroke centers.

The School of Stroke scientific and practical conference has taken place every year since 2017, bringing together experts who are passionate about improving stroke treatment and care. Success has followed. Shortly after the simulation workshop in

October, it was announced that five Kazakh hospitals had won ESO Angels diamond awards in Q3 of 2024, three more than the previous year.

Of course, more stroke centers meant more doctors had to be trained in how to implement treatment guidelines and optimize their stroke pathway. This, along with a focus on quality and outcomes, accounted for the significance of October's inaugural stroke simulation. The stroke specialists who attended would subsequently spread their knowledge to colleagues at their own hospitals.

"It was a great experience for our physicians," Sabina says of the two days of masterclasses, pathway simulations and decision-making workshops. "It was very, very interactive and everyone enjoyed the role-playing, they had a great time. When people learn by laughing, the learning sticks." The enthusiasm carried over onto social media, creating a demand for more such interventions. "A lot of physicians who weren't part of it also now want that kind of workshop," Sabina says.

He could generally gauge the success

of a simulation by the questions asked, Vaidas says, adding that Q&A sessions in Astana had elicited even some controversial questions the participants might not have felt comfortable about raising elsewhere.

The simulation boosted both knowledge and confidence, Lev concurs. "It was a safe space where doctors could share their experiences and talk openly about how things were done at their own hospitals without being afraid to raise certain topics and issues."

Representatives of the World Health Organization (WHO) and a government health think tank were also present, and the WHO subsequently recommended the Angels Academy as an education platform in a letter to the Minister of Health.

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But since learning is a two-way street, what new insights did the Lithuanian doctors carry home?

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The Kaunas-Astana connection

Lev explains why a stroke simulation center in Astana is important. For doctors from Kazakhstan and its neighboring countries, attending similar events thousands of kilometers away in countries like Germany was costly for a start. "But it's also a matter of access, with visa requirements and sometimes political reasons acting as barriers," he explains. And then there's the matter of language.

Lithuania and Kazakhstan both come from a Soviet past. After the countries regained their independence they had different development pathways, but doctors from the older generation in Lithuania are still able to use Russian for communication which allows them to share their knowledge and experience.

Lithuania is a few years ahead of Kazakhstan in terms of stroke care access, with their own breakthrough occurring in 2014 when the national stroke care network was established. As well as the transfer of skills, the

Kaunas-Astana partnership allows Kazakhstan to learn from and be encouraged by Lithuania's proud decade of stroke care development.

But since learning is a two-way street, what new insights did the Lithuanian doctors carry home?

Aleksandras Vilionskis says the important lessons have to do with understanding the specific and systemic problems encountered by hospitals in Kazakhstan and adapting their simulation for local conditions. He says future events are likely to include in-situ simulations at participating hospitals so they can observe the pathway from door to treatment and find the gaps that are causing delays in those hospitals.

For Vaidas Matijosaitis on his first visit to Kazakhstan, the experience confirmed something he already knew. He says, "Even if there are differences in the system, we all share the same aim, which is to help people with stroke. That is the same no matter where we go."



The power of consistency

If there was a leaderboard for Angels Awards, Pauls Stradins Clinical University Hospital would be right at the top. Consistency is the key, the head of the stroke unit says. Plus, there's always room for improvement.

"WE are what we repeatedly do. Excellence, then, is not an act, but a habit."

Misattributed to Aristotle as this quotation may be, the idea that consistency is critical for success is loudly affirmed by among others the world's top athletes, business tycoons, and Dr Kristaps Jurjāns of Pauls Stradins Clinical University Hospital in Riga, Latvia.

If there was a leaderboard for Angels Awards, Dr Jurjāns's hospital would be right at the top, with 24 diamond awards and no end in sight. They first put up their hand at the start of 2018 when they registered with Angels, and by the end of that year began a hot streak of diamond awards that would have been uninterrupted but for a missed data entry deadline in the summer of 2023.

"You start something, work at it until you think it works and then you keep doing it," Dr Jurjāns explains. Once you've achieved consistency, treating acute stroke becomes "a routine", and if it's a first-class routine then "a second-year resident can make a correct treatment decision in about 10 minutes".

Dr Jurjāns attributes his confidence to being trained by the most prominent stroke physician in the Latvia and 2020 ESO Spirit of Excellence Award winner, Prof. Evija Miglane. But it was under his

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Dr Jurjāns was struck by the **simplicity and clarity** resulting from the use of colours and pictograms.

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leadership that the stroke team at Pauls Stradins arrived on the international stage and has stayed there. During an Angels Train-the-trainer event where he'd been invited as a speaker, Dr Jurjāns joined the audience for a presentation of the post-acute intervention, the Arrow Project, and saw another opportunity to improve.

Developed by three nurses at the Regional University Hospital of Málaga in Spain, the Arrow Project standardizes post-acute stroke care via a system of color-coded arrows that help doctors, nurses and even porters easily identify the type of stroke and side affected, and via a QR code access details of the treatment protocols for each day, such as regular checks for dysphagia, glycaemia and fever.



Dr Jurjāns was struck by the simplicity and clarity resulting from the use of colors and pictograms including those that indicate whether a patient had been tested for swallowing difficulties and, once tested, what constraints there were on their food intake. Within a few months, an adapted version of the project was taking root in his own stroke unit.

Here was something that might help

Swallowing for human beings is a complex business. It takes around 50 pairs of muscles and several cranial nerves for food to be conveyed safely from your spoon to your stomach – a journey that consists of three phases.

In the oral phase, your tongue collects the food, then works with the jaw to move it around your mouth ready for

chewing. Chewing breaks down the food to the right size and texture, aided by saliva which softens the food.

In the pharyngeal phase, the tongue pushes the food to the back of the mouth, triggering a swallowing response that passes the food through the throat. To prevent food or liquid from entering the airway and lungs, the voice box closes tightly and breathing stops. Talking keeps the airways open, which may be why your mother told you not to talk while you're eating.

The esophageal phase only lasts about three seconds, during which food or liquid enters the esophagus, and is carried to the stomach.



It's a well-coordinated muscle interaction that most people never think about except on those occasions when something they're eating or drinking "goes down the wrong way". Then a gag or cough reflex will usually try to sort out the problem.

If, however, a stroke or other nervous system disorder interferes with the swallowing response, food pieces can block the passage of air, and food or liquid that stays in the airway can enter the lungs, resulting in aspiration pneumonia.

Dr Jurjāns was troubled by a high incidence of aspiration in his stroke unit, affecting up to 30 percent of patients. Here was something that might help. He translated the materials into Latvian and introduced them at his hospital in August, working with a nutritionist and speech therapists to give more substance to the Arrow Project guidelines.

It's too soon to measure the impact on aspiration rates, but there are clear upsides, including the fact that nurses are now empowered to

evaluate a patient's abilities and they, together with nutritionists, can follow certain pathways for decision making about patient diets rather than only rely on their practical experience.

The pictograms aren't just helpful to the medical staff; they also help relatives to understand the patients' nutritional restrictions, Dr Jurjāns says.

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It comes in waves for me. Inspiration comes and then I make a change, make something new.”

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One problem he is still trying to solve is variability in the modified textures (categorized as nectar, honey and pudding) that make food safe to swallow for patients depending on their dysphagia score. Here, too, consistency will be the key to success.

‘Make sure he doesn't get worse’

Dr Jurjāns's first encounter with a stroke patient was a baptism of fire on the first or second day of his neurology residency. He recalls that the doctor, having started thrombolysis, was called away and left him in charge with instructions to observe the patient and make notes every fifteen minutes. She left him with a terrifying parting shot: “She said make sure nothing gets worse.”

It was an anxious moment for the would-be neurologist who had actually wanted to become an orthopedist. When that program turned out to be full, he surprised his mother by following her footsteps into neurology. They have the same surname and when a patient recently asked her if she was related to “that famous Dr Jurjāns” the first Dr Jurjāns wasn't altogether pleased, he reports. (She was undoubtedly also proud.)

He became a stroke specialist for the same reason he had wanted to do orthopedics – he wanted to get his hands dirty and in neurology, stroke was where the action was.

“There is always something to fix,” Dr Jurjāns says. Even when you have to

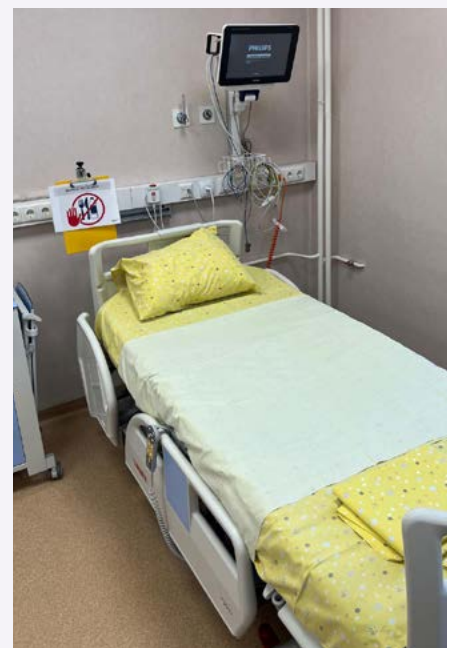


keep some of your awards in boxes because the display wall became too small. “It comes in waves for me. Inspiration comes and then I make a change, make something new.”

Some of these changes could appear insignificant – like a pictogram on a clipboard or the Angels Stroke Care at Home manual translated into Latvian to prevent aspiration after discharge – but they do the important work of saving lives.

On the stroke ward at the Regional University Hospital of Málaga where a brief to standardize nursing care developed into the Arrow Project, consistency is also delivering success. They entered the awards table at the end of 2023, and have just won their second consecutive diamond award.

It is reasonable to believe, about any hospital that wins consecutive diamonds, that they have made excellence a habit. Consistency counts. And if you keep doing it for long enough, you will eventually need a bigger wall.



Reshaping stroke care in Moldova

A recent training event for neuroimaging specialists shed new light on Moldova's ambitious transformation of stroke care, highlighting the dedication of individuals, the evolution of institutions, and the interventions driving a national movement toward better patient outcomes.



IN March 2025, Chisinau, Moldova, emerged as a regional hub for advanced stroke care training, hosting the inaugural Moldova Stroke Neuroimaging Workshop with the support of the Angels Initiative.

This landmark gathering brought together neurologists, radiologists, and interventional specialists from stroke centers across the country. It introduced a fresh training format within the Angels community and marked a pivotal moment in Moldova's ongoing efforts to raise the standard of stroke diagnostics, foster international collaboration, and improve the lives of patients affected by one of the world's leading causes of disability and death.

The event also reflected the culmination of seven years of dedicated support from Angels consultant Lev Prystipiuk, who first visited Moldova's stroke community in 2018. Although subsequent years were marred by the COVID-19 pandemic and the war in Ukraine, Lev remained a steadfast presence. Through a structured consultancy process, he supported Moldova in launching a national telemedicine service, expanding its network of stroke-ready hospitals from three to 13, and achieving a remarkable increase in ESO Angels Awards from two to 20.

Expanding Access, Elevating Care

The workshop was hosted at the Comprehensive Stroke Center at the Institute of Emergency Medicine (IMSP IMU) in Chisinau — a center that earned Moldova's first ESO Angels Award in 2023. The IMSP IMU has been at the forefront of stroke innovation, joining the ESO EAST project in 2016 and enrolling in the RES-Q quality registry the following year. It was among the first centers

in Moldova to perform mechanical thrombectomy, a milestone achieved in 2018.

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The project connected regional hospitals to a central stroke hub, enabling timely consultations with stroke specialists regardless of geographical limitations.

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In 2022, IMSP IMU and “Nicolae Testemitanu” State University of Medicine and Pharmacy, together with the Angels Initiative and the Moldovan Association of Neurology, launched a government-endorsed telemedicine



project designed to bridge regional disparities in stroke care.

Led by Academician Stanislav Groppa, the project connected regional hospitals to a central stroke hub, enabling timely consultations with stroke specialists

regardless of geographical limitations. Through this network, the Comprehensive Stroke Center at IMSP IMU now interprets an impressive 350–400 CT scans monthly from 11 affiliated stroke centers — a critical service that ensures rapid decision-making for patients in need of urgent intervention.

The Moldova Stroke Neuroimaging Workshop was designed to build on these advances, with key goals including the refinement of diagnostic skills, the deepening of acute imaging expertise, the strengthening of clinical decision-making processes, and the fostering of a collaborative professional community across Moldova's expanding stroke network.

Knowledge Sharing Across Borders

Emphasizing regional solidarity, the two-day workshop featured a distinguished faculty from Ukraine, demonstrating how collaboration transcends borders even amid regional instability.

Leading the sessions were Dr. Dmytro Lebedynets, Head of the Expert Group on Neurology and Neurosurgery at Ukraine's Ministry of Health and National Coordinator of the European Stroke Action Plan; Dr. Dmytro Hrynykha, a top expert in neuroimaging and interventional neurology; and Dr. Kateryna Peshevich, a highly regarded specialist in CT and MRI for acute stroke at Odrex Hospital in Odesa.

The first day included an overview of the Angels Regional Strategy and workshops on acute imaging techniques — from selecting the right modality to mastering technical nuances and enhancing rapid interpretation. Special attention was paid to the role of MRI in the acute setting, where speed is often critical.

Drs. Peshevich and Hrynykha jointly led case-based sessions emphasizing interdisciplinary collaboration between radiologists and neurologists, while Dr. Peshevich's standout presentation offered a practical "survival guide" to mastering non-enhanced CT, ASPECTS, CTA, and CPT basics.

Day two opened with Dr. Lebedynets' compelling presentation, "Hemorrhagic Complications and Predictors of Transformation", which urged participants to maintain clinical composure in high-stress situations. Dr. Peshevich followed with an interactive session on leveraging radiologist software to maximize imaging efficiency and accuracy. The program concluded with the inspirational "Working on Mistakes: How to Become a Better Version of Yourself", a session encouraging reflective learning and continuous improvement.

A Nation's Health on the Rise

In Moldova, stroke remains a formidable public health challenge, ranking as the third leading cause of death after cardiovascular disease and cancer. According to data shared by Academician Groppa, the burden of stroke is immense: on average, a patient suffers a stroke every hour, and one person dies from stroke every 90 minutes. An estimated 80,000 individuals in Moldova live with the aftermath of stroke, many facing long-term disability and reduced quality of life.

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Three years later, Moldova's broader stroke network reflects a similar upward trend.

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However, a coordinated national effort is beginning to change the trajectory. A 2022 study led by Academician Groppa analyzed six years of IMSP IMU participation in RES-Q and found striking improvements: thrombolysis rates rose from less than 3% in 2017 to 20% in 2022; the median door-to-needle time dropped from 85 to 48 minutes; thrombectomy rates rose significantly; and door-to-groin times were nearly halved.

Three years later, Moldova's broader stroke network reflects a similar upward trend. There are now nine award-winning hospitals recognized for stroke care excellence, and IMSP IMU achieved Diamond status — the highest performance tier — for three consecutive quarters in 2024. Network-wide, the recanalization rate has improved from under 10% to 16.5%, and door-to-needle times have consistently remained below 60 minutes since 2018.

The Moldova Stroke Neuroimaging Workshop represents more than a training event; it is a powerful symbol of what focused collaboration, international support, and local leadership can achieve.

"This workshop will not only improve stroke diagnostics", said Lev Prystipiuk. "It is a significant step toward strengthening expertise, fostering international partnerships, and ultimately offering hope to stroke patients through timely, life-saving care. Together, we are reshaping the future of stroke treatment in Moldova — and beyond".





Train the trainer

The relationship edition

Angels played matchmaker at a recent Train the Trainer event, bringing together hospitals and EMS for a two-day affair that served stroke education with a large helping of relationship building. Did it work?



There were a dozen patients on day one alone.

They included a young woman who had dropped a cup of tea after her arm grew numb, a patient with light hemiparesis, another with right hemiplegia and aphasia, and one with a tremor that was discovered to be caused by back pain.

Next, Petr Jaššo, who is the EMS education chief for the Moravian Silesian Region in Ostrava, Czech Republic, revealed a gift for performance by playing, among others, an alcohol-intoxicated patient who would turn out to be a stroke mimic, a patient experiencing epileptic seizures, and a patient from a retirement home whose pre-mRS score suggested a pre-existing disability.

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Train the Trainer events have given a platform to bright spots in stroke care, and have grown and strengthened the Angels community.

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The setting was a Train the Trainer event in Mainz, Germany, and it was something of a milestone. This was the twentieth time the Angels Initiative core team had invited healthcare professionals from across Europe to two days of intensive training in stroke care – a stroke education concept it first put to the test in December 2017 in Wiesbaden, and which has subsequently been replicated around the world.

Train the Trainer events are a cornerstone of the Angels education program. They are held at regular intervals in a central location where neurologists attend two days of intensive training. Doctors who have completed the training are encouraged to use Angels slides and learning resources for their own training presentations and workshops in their own hospitals and regions. A key advantage of the format is that it scales

training delivery in a cost-effective way while maintaining consistency, but Angels Train the Trainer events have accomplished much more. They have given a platform to bright spots in stroke care from across Europe, and they have grown and strengthened the Angels community, creating an ever expanding cohort of professionals united in the fight against stroke.

Winds of change

The most recent Train the Trainer (TTT) was a little different, say core team leader Rita Rodrigues and project manager Madeline Bucher, who were principally responsible for creating the event. In the past, the agenda was primarily designed for neurologists, but after consultation with country coordinators in the Baltic and Balkans it was decided to extend the event to the emergency medical services. As a result, 20 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, as collaboration between hospitals and EMS is a central tenet of the 100 Angels Regions strategy.

This was, however important, far from the only thing that distinguished this event from previous ones.

The 10 countries that sent delegates to Mainz included a newcomer and a comeback. Bosnia & Herzegovina attended for the first time, and Serbia was back after an absence of several years, thanks to Angels consultant Maria

Sheverdina's work in the territory. Also represented were Armenia, Croatia, Estonia, Latvia, Lithuania, North Macedonia, Kazakhstan and Kyrgyzstan.

All participants were set a course in the Angels Academy ahead of the event – "Optimizing the Hyperacute Pathway" for hospital participants, and for EMS, "Advanced Stroke Life Support for Prehospital Providers". Having completed the ASLS eLearning in the Academy, EMS participants could look forward to practical instruction by Petr Jaššo and Slovakia's Matej Polák and Patrik Brna of multi-award-winning ZaMED. Later on day one Matej and Patrik would moderate and score performances in the inaugural Stroke Simulation Cup for EMS, with Petr bringing some realism to the patient simulations, and the teams from Latvia and Lithuania sharing the spoils.

A plan comes together

There were more patients on day two, which opened with NIHSS training by Dr Elena Terecoasa from Romania, and a session on Quality Monitoring during which consultants Lev Prystipiuk and Maria Sheverdina, team leader Silvia Ripamonti and Angels project lead Belén Velázquez, provided practical advice for making data collection part of

daily practice, capturing data on RES-Q, and using data analysis to improve performance.

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When sudden left-leg weakness sent Patricia/Federica to the bathroom floor, her roommate called 112 for help.

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In the afternoon, new Angels consultant Federica di Fonzo from Italy, attending her first TTT, slipped on the red patient vest for the first of two simulations that always conclude the agenda, drawing on the knowledge gained in the course of the event.

Simulations are guided by experts and broadcast to the main plenary room, where this year the addition of a roving camera operator helped the

audience follow proceedings in more detail. The main difference however was that these scenarios included the prehospital phase. The action began in the patient's home where 30-year-old "Patricia" had collapsed in the shower after complaining of a mild headache for several hours. When sudden left-leg weakness sent Patricia/Federica to the bathroom floor, her roommate called 112 for help.

Despite their clear nervousness and stress the simulation teams fared quite well, Madeline reports. The detailed debriefings and discussions that followed served as learning reinforcement for the entire group, improving knowledge retention and ultimately leading to sustained behavior changes.

As for the changes introduced on the twentieth anniversary of TTTs, despite their own initial nervousness, Rita and Madeline are upbeat about the outcomes.

Bringing hospitals and EMS together in this training format fosters relationships between prehospital and hyperacute teams, they say. It builds networks that lead to enhanced pathways and ultimately saves lives.



Engineering hope: The Groenkloof story

The stroke service at this Pretoria hospital is the work of a devoted strokologist and his team of converts who do whatever it takes to deliver hope.

THERE are acts of care for which there is no award. Like the diligence of a stroke nurse placing a pillow under a patient's affected arm when she turns them onto their other side. The patience to show a stroke patient's frightened family how to care for their loved one, and then to gently explain it all over again. The kindness of a junior nurse moistening parched lips with ice cubes in the middle of a long night.



Sr Lydia Lwanga and speech therapist Megan Barnes at Angels Day.

And it is hard to imagine an award that would do justice to three decades of engineering hope.

Thirty years have passed since Dr Wiebren Duim became a neurologist, in the same year a paper appeared in the New England Journal of Medicine that would change stroke care irrevocably. The breakthrough came in a landmark study that would establish thrombolysis as the standard of care for treating ischemic stroke, potentially changing outcomes for millions of stroke patients around the world.

He'd developed an interest in stroke early on, Dr Duim says, and he was an early believer in the impact of stroke unit care and early rehabilitation. The advent of thrombolysis for acute ischemic stroke made him

a believer in miracles too.

"It sends a shiver down the spine," he says, describing the effect of successful recanalization.

"In casualty if you see someone with acute stroke they will look at you with a blank face. No movement; no expression besides fear."

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It's like a miracle, I cannot explain it, **but if you see it, you are a convert.**

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But if you do the right thing and treat them with thrombolysis in under four-and-a-half hours (because that is all the time you have to change the outcome of a disaster), then you won't believe your eyes.

"While you are still writing your notes, doing the paperwork, arranging for a ward, you will notice a movement. And

two days later, you will see that patient walk out of the hospital. It's like a miracle, I cannot explain it, but if you see it, you are a convert."

And that has been Dr Duim's intention all along – to turn you into a convert.

"Once I have a convert," he continues, "they become a stroke champion. Then, no matter what time of the day or night, no matter the circumstances, come rain or shine, they will do what is necessary."

And he really does mean "do", because not every patient is a two-day miracle. For those for whom life will never be the same again, who must travel a long, hard road with no clear destination, hope begins when you "do something".

"You do a thing," Dr Duim explains. "The physio gets you out of bed and makes you stand. She augments your strength with her own, she puts her back into it. And the next time you see the patient they have a smile on their face, because something has happened, there is progress. Yesterday they could not move, but today there is a new shimmer of hope."

Hope builds over time. And when at last the patient is discharged to a life





they may not recognize, the work of building hope is transferred to the stroke community. In 30 years, Dr Duim has often witnessed how a stroke unleashes the goodwill of a community prepared to make plans, press on, and bear a burden together.

"It brings tears to your eyes," he says.

"We sit together and figure it out"

Life Groenkloof Hospital, formerly The Little Company of Mary, is a private hospital located in Pretoria, South Africa's administrative capital. Dr Duim's clinical home for the past 20 years, it had a reputation for stroke care excellence long before they won their first Angel Award in 2024. Once a year on World Stroke Day, the hospital is bathed in green light as part of the stroke awareness program run by communications coordinator Karen Landsberg. This campaign highlights the critical roles emergency unit nurses and doctors play in the emergency management of persons affected by strokes. For emergency unit manager Sr Elaine Lubbe, this is a moment when pride feels like a lump in your throat.

Life Groenkloof Hospital is where you have the honor of meeting some of Dr Duim's converts – among them speech therapist

Megan Barnes, and Sr Lydia Lwanga, unit manager for the acute neurology ward, St Francis, who together with Sr Elaine drives the quality monitoring process that has seen the hospital go from gold to diamond status in under a year.

The neuro ward is located on the same floor as the gym where stroke patients undergo three hours of therapy per day, Megan says. "Then the nurses repeat what they have seen us do."

Teamwork is more than a catchphrase, and each patient's recovery is an ongoing conversation. "We sit together and figure it out," Megan says, adding that they speak "a hundred times a day".

Megan has been on Dr Duim's team from the start, preventing complications and teaching stroke survivors how to have the best life they can. Family meetings are part of the protocol, and hope is served with a side of reality. Rehab is hard.

Educating families reduces readmission rates, and the Life Groenkloof Hospital team do everything possible to prepare patients' families for what is almost inevitably a grueling time ahead. When



From left, speech therapist Megan Barnes, Sr Lydia Lwanga, unit manager St Francis neuro ward, Siphon Mafale, unit manager high care, neurologists Dr Wiebren Duim and Dr Chris Guldenpfennig, Sr Elaine Lubbe, occupational therapist Nikki de Beer, neurologist Dr Linette van Niekerk, RehabWorx secretary Drieka Swanepoel, Angels consultant Carla Scholtz, Sr Andronica Phala, specialized intensive care unit, and physiotherapist Retha Nienaber.

relatives are scarce, as when the adult children of elderly patients are living abroad, it may fall to the team gently but firmly pry someone away from their independence.

Megan says: "We are also there when big life decisions are made." It isn't easy telling someone they cannot go home.

Sr Elaine arrived at Life Groenkloof Hospital 18 years ago, and recalls being handed a booklet and being told that "this was Dr Duim's process". "His passion has rubbed off on all of us," she says. Her own passion is ignited by having a positive impact on other lives, inspiring her younger colleagues and "seeing a patient wave goodbye with the arm that was affected by stroke".



This is no typical ward where you will find the patients neatly tucked in, and the bedding pristine.



In 2023, she and Sr Lydia decided it was time for the stroke team at Life Groenkloof Hospital to be recognized for their work. "We wanted to be on the map," she says. Submitting their patient data on RES-Q gave them instant feedback on what could be improved and a visit to their colleagues at Life Eugene Marais Hospital (already an award winner) helped get them past the post.

All Life Healthcare acute hospitals enrolled in the Stroke Restore program are stroke-ready hospitals and have implemented the integrated stroke pathway. They all provide critical interventions like intravenous thrombolysis and offer immediate access to neuro-rehabilitative services. Eleven Life hospitals have so far won WSO Angels Awards, including 12 diamond awards, two of which would stand behind Life Groenkloof Hospital's name by the end of 2024.

At the end of quarter one, their first gold award had confirmed that they were already very good. In quarter two a platinum award signaled they had gotten even better. Becoming a diamond hospital solidified their position among the world's top stroke-treating hospitals. It doesn't get any better than that.

"We nurse differently"

Sr Lydia Lwanga thought she had found her niche in obstetrics until she came to the St Francis neuro unit in 2013 and discovered stroke nursing. "It blew my mind," she says.

She loves to see patients go from helpless to "home and healed", and keeping in mind that they have a family waiting for them to come home, feeds her empathy. "You treat them as if they're your mother, your father, your sister, your brother," she says. "Everyone gives their best."

"We treat every patient as we would want someone in our family to be treated," Sr Elaine concurs. Emergency nurses typically thrive on adrenalin, but Elaine says they have "a softer touch". This compassionate approach to caring for their vulnerable patients seems intuitive with everyone on the team. "It's in the drinking water," Sr Elaine quips.

Stroke nursing is a unique discipline, requiring vast depths of empathy combined with a steely resolve. This is no typical ward where you will find the patients neatly tucked in, and the bedding pristine.

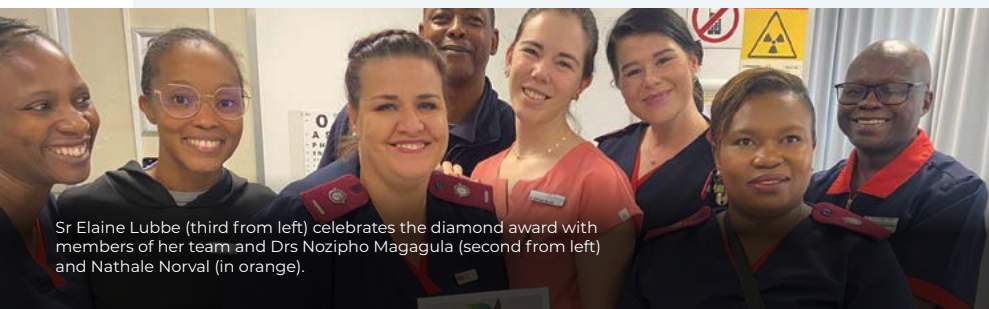
"We nurse differently," Megan says.

On Sr Lydia's ward, they want the patient to feed themselves, to learn to manage without a catheter, to take those hard steps towards their second chance. Sometimes it's necessary to be strict.

"We want them to go have a life after they leave, so they have to adapt themselves to a new level of functioning. The stroke ward does that. It may look like chaos, but you want the chaos, it's about managing the chaos."

Recovery can get messy, like life itself.

"We all share a vision," Megan says. "We all know what to do. And doing it with patience and love, is good for morale. It's why we keep doing it. Seeing our patients' quality of life improve is good for our souls."



Sr Elaine Lubbe (third from left) celebrates the diamond award with members of her team and Drs Noziphio Magagula (second from left) and Nathale Norval (in orange).

Giving life a chance.

