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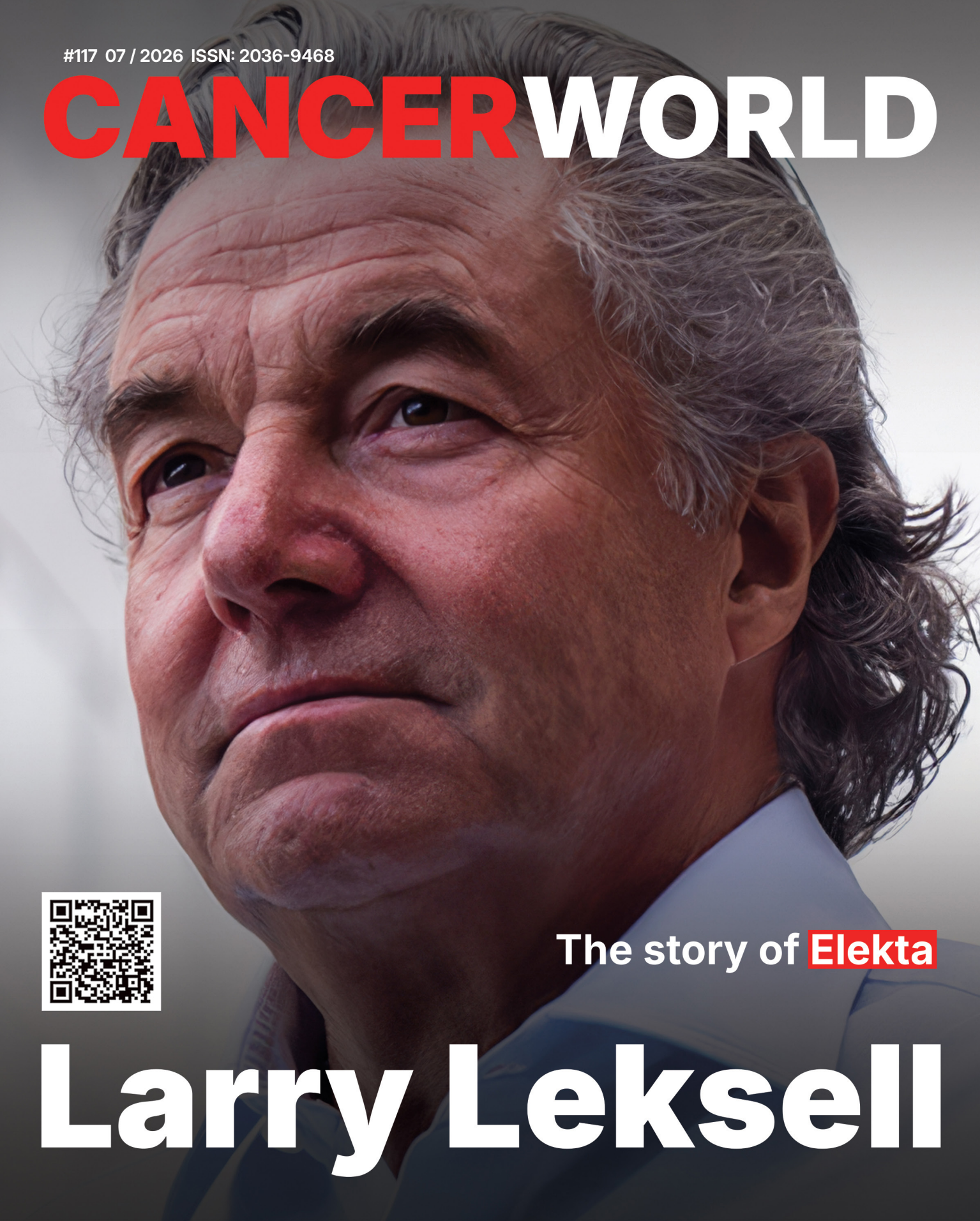

The story of Elekta

Larry Leksell

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NOT FOR SALE

We often describe progress in oncology through the language of innovation. New drugs. New technologies. New discoveries. Yet scientific breakthroughs rarely change cancer care on their own. They require people willing to pursue difficult ideas, build institutions, challenge accepted thinking, and ensure that innovation reaches those who need it most.

This issue explores what happens after discovery—how innovation becomes practice, institutions become stronger, and breakthroughs become better care. Above all, it is about the people who make progress possible.

Our July cover story explores the remarkable journey of Elekta, from an unlikely family startup to one of the companies that helped transform modern radiation oncology. **Larry Leksell** reflects on decades of innovation, setbacks, and perseverance and explains why the future of cancer care will be shaped as much by access and intelligent automation as by scientific breakthroughs.

Our second cover story profiles **Professor Nagi El Saghir,** whose career has reshaped cancer care across the Middle East while helping redefine global oncology. From changing public perceptions of cancer in Lebanon to advancing international education, research, and equitable access to care, his story is one of vision, leadership, and enduring hope.

Another highlight of this issue is **Professor Tezer Kutluk,** a pediatric oncologist whose career has helped shape cancer control far beyond the bedside. Reflecting on four decades of leadership in medicine, policy, and global advocacy, he argues that the greatest challenge in oncology today is no longer scientific innovation, but ensuring that its benefits reach every patient, everywhere.

That idea runs throughout this issue. Again and again, our contributors return to the same question: what ultimately determines progress? Rarely is it discovery alone. More often, it is the people who carry discoveries into practice, build systems around them, and ensure they become part of everyday care.

Leadership, however, is not confined to institutions. Sometimes it begins with lived experience. **Karen Nakawala** transformed her own cervical cancer diagnosis into a powerful movement for survivor leadership and better cancer care, reminding us that some of the most meaningful advances in oncology begin not in laboratories, but in the voices of patients determined to create change.

Progress also depends on remembering the breakthroughs that changed the course of medicine. Twenty-five years after the introduction of imatinib, **Brian Druker** reflects on the scientific curiosity, perseverance, and partnership with patients that transformed chronic myeloid leukemia and ushered in the era of targeted therapy. It is a reminder that every revolution in oncology begins with a question—and the determination to pursue it.

The next chapter of that story is already unfolding. One of the defining moments at ASCO 2026 came with the standing ovation for the landmark Phase 3 RASolute 302 trial. Through OncoDaily's exclusive interview with **Dr Alan Sandler** and the accompanying perspective of **Dr Eileen O'Reilly,** we explore why daraxonrasib may represent a turning point for pancreatic cancer—and why RAS, once considered beyond therapeutic reach, is now becoming targetable well beyond KRAS G12C.

Not every important discovery arrives as a practice-changing trial. New research presented at ASCO 2026 suggests that GLP-1 receptor agonists, widely used to treat diabetes and obesity, may also reduce the risk of metastatic progression in several cancers. The findings remain preliminary, but they illustrate how advances in one field of medicine can unexpectedly open new directions in another.

Innovation, however, has little value if patients cannot access it. Radiotherapy remains one of the most effective treatments in oncology, yet millions of people worldwide still live beyond its reach. It echoes a central theme of our cover story, where Larry Leksell argues that innovation matters only when it reaches patients. Our feature on global inequalities in radiation treatment reminds us that geography continues to shape outcomes as profoundly as biology, making equitable access one of the defining challenges of modern cancer care.

Finally, we turn to a dimension of oncology that technology alone cannot address. As cancer care becomes increasingly sophisticated, psycho-oncological education is emerging as an essential part of supportive care. Empowering patients and caregivers with knowledge, communication, and emotional support is not simply about improving the experience of cancer—it is about improving care itself.

A single thread connects every story in this issue. Progress in oncology is never driven by scientific discovery alone. It depends on the people who translate innovation into access, leadership into stronger systems, and knowledge into better lives. Ultimately, scientific progress changes lives only when people turn discovery into better care.

Knarik Arakelyan, Managing Editor, CancerWorld

Larry Leksell

The story of Elekta

By Gevorg Tamamyan

"Tax planning was one major reason for the foundation of Elekta."

Larry Leksell says it with a smile that suggests he enjoys disrupting the mythology people create around founders.

Most people expect a grand story of origin. A visionary revelation. A dramatic moment of destiny.

Instead, the founder and longtime chairman of Elekta began with the Swedish corporate and personal taxation system in the 1970s.

But as our conversation unfolds, it becomes clear that humor hides something deeper: Elekta was built around necessity. Around persistence. Around solving problems no one else wanted to solve.

And long before Elekta became one of the defining companies in radiation oncology, it was first the continuation of a father's unfinished mission.

A Family Formed by Revolutions and Reinvention

Larry Leksell's story does not begin in Sweden.

It begins in movement.

"My grandfather was Armenian, my grandmother was Russian, and my father was Swedish," he tells me.

His mother's family escaped the Bolshevik Revolution through Turkey into Germany. But Germany soon became dangerous too. So, they moved again. Spain. Then Italy during Mussolini's era. Then eventually Brazil.

His grandfather — a geologist, engineer, and professor — advised governments and explored natural resources across Europe and North Africa.

At one point, he proposed oil exploration in Libya to the Italian authorities.

"But his Italian colleagues wanted to please Il Duce who believed Sardegna possessed rich natural resources," Larry says. *"So, they said this Armenian doesn't know shit."*

Eventually, his grandfather grew tired of politics, nationalism, and instability.

"He moved to Brazil from Italy to create a new base for his family. Then the second world war struck and the family got separated."

What Larry inherited from that side of the family was not comfort. It was adaptability.

Reinvention became normal.

On his father's side, things were more stable externally, but intellectually relentless.

His father, Lars Leksell, would later become one of the most influential pioneers in neurosurgery and radiosurgery. Before entering surgery, he studied neurophysiology and became known for work explaining how small muscle cells and nerves function.

Then came neurosurgery at the Karolinska Institute.

"He was totally devoted to research," Larry recalls. *"Worked all the time. Read three books every night."*

And then, when Larry was thirteen years old, his mother died from pancreatic cancer.

There were five siblings.

His father remained consumed by science and surgery.

"So, it was really the brothers and sister who raised ourselves."

He pauses.

"That was both good and bad."

Boarding School, Business School, and the Decision Not to Become a Doctor

Two of Larry's brothers became physicians.

Larry decided early that he would not.

"Mostly because my dad was such a giant figure in surgery."

And because he genuinely doubted his own surgical ability.

"I have my thumb in the middle of my hand," he laughs.

Instead, he gravitated toward business.

At the Stockholm School of Economics (SSE), he studied economics and took his Ph.D. in finance, international business, and strategy during a period when Sweden had some of the highest taxes in the world.

"We had ninety percent marginal tax on personal income," he says.

Meanwhile, his father had developed patents from neurosurgical instruments and stereotactic systems that generated modest royalty income.

Larry immediately saw an opportunity.

"Why don't you put the patents into a company?"

His father loved the idea.

But he had no interest in business.

"So then I founded Elekta 1972 for him during my first semester at SSE."

The company that would eventually help shape modern radiation oncology was born from accounting logic.

"Basically," Larry says, *"the formation of Elekta was based on tax planning."*

The Neurosurgeon Who Wanted Surgery Without Surgery

To understand Elekta, Larry insists, you first have to understand his father.

Lars Leksell was obsessed with precision and his patients' wellbeing.

Long before MRI or CT-guided surgery existed, he believed many neurological conditions could only truly be treated if physicians could target structures deep inside the brain with extraordinary accuracy.

He developed the Leksell Stereotactic System — a coordinate-based instrument allowing surgeons to navigate the depth of the brain in three dimensions.

This system remains foundational in minimally invasive and image guided neurosurgery today.

But then came the event that changed everything.

During a stereotactic procedure, a blood vessel was accidentally damaged. The patient died from internal bleeding.

"He took that very, very badly," Larry says.

His father became determined to create something entirely non-invasive.

"He said: I need something that doesn't enter the body at all."

At first, Lars Leksell explored focused ultrasound.

"It didn't really work."

Then proton therapy.

But proton systems at the time were massive and impractical.

Eventually, using stereotactic principles and cobalt radiation sources, he began developing what would later become the Gamma Knife.

The idea sounded radical.

Deliver surgical-level precision without surgery itself using a single high dose fraction of radiation with precisely delivered to surgical and malignant targets in the brain.

And perhaps most remarkably, Lars Leksell was pursuing this before modern radiobiology even understood what extremely high-dose single fraction focused radiation truly did biologically.

"There was really no radiobiological model," Larry says.

So, development became painstaking.

"Two or three patients…follow up and then wait and see."

Sometimes for years.

"This is Absolutely Impossible"

In Elekta's early years, the company barely existed.

Larry was university professor and had founded two other companies

"My sister-in-law handled the operations," Larry says. *"And I kept the books 5% of my time."*

The company generated a few hundred thousand dollars from stereotactic frames and small royalties.

Then came the request that changed everything.

Dr Douglas Lunsford at the University of Pittsburgh Medical Center wanted a Gamma Knife in the United States.

Larry immediately rejected the idea.

"I said this is absolutely impossible."

There were no FDA approvals. No NRC radiation licenses. No infrastructure. No money.

Still, on his father´s request he flew to Pittsburgh to meet hospital leadership — intending to discourage them.

"I basically tried to convince them not to buy it."

Instead, the CEO became even more interested.

Larry quoted what he thought was an absurdly high price.

The CEO accepted instantly.

Then Larry added another obstacle:

"We need full payment upfront."

Again, they agreed.

The final problem was even worse.

Elekta needed an advanced payment bank guarantee it could not obtain.

Eventually, Sweden's state investment bank backed the project.

Five years later in 1986, the first Gamma Knife in the US was installed in Pittsburgh.

Three months after the inauguration, Larry's father died of a cardiac infarction.

"And then I said... shit. What am I going to do now?"

Because suddenly, he wasn't simply overseeing a small family company anymore.

He had installed a radioactive neurosurgical device in the middle of Pittsburgh.

Becoming Elekta

In 1986, Larry Leksell committed himself fully to Elekta and divested his other companies.

At first, the mission was narrow:

Prove radio surgery mattered.

He expanded aggressively into the United States, Japan, and Asia.

The Japanese expansion alone sounded like a movie script.

At the University of Tokyo, regulators inspecting a new Gamma Knife installation discovered radioactive isotopes buried beneath the hospital parking lot from decades earlier.

"It became a huge scandal."

The senior radiology leader involved committed seppuku.

And yet Larry kept expanding.

"We got our first installations in Iowa, Virginia, Japan, China and more..."

Then came the Asian financial crisis 1997.

And almost everything collapsed.

"Forty-five percent of our business disappeared more or less overnight."

Elekta's valuation in the Swedish stock market fell catastrophically.

"We were basically twenty-four hours from bankruptcy."

Larry learned a brutal lesson during that period.

"A company has three things: your P&L, your balance sheet, and your cash flow statement."

"If you have a problem with one, you can survive. Two becomes difficult."

"But if you have problems with all three — you are in deep shit."

The Reinvention of Elekta

Larry realized something important early:

"You don't sell a Gamma Knife every day."

Radiosurgery alone could never sustain this growth ambition for a global medtech company.

So Elekta expanded into broader radiation oncology.

At the time, the field was dominated by industrial giants:

Varian Medical Systems, Siemens, Philips...

Elekta was tiny by comparison.

Then opportunity emerged.

Philips wanted out of accelerator-based radiation therapy.

In 1997, Elekta acquired the business.

"That business was three times larger than Elekta."

It was also deeply unprofitable.

Larry recruited Volker Stieber, former head of Siemens' radiation therapy division, to help restructure it.

Together, they rebuilt Elekta into a serious global force.

Eventually, the radiation oncology world narrowed in more or less into a duopoly:

Varian and Elekta.

"Varian Loves the Customer. Elekta Loves the Patient."

Larry speaks about competitors with unusual respect. Especially Varian.

"They've always been an admirable competitor."

But he believes the companies evolved differently.

"Varian is really good at fixing the customer."

Then he pauses.

"And Elekta loves to fix the patient."

That distinction shaped Elekta's innovation philosophy.

Three Questions That Guided Every Innovation

Larry insists he is not an engineer.

"I don't know much about accelerators," he says bluntly.

Instead, every innovation at Elekta had to survive three questions.

"What does it do for the patient?"

"What does it do for the physician?"

"And what does it do for society?"

If all three aligned, Elekta moved forward aggressively.

"If all three answers are yes," he says, "then you should not hesitate."

That framework guided Elekta into IMRT, VMAT, image-guided radiation therapy, adaptive therapy, and eventually MR-guided linear accelerators.

The MR-Linac journey became one of Elekta's defining bets.

Many experts believed combining MRI with radiation delivery was impossible.

"One board member told me you cannot mix MR with high-voltage X-ray beams," Larry recalls. "It's like fire and water."

Larry ignored the skepticism.

Ten years later, Elekta launched Unity — the first MR-guided linear accelerator.

"And now," he says, *"we are starting to get the mission completed."* Our focus now is to improve and develop effective and productive workflow solutions built on automated and with AI support.

Gamma Knife: From Parkinson's Disease to Brain Metastases

One of the most fascinating parts of Larry's story is how the Gamma Knife evolved.

Originally, his father developed it for Parkinson's disease.

"It never really worked well."

But then came arteriovenous malformations.

The first two patients failed.

"My dad said, let's try a third one and increase the dose."

That one worked.

Then came acoustic neuromas. Pituitary tumors. Trigeminal neuralgia and other brain diseases.

Eventually brain metastases.

Today, the largest indication for Gamma Knife is metastatic disease.

And the machine itself has become almost fully roboticized and automated.

"You can treat twenty, thirty or forty metastases in less than an hour."

What began as an experimental neurosurgical concept became one of the defining platforms in stereotactic radiosurgery and from there it has evolved into SBRT or Stereotactic Radiation Therapy as well as hyper fractionation.

"Radiation Therapy Should Be Like an iPhone"

At seventy-three, Larry Leksell still thinks obsessively about the future.

And interestingly, he no longer believes the biggest challenge in radiation oncology is precision itself.

He believes the field now has the technical tools it needs.

The real crisis is access.

"Eighty percent of global radiation therapy capacity is in developed countries."

Meanwhile, low- and middle-income countries remain profoundly underserved.

And even where effectively machines exist, there are not enough professionals to operate them.

"We need to make this simpler, safe and efficient. We need to help our customers to drive productivity."

He wants radiation therapy workflows to become intuitive.

"Like an iPhone," he says. *"Plug and play."*

That is where he believes software, AI, workflow automation, and adaptive treatment systems will define the next era.

Elekta now spends enormous portions of its R&D budget on software infrastructure.

"Most of our R&D now goes into software."

Entrepreneurship as "Chronic Anxiety"

When I ask Larry for advice to younger entrepreneurs, he answers instantly.

"The definition of entrepreneurship," he says, "is chronic anxiety."

He laughs.

But he means it.

"You have to learn to live with that."
And money, he insists, cannot be the motivation.

"You cannot start a company believing you are going to quickly become rich."

What matters is the mission.

"You need a meaningful vision."

Something capable of surviving setbacks, attracting talent, and sustaining you through decades of uncertainty.

"If you're good to mankind," he says, *"mankind will be good to you."*

The Industry, the Competitors, and the Future

Larry remains deeply fascinated by the personalities who built radiation oncology.

He mentions pioneers across neurosurgery, radiation oncology, physics, imaging, adaptive therapy, and stereotactic techniques.

But what stands out most is that Larry never speaks about the industry as a market.

He speaks about it as a living ecosystem.

A collaboration between physicians, physicists, engineers, entrepreneurs, and patients.

And perhaps that explains why Elekta survived moments when survival itself seemed statistically impossible.

Because for Larry Leksell, innovation was never about technology or devices alone.

It was about reducing suffering through precision and personalization.

And refusing to stop improving and innovating, constantly.

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From Treating Children to Shaping Global Cancer Policy

Dr Tezer Kutluk on Leadership, Equity, and the Future of Oncology

By Knarik Arakelyan

Over four decades, Dr Tezer Kutluk, Scientific Director of Medicana Health group and Chair of the Department of Pediatric Oncology at Medicana Hospitals, Turkey, has witnessed the transformation of cancer care—from the early days of pediatric oncology to the era of precision medicine and artificial intelligence. Along the way, he moved beyond the bedside to help shape institutions, influence global cancer policy, and advocate for equitable access to care. In reflecting on a career spanning clinical medicine, leadership, and international advocacy, he argues that the greatest challenge facing oncology today is not scientific innovation, but ensuring that its benefits reach everyone.

Sometimes a career changes not because of a breakthrough, but because of a question. For Dr Tezer Kutluk, that question emerged while caring for children with cancer.

Having completed postdoctoral training at MD Anderson Cancer Center in Houston and returned to Türkiye to join Hacettepe University, Kutluk was building a career in pediatric oncology at one of the country's leading referral centres.

In the pediatric oncology wards of Hacettepe University, difficult conversations were part of daily life. Families arrived carrying fear, hope, and questions that rarely had simple answers.

The work was intellectually demanding, emotionally challenging, and profoundly meaningful.

Over time, another question began to emerge.

"How many patients can I help in a year? How many children and families can I truly impact?"

The answer would shape the course of his career.

While patient care remained the foundation of his professional identity, Kutluk gradually realised that improving outcomes for children with cancer required far more than excellent medicine. It required stronger health systems, effective national programmes, better policies, and institutions capable of delivering quality care consistently and equitably.

Looking back, he does not describe a single defining moment. Rather, it was a gradual understanding that medicine's impact could extend far beyond individual patients.

"Helping one patient at a time, while essential, would never be enough if we wanted to improve the lives of all children affected by cancer."

That conviction would eventually lead him from hospital wards to national cancer strategies, from academic leadership to international advocacy, and ultimately to the floor of the United Nations General Assembly.

Lessons from Children and Families

Long before his work took him onto the international stage, Kutluk was first and foremost a pediatric oncologist.

Those years left an enduring mark.

Although he describes himself as naturally pragmatic rather than emotional, he credits his patients and their families with teaching him some of the most important lessons of his life. They taught him empathy. They taught him resilience. They taught him what courage looks like when uncertainty becomes part of everyday life.

Yet when discussing courage, he rarely speaks only about the children.

Again and again, he returns to the parents.

He witnessed families navigating prolonged treatments, difficult decisions, and periods of profound uncertainty while somehow maintaining hope. Their trust became both a responsibility and a source of strength.

"I have witnessed extraordinary courage in the face of uncertainty, remarkable resilience during long and difficult treatments, and an enduring sense of hope even in the darkest moments."

Those experiences strengthened his commitment to medicine and reinforced a belief that would remain central throughout his career: healthcare is ultimately built on human relationships. Science matters. Technology matters. But trust matters too.

Learning Excellence at MD Anderson and Hacettepe

Kutluk's years at MD Anderson Cancer Center exposed him to a culture of multidisciplinary care, research excellence, and innovation that would profoundly influence his thinking.

MD Anderson Cancer Center mentor Francis Ali Osman

Returning to Türkiye, he brought with him not only clinical expertise but also a broader vision of how institutions can transform healthcare.

At Hacettepe University, he found an environment equally committed to excellence. The influence of the university's founder, Professor İhsan Doğramacı, was particularly important. One of Doğramacı's guiding principles—*"Toward the best, ever further"*—became embedded in the institution's culture and left a lasting impression on generations of physicians.

Over time, Kutluk came to understand that patient outcomes are shaped long before a physician enters the room. Universities train the workforce, hospitals establish standards of care, professional societies spread knowledge, and health systems determine who receives treatment.

That realization gradually drew him beyond clinical practice. What interested him was not authority, but the opportunity to improve the systems on which patients depend.

"Leadership is not about titles—it is about creating value for people and institutions."

Throughout his career, mentors and role models played an equally important role. Senior colleagues entrusted him with greater responsibilities and, in the process, taught him lessons about integrity, service, and long-term thinking.

Their influence reinforced a lesson he would carry throughout his career: meaningful progress depends on teams, not individuals.

Witnessing a Revolution in Oncology

Few physicians have witnessed such sweeping changes in oncology as Kutluk.

When he entered medical school, advanced imaging technologies were scarce, molecular diagnostics were unavailable in routine practice, and precision medicine belonged largely to the realm of imagination.

Over the following decades, he witnessed the arrival of modern antivirals, monoclonal antibodies, targeted therapies, immunotherapy, advanced imaging technologies, molecular diagnostics, and increasingly sophisticated approaches to understanding cancer biology.

Yet when asked to identify the most important breakthrough, he does not point to a single drug or technology.

Instead, he points to a deeper revolution.

"The greatest breakthrough has not been a single drug or technology, but our growing understanding of the molecular basis of cancer."

That understanding transformed everything. It enabled precision medicine, targeted therapies, molecular diagnostics, and increasingly personalised approaches to treatment.

Equally important were advances in supportive care, which made curative therapies safer and more effective.

And perhaps most significantly, progress accelerated through collaboration. International cooperative groups and multinational clinical trials transformed pediatric oncology into one of the most collaborative fields in medicine.

The results have been extraordinary. Childhood cancer, once frequently fatal, is now curable for the majority of children in many parts of the world.

Beyond Discovery: The Challenge of Implementation

Yet scientific progress alone does not guarantee better outcomes.

As Kutluk's work expanded from hospitals into national and international cancer control, he became increasingly aware of a persistent gap between what medicine knows and what health systems deliver.

The challenge, he realised, is not only discovery, but implementation.

Around the world, effective interventions often exist long before they reach the people who need them. Screening programmes, vaccination campaigns, early diagnosis initiatives, essential medicines, and evidence-based treatments can save lives, but only if health systems are capable of delivering them.

This insight became a defining theme of his work. For Kutluk, implementation science is not an abstract academic concept. It is the practical bridge between scientific discovery and patient benefit.

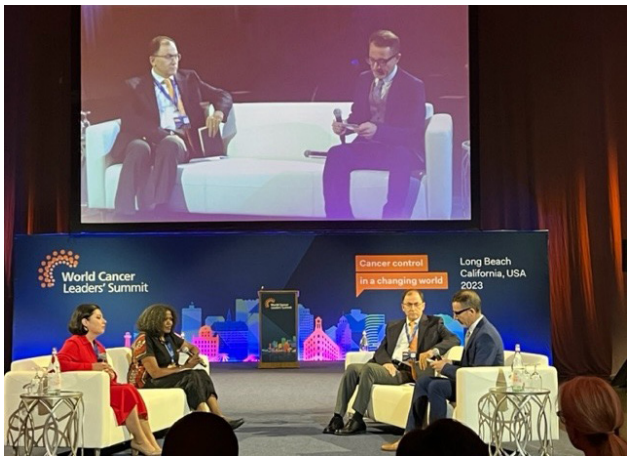
Cancer as a Societal Challenge

His leadership roles within the Hacettepe University, the Turkish Association for Cancer Research and Control, the European Cancer Leagues, and later the Union for International Cancer Control fundamentally changed how he viewed cancer.

As a young physician, he saw cancer primarily as a medical problem.

International experience revealed a more complex reality.

Cancer is also a social, economic, and political challenge.



World Cancer Leaders Summit, 2023

Across the world, outcomes are shaped not only by biology and treatment, but also by education, geography, income, public policy, and healthcare access.

Years of work across national, European, and global organisations convinced him that cancer reflects both the strengths and weaknesses of societies themselves.

"Cancer control is ultimately a societal responsibility."

Improving outcomes therefore requires more than scientific advances. It requires effective public policy, strong health systems, international collaboration, and a commitment to reducing inequities.

Taking Cancer to the United Nations

The landmark 2011 United Nations High-Level Meeting on Non-Communicable Diseases represented a turning point in global health. For the first time, cancer and other non-communicable diseases were elevated to the agenda of the General Assembly.

Three years later, he stood before the United Nations General Assembly as a representative of civil society, carrying a message that had become central to his work.

His message was simple.

"Commitments must lead to action."

Political declarations alone would not save lives.

Progress required accountability, sustained investment, stronger health systems, and political commitment.

For Kutluk, the moment symbolised something larger: recognition that cancer is not simply a medical condition, but a major public health and development challenge.

Equity: The Defining Challenge

Despite extraordinary scientific progress, Kutluk believes global oncology remains defined by a single unresolved issue.

Equity.

Low-and middle-income countries bear a disproportionate share of the global cancer burden, while possessing access to only a fraction of global healthcare resources.

Recent crises, including pandemics, economic instability, natural disasters, and armed conflicts, have widened existing disparities even further.

"The challenge in oncology today is no longer only scientific. It is also a challenge of equity."

Science is available. Many of the solutions already exist.

Yet barriers related to affordability, geography, workforce shortages, infrastructure, and health-system capacity continue to prevent millions from benefiting.

As Kutluk often reminds audiences: *"The question is not simply whether we can develop better treatments, but whether every person has access to the benefits of modern cancer care."*

The Future of Innovation

Kutluk remains optimistic about the future.

Precision medicine, advanced molecular diagnostics, immunotherapy, and artificial intelligence all hold enormous promise.

Artificial intelligence, in particular, may reveal patterns and solutions that are currently beyond human perception.

Yet he cautions against unrealistic expectations.

"The most important question is not what these technologies can do, but who will benefit from them."

Without deliberate efforts to expand access, innovation risks becoming another source of inequality.

Investing in Childhood Cancer

One of the greatest misconceptions about childhood cancer, he argues, is that it is too rare to deserve priority.

Such reasoning overlooks its immense societal impact.

At the Hospital

Every child cured gains decades of productive life. Every child lost represents a lifetime of unrealised potential.

For that reason, investing in childhood cancer is ultimately an investment in society's future.

"The challenge is not whether childhood cancer can be cured, but whether all children have equitable access to timely diagnosis and effective treatment."

Mentorship and Legacy

Having mentored generations of physicians, researchers, and healthcare leaders, Kutluk has spent considerable time reflecting on what distinguishes those who create lasting change.

Intelligence matters. Creativity matters. Critical thinking matters.

But lasting impact depends equally on passion, responsibility, hard work, integrity, and collaboration.
Above all, leadership carries obligations.

"Leadership is not a privilege of authority, but a responsibility toward the people and communities we serve."

Lasting progress depends on people willing to invest in training, mentorship, and the long-term development of healthcare systems.

After four decades in medicine, research, administration, and advocacy, the achievements that matter most to him are not prestigious titles or international recognition.

They are the former students now guiding cancer programmes of their own, the organisations that continue to grow, and the patients whose lives were altered by better care.

"The deepest sense of fulfillment comes from seeing the lasting impact of what you have done on people, institutions, and society."

A Legacy for the Next Generation

Asked what legacy he hopes future oncologists will associate with his generation, Kutluk's answer returns to a recurring theme.

He hopes they will remember a generation that helped place cancer firmly on the global health agenda, strengthened health systems, promoted implementation science, and recognised that scientific innovation alone is not enough.

Prof Kutluk with Medical School Students at Hacettepe University

The ultimate challenge has always been ensuring that progress reaches everyone.

As he reflects on four decades of medicine and leadership, one principle remains unchanged:

"When opportunity knocks on your door, you must be there to answer it."

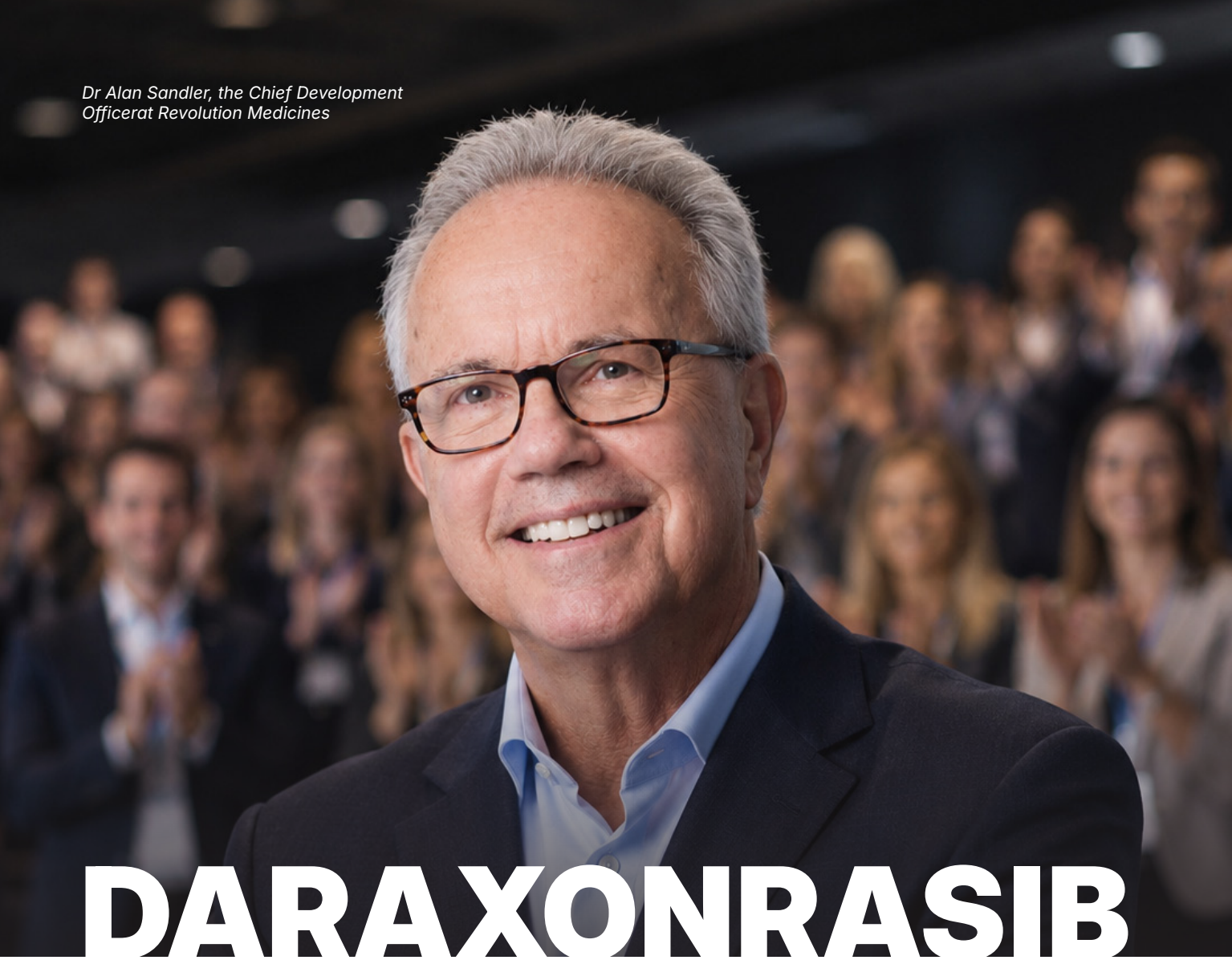
Perhaps that philosophy explains the extraordinary breadth of Dr Tezer Kutluk's career. Across the decades, he has answered opportunities to heal, to teach, to lead, to advocate, and to build.

The arc of his career mirrors the evolution of oncology itself—from an era focused primarily on treatment to one increasingly concerned with systems, access, and equity.

Scientific breakthroughs may shape the future of cancer care. Their true value, however, will be measured by a simpler question: Who benefits from them?

About the Author

Knarik Arakelyan (PhD) is a psychologist and communications professional with over 14 years of experience in public relations, health communication, and public awareness campaigns. She is currently the Managing Editor of "CancerWorld" magazine, Head of the "OncoDaily TV," and serves as PR and Communications Officer at "EMERTÉ" Clinic.



Dr Alan Sandler, the Chief Development Officerat Revolution Medicines

DARAXONRASIB

A Turning Point for Pancreatic Cancer

By Mariam Khachatryan

Pancreatic ductal adenocarcinoma remains one of the most difficult cancers to treat, with limited progress in drug development over the past decade. At the 2026 ASCO Annual Meeting, the Phase 3 RASolute 302 trial delivered results that stood out against that history.

Brian M. Wolpin's plenary presentation of the RASolute 302 data received a standing ovation from the audience. In pancreatic cancer, where positive Phase 3 results have been rare, the reaction reflected the significance of the findings.

In an exclusive interview with OncoDaily, hosted by Shushan Hovsepyan, Dr. Alan Sandler, Chief Development Officer at Revolution Medicines, discussed the science behind daraxonrasib, the risks taken during its development, and where the program goes from here.

Pancreatic Cancer and the RAS Challenge

Approximately 60,000 patients are diagnosed with pancreatic cancer each year in the United States. Nearly 50,000 die from the disease annually. Most patients present with advanced or metastatic disease. The five-year survival rate for metastatic PDAC is 3% (Siegel RL et al., 2024; Halbrook CJ et al., 2023).

No standard second-line regimen has been established. Fluoropyrimidine- and gemcitabine-based chemotherapy produce median PFS of 3 to 4 months and median OS of 6 to 7 months. Toxicity remains significant across available regimens.

Over 90% of PDAC tumors harbor KRAS mutations. The most common are at codon 12: G12D, G12V, and G12R. PDAC is the most RAS-dependent of all major cancers (Lee JK et al., 2022). These mutations drive constitutive activation of the RAS-MAPK signaling pathway. RAS was identified as an oncogenic driver in 1980 but lacked structural binding pockets for small-molecule inhibition. For decades, it remained beyond therapeutic reach.

The Tri-Complex Approach

Earlier RAS-targeted drugs, such as sotorasib and adagrasib, are covalent KRAS G12C(OFF) inhibitors. They target the inactive, GDP-bound state of a single variant. KRAS G12C is present in only 1 to 2% of PDAC tumors.
Daraxonrasib works through a different mechanism. It binds to cyclophilin A inside the cell, forming a binary complex. That complex then engages the active, GTP-bound state of RAS, known as RAS(ON). The resulting tri-complex blocks RAS from interacting with downstream effectors. This suppresses the RAS-MAPK pathway at its source.

The drug is multi-selective. It inhibits mutant and wild-type KRAS, NRAS, and HRAS across G12, G13, and Q61 variants. This covers the full spectrum of oncogenic RAS mutations found in PDAC.

The therapeutic window rests on a biological difference. In normal cells, RAS exists predominantly in its inactive state. In RAS-mutant cancer cells, RAS is constitutively active. Tumor cells are therefore selectively vulnerable to RAS(ON) inhibition.

RAS also plays a role in normal cell development, which raised early concerns about toxicity. According to Dr. Sandler, the Phase 1 study started at very low doses because of these concerns. Daraxonrasib proved tolerable, with predominantly grade 1 to 2 adverse events. The most common were rash and gastrointestinal effects. Rash is managed with oral antibiotics and topical agents, following protocols similar to EGFR inhibitor management.

Preclinical data established that sustained RAS pathway suppression of 90% or more is needed for tumor regression. Pharmacokinetic modeling identified 300 mg once daily as the dose to achieve this threshold.

Early Clinical Development

Revolution Medicines was originally founded to develop antifungal therapies. That program did not advance. The company then pivoted to oncology, focusing on RAS-addicted cancers after acquiring Warp Drive Bio in 2018. Daraxonrasib was the first compound to enter the clinic, with first-in-human dosing in 2022.

The Phase 1-2 RMC-6236-001 study enrolled 168 patients with previously treated RAS-mutated PDAC across 16 U.S. sites. Doses ranged from 10 to 400 mg once daily.

At 300 mg in second-line RAS G12-mutated patients (n=26), the study reported an ORR of 35%, disease control rate of 92%, median PFS of 8.5 months, and median OS of 13.1 months. In the broader RAS-mutated group (G12, G13, Q61; n=38), the ORR was 29%, median PFS was 8.1 months, and median OS was 15.6 months (Wolpin BM et al., 2026).

Grade 3 or higher treatment-related adverse events occurred in 30% of patients. No grade 5 events were reported. No patients discontinued treatment due to toxicity at 300 mg.

These figures exceeded historical benchmarks for second-line PDAC chemotherapy. Dr. Sandler noted that during Phase 1 dose-escalation, investigators began reporting scan responses and clinical improvement. This was unusual in pancreatic cancer, where treatment responses are rare. Based on these data, Revolution Medicines bypassed a traditional Phase 2 and advanced directly into a global registrational Phase 3. The development timeline from first-in-human to positive Phase 3 took four years.

RASolute 302

The Phase 3 RASolute 302 trial enrolled 500 patients with previously treated metastatic PDAC across 59 sites in six countries. Patients were randomized 1:1 to

daraxonrasib 300 mg daily or investigator's choice of chemotherapy.

Chemotherapy options included gemcitabine/nab-paclitaxel (56.5%), liposomal irinotecan plus fluorouracil/leucovorin (32.7%), modified FOLFIRINOX (5.6%), and FOLFOX (5.1%). Of enrolled patients, 91.8% had RAS G12 mutations (O'Reilly EM et al., 2026).

The trial met all primary and key secondary endpoints. Overall survival: 13.2 months with daraxonrasib vs. 6.6 months with chemotherapy in the RAS G12 population (HR 0.40; P<0.001). Overall population: 13.2 vs. 6.7 months (HR 0.40; P<0.001). A 60% reduction in the risk of death.

Progression-free survival: 7.3 vs. 3.5 months in the RAS G12 population (HR 0.45; P<0.001). Overall population: 7.2 vs. 3.6 months (HR 0.49; P<0.001).

Response rate: 33.2% vs. 11.8% in the RAS G12 population.

Patient-reported outcomes: Time to pain deterioration: 9.0 vs. 3.7 months (HR 0.51; P<0.001). Time to deterioration in global health status: 5.6 vs. 2.4 months (HR 0.60; P<0.001). Dr. Sandler noted that quality of life is not always successfully captured in clinical trials. In RASolute 302, patients on daraxonrasib lived longer and reported feeling better for longer.

Safety: Grade 3 or higher adverse events occurred in 61.8% of the daraxonrasib group vs. 69.6% with chemotherapy. Median treatment duration was 6.2 months with daraxonrasib vs. 1.5 to 3.2 months across chemotherapy regimens. Treatment-related discontinuation was 1.2% vs. 11.2%. The most common toxicities were rash (86.3%), diarrhea (67.2%), and stomatitis (54.8%), predominantly grade 1 to 2. One death from treatment-related pneumonitis was reported in the daraxonrasib group. Patients on daraxonrasib maintained high dose intensity. Dr. Sandler noted that patients tended to want to remain on therapy given their clinical benefit.

The chemotherapy arm performed as expected, matching historical benchmarks. This confirmed the observed benefit was genuine. The consistency between Phase 1-2 and Phase 3 results is notable: OS of 13.1 to 13.2 months and ORR of 30 to 35% across both datasets. The 13.2-month second-line OS also surpasses reported first-line medians: 11.1 months with FOLFIRINOX (Conroy et al., 2011), 8.5 months with gemcitabine/nab-paclitaxel (Von Hoff et al., 2013), and 11.1 months with NALIRIFOX (Wainberg et al., 2023).

The ASCO Presentation

The plenary presentation of RASolute 302, delivered by Brian M. Wolpin, became one of the defining moments of the 2026 ASCO meeting.

Dr. Sandler described the magnitude of the result: a doubling of median survival, from 6.6 to 13.2 months, with a hazard ratio of 0.40.

"That being 13.2 months, that's greater than what had ever been seen in first-line pancreatic cancer. So the magnitude of the effect is really quite dramatic."— **Dr. Alan Sandler**

Dr. Sandler previously served as Chief Medical Officer at Mirati Therapeutics, a competitor in the RAS space that was later acquired by Bristol-Myers Squibb. He had followed Revolution Medicines' science closely and was consistently impressed. He described the company as a patient-centric organization focused on getting effective therapies to patients as rapidly as possible.

ASCO 2026, Chicago, USA

Regulatory Path and Ongoing Trials

Revolution Medicines announced topline RASolute 302 results on April 13, 2026 (Revolution Medicines, press release, 2026). A rolling submission to the U.S. FDA is underway. Daraxonrasib holds Breakthrough Therapy Designation, Orphan Drug Designation, and a Commissioner's National Priority Voucher.

An expanded access program is operational in the United States, with daraxonrasib already shipped to at least one site.

The clinical program is expanding into earlier treatment settings. The RASolute 303 trial is evaluating daraxonrasib in first-line metastatic PDAC, randomizing patients 1:1:1 to daraxonrasib monotherapy, daraxonrasib plus gemcitabine/nab-paclitaxel, or gemcitabine/nab-paclitaxel alone.

Early-phase data supported this design, with ORR of 47% for monotherapy (n=38) and 55% for the combination (n=31) in newly diagnosed patients (Khachatryan M: 2026, CancerWorld). A separate adjuvant trial is enrolling patients with resected PDAC.

As Dr. Sandler noted in his interview with OncoDaily, the adjuvant setting carries particular significance — with *"the potential not only extending life, but that may increase the cure rate of patients with resected pancreatic cancer."*

Beyond daraxonrasib, Revolution Medicines has three additional RAS(ON) selective inhibitors in clinical development: elironrasib (G12C), zoldonrasib (G12D), and RMC-5127 (G12V). Initial combination data are also emerging. In June 2026, Tango Therapeutics reported a 92% ORR when combining vopimetostat, an oral PRMT5 inhibitor selective for MTAP-deleted tumors, with daraxonrasib in previously treated mPDAC (n=12). MTAP deletion is present in approximately 40% of pancreatic cancers. Tango plans to advance the combination into Phase 3 (Tango Therapeutics, press release, 2026).

"This is just the beginning"

The RASolute 302 data represent a clinically meaningful advance in previously treated metastatic PDAC. For Revolution Medicines and the broader field of RAS-targeted therapy, the next chapter is underway.

"We drugged the undruggable. And something that was thought not to be possible became possible in a very, very dramatic way."

"This is just the beginning. We're only in maybe the second or third inning." — **Dr. Alan Sandler**

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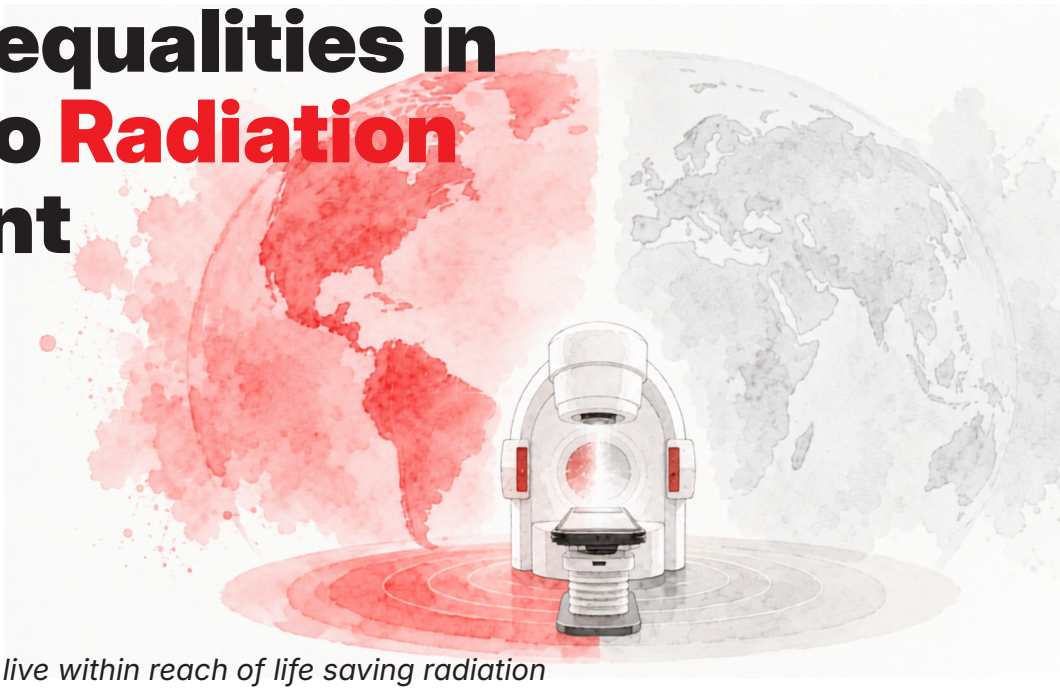
About the Author

Mariam Khachatryan, MD, is Editor-in-Chief of OncoDaily GI, the gastrointestinal oncology platform launched on 7 September 2025. She leads the editorial direction of OncoDaily GI, and on 9 March 2026, launched JocOnDa, its official journal club, bringing structured discussion of new evidence to oncologists working across the GI field.

Global Inequalities in Access to Radiation Treatment



By Rahul Barve

Millions of cancer patients live within reach of life saving radiation treatment. Millions more live nowhere near it. The research maps just how wide, and how consequential, that gap has become.

Radiotherapy is a cornerstone of modern cancer care. Around half of all people diagnosed with cancer will require it at some point during their treatment, whether with curative intent or to relieve symptoms and improve quality of life. Yet despite its central role in oncology, access to radiotherapy remains one of the world's greatest—and least visible—inequities in cancer care. [1]

"A marked disparity in the availability of radiotherapy machines between high-income countries and low-income and middle-income countries remains a major problem." **May Abdel-Wahab**

The divide is stark. While patients in many high-income countries routinely benefit from technologies such as stereotactic radiotherapy, adaptive treatment planning, and proton therapy, access remains severely limited across much of the world. A recent global analysis found that 36 countries have no radiotherapy services at all, most of them low- or lower-middle-income nations. For millions of patients, the challenge is not accessing the latest technology—it is accessing any radiotherapy at all.

Geography has become one of the strongest predictors of whether patients receive treatment. A 2025 geospatial analysis found that only 17% of people living in low-income countries can reach a radiotherapy center within two hours of travel, compared with more than 90% of those in high-income countries. [2] For many patients, distance translates into delayed treatment, financial hardship, or the impossible choice of abandoning care altogether.

The pattern is repeated across regions. In sub-Saharan Africa, several countries rely on only a handful of radiotherapy machines to serve tens of millions of people, while treatment costs, transport, accommodation, and long waiting lists create additional barriers. Nearly 70% of patients surveyed across nine African countries identified treatment costs as a major obstacle to receiving radiotherapy. [3] Across the Asia-Pacific region, demand is expected to rise far faster than treatment capacity, particularly in low-income countries, while Latin America and the Caribbean continue to face significant infrastructure shortages despite expanding cancer services. [4]

The inequality becomes even more striking when advanced technologies are considered. Proton therapy—one of the most sophisticated forms of radiation treatment—is available in just over one hundred centres worldwide. None currently operate in Africa. Yet inequity is not confined to resource-limited settings. Even in high-income countries, studies show that socioeconomic status, race, and geography continue to influence access to advanced radiotherapy, reminding us that equity is

about more than technology alone.

The human cost of these disparities is immense. Researchers estimate that by 2050 nearly eight million patients each year could miss the radiotherapy they need because adequate services are unavailable.[5] Many of those missed treatments will translate into avoidable deaths or unnecessary suffering.

The solution, however, is not simply to buy more machines.

Radiotherapy depends on an entire ecosystem: radiation oncologists, medical physicists, radiation therapists, engineers, dosimetrists, reliable electricity, maintenance services, information technology, and sustainable financing. In many countries, shortages of trained professionals limit access even where equipment exists. Meeting projected demand will require not only expanded infrastructure but also a dramatic increase in the global workforce, with estimates suggesting the need for more than 84,000 radiation oncologists, 47,000 medical physicists, and 141,000 radiation therapists by 2050. [6]

Encouragingly, meaningful progress is possible. Hypofractionation—delivering effective treatment in fewer sessions—has already transformed care for several common cancers, including breast and prostate cancer. By reducing the number of hospital visits without compromising outcomes, it can expand treatment capacity, lower costs, and ease the burden on patients, particularly where resources are limited. Studies suggest that wider adoption could allow millions more people to receive radiotherapy using existing infrastructure. [1]

Targeted investment can make a significant difference. Experts estimate that more than 30,000 linear accelerators will be needed worldwide by 2045 to meet projected demand. Where radiotherapy machines are deployed is as important as the number of machines purchased. Recent modelling suggests that strategically locating new treatment centers in underserved regions could dramatically improve access for millions of people. International initiatives such as the IAEA's Rays of Hope programme are already helping countries strengthen infrastructure, expand workforce training, and build sustainable radiotherapy services. [1]

Ultimately, improving access will require partnerships between governments, international organizations, academic institutions, industry, and healthcare professionals. It will also require radiotherapy to be recognized as an essential component of national cancer control plans rather than an optional investment that follows drug procurement.

Cancer does not recognize borders, income levels, or political systems. Yet access to one of its most effective treatments still depends heavily on where a person lives.

The technology exists. The expertise exists. The evidence is overwhelming.

The challenge now is to ensure that every patient, regardless of where they are born, has equitable access to these lifesaving advances.

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About the Author

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Brian Druker, Imatinib, and the Human Journey Behind a Revolution in Cancer Care

Behind Every Drug There Is a Story

By Aleksandra Filipovic

Brian Druker, M.D., is JELD-WEN Chair of Leukemia Research

Twenty-five years after imatinib transformed chronic myeloid leukaemia from a fatal diagnosis into a manageable disease for many patients, Brian Druker reflects on the curiosity, setbacks, and patients who shaped one of oncology's greatest breakthroughs.

Long before I understood the science, I understood the impact.

Growing up around oncology, I learned early that behind every advance in cancer care stood individuals whose curiosity, persistence, and courage changed the lives of countless patients they would never meet. Brian Druker was one of those individuals.

Sitting down with Brian Druker during the 25th anniversary of imatinib and the tyrosine kinase inhibitor revolution it helped launch felt like a rare full-circle moment, personally and professionally. What emerged from our conversation was not simply the story of a groundbreaking drug. It was a powerful reminder that behind every drug there is also a deeply human story.

Twenty-five years ago, imatinib changed the course of cancer history.

For patients diagnosed with chronic myeloid leukaemia (CML), the drug transformed what had once been a devastating diagnosis into a disease that many could live with for decades. It ushered in the era of targeted therapy and fundamentally altered the trajectory of oncology. Entire generations of cancer medicines would follow.

Today, imatinib is rightly celebrated as a scientific triumph.

But science alone does not tell the whole story.

The Curious Boy Who Never Stopped Asking Why

One of Brian Druker's earliest memories is following his mother around the house asking a single question.

Why?
Why this?
Why that?
Why does it work the way it does?

The youngest of four children growing up in Minnesota, he developed a habit of taking apart clocks, radios, and watches—not because he knew how to put them back together, but because he wanted to understand what was inside.

"I always wanted to figure out how things worked," he told me.

That curiosity became the defining thread of his life.

His father, a chemist and first-generation immigrant, believed deeply in education as a path forward. Expectations at home were high. If a report card arrived with five As and one B, the conversation focused on the B.

Beneath those expectations, however, was a lesson that stayed with him: never settle for what already exists if it can be made better.

Years later, he found himself asking the same question of cancer treatment itself.

Can we do better?

The Moment the Path Revealed Itself

As a medical student, Druker immersed himself in the history of childhood leukaemia.

The early papers were heartbreaking. Children diagnosed in the 1950s often survived only weeks. Through decades of research, chemotherapy transformed those outcomes, converting a fatal disease into one that many children could survive.

He admired that progress.

Yet something unsettled him.

The treatments worked, but at an enormous cost.

"There had to be a better way."

In an essay written during his first year of medical school, he expressed an idea that would later define his career:

"Only by understanding what drives the growth of cancer cells can we devise better cancer treatments."
Years before targeted therapy became a clinical

reality, he was already imagining it. Looking back, those words seem remarkably prescient.

Rejection as Redirection

Scientific biographies often celebrate achievements.

Far less visible are the moments that almost prevented them.

For Druker, one of those moments came early in his academic career.

Several younger colleagues had received promotions ahead of him. When he met with institutional leadership to discuss his own future, the message was unmistakable.

He did not have one.

"The biggest low really was not getting a promotion," he reflected.

The experience was devastating.

Today, however, he sees it differently.

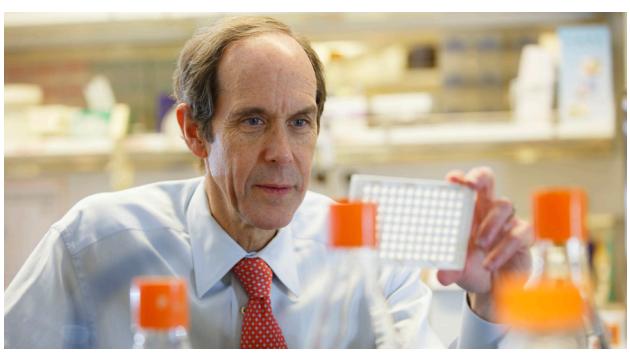
"It was a gift."

Until then, he admits, he had often given projects ninety percent effort. The disappointment forced him to decide where he wanted to make his greatest contribution.

He committed himself fully to one goal: bringing a BCR-ABL inhibitor into the clinic for patients with CML.

What first felt like rejection became the turning point that defined the rest of his career.

The Patients Who Would Not Let Him Quit



Brian Druker, M.D.

When Druker arrived in Oregon, he quickly obtained experimental compounds designed to inhibit BCR-ABL.

One stood out immediately.

It selectively killed CML cells while sparing normal cells.

The science was compelling.

The challenge was convincing others.

Pharmaceutical companies remained unconvinced. The market seemed too small, the financial risks too great. Developing a new drug required enormous investment, and few believed the effort would succeed.

While those conversations continued, Druker was sitting across from patients whose options were rapidly disappearing.

One young man, in particular, stayed with him.

A gifted technology enthusiast, he dreamed of building a revolutionary internet search engine.

His CML progressed into blast crisis before the experimental treatment reached him.

"It could have been the founder of Google sitting right there in my clinic," Druker told me.

The patients were never statistics.

They were the reason.

The reason he refused to give up.

June 1998

Every field has moments that become part of its mythology.

For oncology, June 1998 is one of them.

That month, the first patient received imatinib.

Druker remembers checking on him constantly throughout the day.

Excitement mixed with fear.

Nobody knew what would happen.

Working process

Cancer drug development had conditioned oncologists to expect toxicity. Serious side effects were common. Failure was common.

Then something remarkable began to unfold.

Patients who had exhausted available treatment options started seeing their blood counts normalise.

Symptoms improved.

The disease receded.

Even then, Druker remained cautious.

The moment that convinced him came during an ordinary clinic day.

Three patients arrived one after another with the same story.

They felt well.

Their blood counts were normal.

For the first time in years, they believed they had a future.

"They were in tears. I was in tears."

Then came the lesson that has stayed with him ever since.

"The greatest gift is hope."

The Gift Returned

We often think of medical breakthroughs as gifts given by scientists to patients.

Listening to Druker, I realised the relationship runs both ways.

Hope was not only something imatinib restored.

It was something patients gave back.

Twenty-five years later, many of those original trial participants are still alive.

Druker has watched them marry.

Raise children.

Become grandparents.

Experience milestones that once seemed impossible. The drug changed their futures.

They changed him.

When he speaks about those patients, his gratitude is unmistakable.

Not because they validated the science.

Because they trusted him.

And because they allowed him to witness what happens when a scientific idea becomes a human reality.

The Personal Informs the Purpose

As our conversation drew to a close, I found myself reflecting on a theme that had surfaced repeatedly.

The curious child.
The painful rejection.
The mentor who believed.
The patients who inspired.
The setbacks that became gifts.

Together, they shaped the purpose that followed.

Scientific breakthroughs do not emerge in isolation from human experience—they emerge through it.

The same curiosity that led a little boy to dismantle clocks eventually helped him dismantle one of cancer's most important molecular mechanisms.

The resilience that carried him through disappointment sustained him through years of uncertainty.

Looking back, it becomes clear that imatinib was never simply the product of a scientific discovery.

It was the culmination of decades spent asking one question:

Can we do better?

Twenty-Five Years Later

Today, as oncology celebrates twenty-five years of tyrosine kinase inhibitors in CML, there is much to honour.

The science.
The patients.
The clinicians.
The researchers.

The generations of discoveries that followed.

Imatinib transformed the outlook for people living with CML and established a new paradigm for cancer treatment. It demonstrated that understanding the biology of a tumour could lead to therapies capable of changing the course of disease while sparing patients many of the toxicities associated with conventional treatment.

Its legacy extends far beyond a single drug.

Yet perhaps its most enduring lesson is a human one. Behind every major medical breakthrough are people willing to challenge accepted thinking, persevere through failure, and earn the trust of patients prepared to believe in something not yet proven.

Brian Druker's story reminds us that progress in medicine is driven not only by scientific discovery, but also by curiosity, perseverance, and the partnership between researchers and patients.

Twenty-five years after the first patient received imatinib, that partnership continues to shape the future of cancer care.

Perhaps it all began with a curious little boy who simply refused to stop asking one question:

Why?

About the Author

Aleksandra Filipovic (MD PhD) is a medical oncologist, cancer cell biology scientist, drug developer and educator. Having obtained her PhD at Imperial College London, she now serves as the Head of Oncology/CMO within the biotech space. Dr Filipovic practices and teaches integrative oncology globally. Dr Filipovic is also the host of the OncoDaily TV's Podcast "Into the Body, with Dr Aleks".

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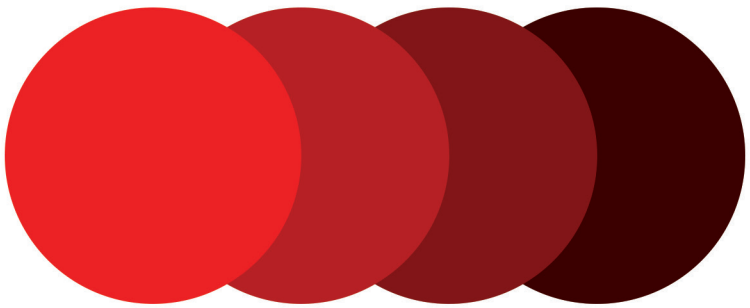
CANCER WORLD

Doctor of Hope

Nagi El SAGHIR



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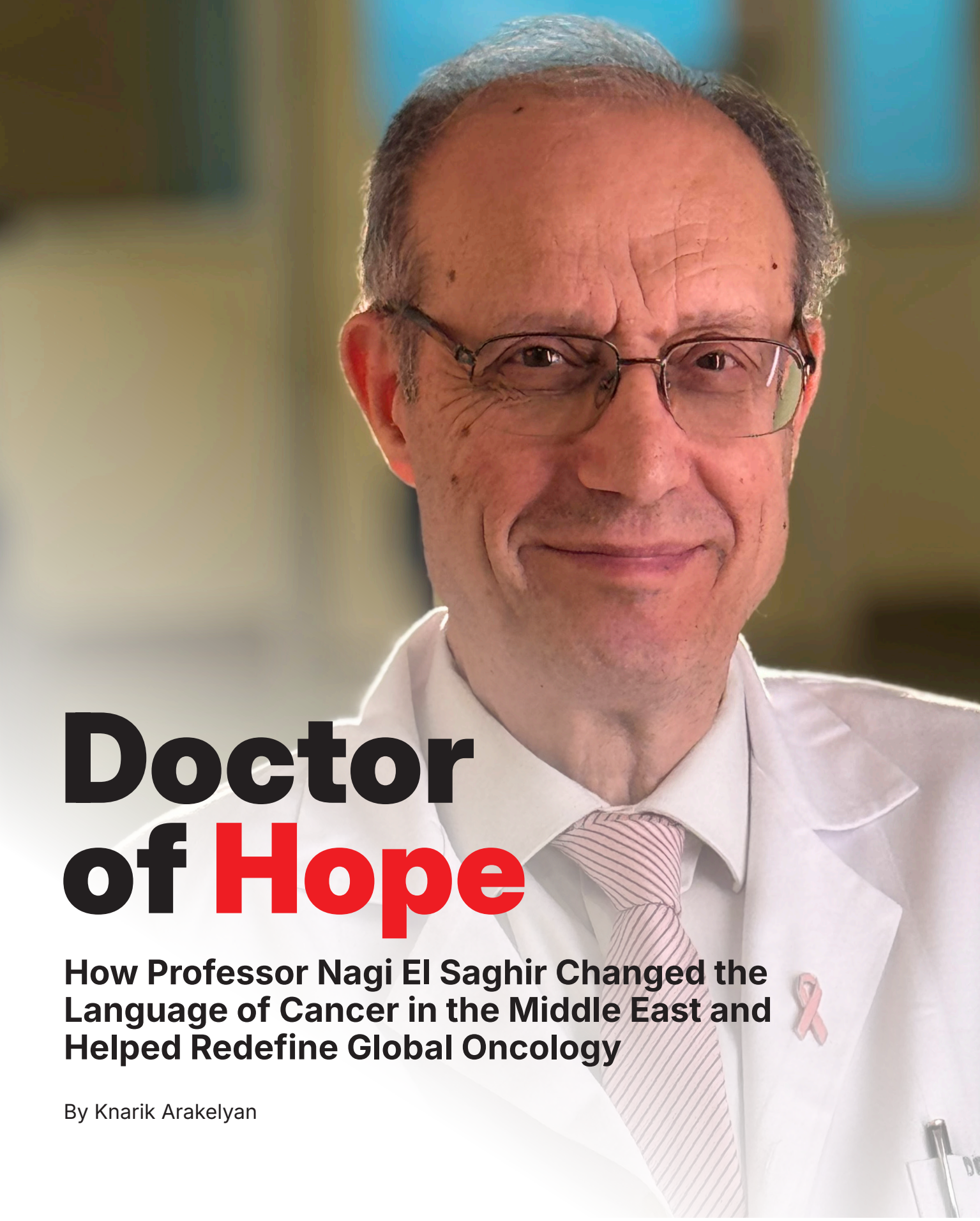


Doctor of Hope

How Professor Nagi El Saghir Changed the Language of Cancer in the Middle East and Helped Redefine Global Oncology

By Knarik Arakelyan

The airport in Beirut looked very different in 1971.

Families walked all the way to the aircraft. Parents accompanied their children almost to the foot of the stairs. Goodbyes unfolded slowly, with embraces, advice and final words that sometimes stayed for a lifetime.

As a young Nagi El Saghir prepared to leave Lebanon for Europe, his father leaned toward him and quietly whispered:

"Now that you are going overseas, do something important. Become a doctor."

At the time, medicine was not his dream.

He wanted to become an aeronautical engineer. He loved mathematics, physics and airplanes.

"That really affected me," he recalls. *"I wanted to become an engineer. But my father's words stayed with me."*

More than fifty years later, patients throughout Lebanon and the Arab world know him by another title.

Doctor of Hope.

Growing Up Between Displacement and Opportunity

El Saghir, , Professor of Medicine and Director of Breast Center of Excellence, Naef K. Basile Cancer Institute, Immediate past Head of Hematology Oncology Division, American University of Beirut Medical Center, Immediate Past Chair of ASCO International Affairs Committee, Founder and Past-President of the Lebanese Society of Medical Oncology, Founder and President of the Lebanese Breast Cancer Foundation, and author of the book Breast Cancer from A to Z (in Arabic), was born into a family shaped by displacement.

His parents had had left Bint Jbeil of Southern Lebanon in 1948 and settled in Burj Hammoud, one of Beirut's diverse neighborhoods. Armenians, Lebanese, Muslims, Christians and refugees lived side by side.

"We were six brothers and two sisters," he says.

Dr El Saghir with his father Saeed at Beirut Airport in 1971
His father owned a shoe business.

His parents believed education represented the only path toward progress, prosperity and stability.

"They wanted us to become doctors, engineers or lawyers."

Medicine eventually replaced engineering for him, while three of his brothers became engineers.

After studying in Lebanon, he traveled first to France to learn the language before continuing on to Belgium. Medical school in Brussels proved demanding.

"It was very difficult. You had to work very hard."

Yet the sciences appealed to him.
Physics. Chemistry. Biology.

Medicine became both an intellectual challenge and human purpose.

Running Toward Medicine

The day he graduated from medical school, he nearly missed his flight to New York.

His ceremony in Brussels had ended only hours earlier.

The aircraft doors had already closed. The crew reopened them. His luggage remained behind. His future did not.

New York introduced him to modern oncology.

Training in internal medicine evolved into hematology and later oncology.

"I liked looking at cells," he says. "I liked the laboratory."

At St. Luke's-Roosevelt Hospital Center of Columbia University in Manhattan, he entered oncology during a period of extraordinary change.

Clinical trials were expanding. Chemotherapy was advancing. Research was transforming practice. He took care of many patients on CALGB (Cancer and Leukemia Group B) clinical trials. Many foreign graduate physicians remained in America. They take care of patients and advance medical research. He always intended to return to his native country to make a difference.

In 1993, after years in New York and Michigan in the United States and Riyadh in Saudi Arabia, El Saghir returned to Lebanon.

"It was the dream of my life to return and join the prestigious American University of Beirut."

The country was emerging from civil war. Large numbers of physicians had emigrated. Cancer services remained fragmented.

What disturbed him most was not only the lack of infrastructure. It was fear.

"In Lebanon and Arab Countries, people would not say the word 'cancer'," he recalls. *"They would say 'that other disease.'" Because for them "Cancer meant death."*

Patients delayed seeking care. Families remained silent. Women arrived with advanced breast tumors. The challenge was not only medical. It was cultural.

When Nobody Said the Word Cancer

One patient remained unforgettable. She was thirty-seven years old. Her breast tumor measured nearly nine centimeters. Fear had become stronger than medicine.

El Saghir decided to confront the silence publicly. Television became a classroom. Newspapers became educational tools.

He remembers asking audiences: *"Does your husband put his hands around your breasts? Does he not notice?"*

The question shocked viewers. But it also started conversations.

"If you do not face cancer, it will kill you."

Patients gradually began speaking publicly. Survivors appeared on television. Women discussed breast cancer openly. The silence slowly disappeared. Awareness and early detection campaigns reversed the trends towards more early stages of cancer at diagnosis.

Today, many women diagnosed early survive for years and decades.

"Cancer is no longer a death sentence."

He was also shocked at the high rates of tobacco smoking in Lebanon and Arab countries. In addition to campaigning against tobacco advertising, he argued against letting people smoke cigarettes on TV talk shows and offering cigarettes with the coffee at peoples' home gatherings. Physician's members of Parliament later on introduced anti-smoking laws in Lebanon.

Building More Than a Clinic

Very early in his career, Dr El Saghir realized that treating patients individually would never be enough.

"I realized that seeing ten or fifteen patients a day was not enough. You have to educate thousands."

He founded the Lebanese Society of Medical Oncology (LSMO).

He founded the Lebanese Breast Cancer Foundation (LBCF). He organized educational meetings. He developed awareness and early detection campaigns.

"This is citizenship work," he says. *"It is our duty."*

Public attitudes changed. Cancer survivors participated in campaigns and on television shows. Screening increased. Earlier diagnosis improved survival.

For him, education itself became a form of treatment.

"We Treat Patients, Not Cancer"

One sentence appears repeatedly throughout the conversation.

"We do not treat cancer. We treat patients with cancer." For Dr El Saghir, medicine begins with listening.

"You have to give patients time. Show them respect. Smile. Be truthful and provide hope. Some doctors see patients in five minutes. I cannot do that."

Appointments may last thirty or forty minutes. Patients ask questions. Families participate. Residents observe.

"When a patient tells me, 'Doctor, now that I saw you, I feel better,' that is one of my greatest rewards."

Technology changes. Medicines change. Human relationships remain.

The Global Oncologist

While rebuilding oncology in Lebanon, Dr El Saghir emerged as one of the leading voices for global oncology.

For much of his career, Professor El Saghir lived between two worlds. One was the clinic in Beirut. The other was the international stage.

ASCO. ESMO. ABC Consensus conferences. Educational programs. Editorial Boards. Global oncology initiatives. Guideline committees. Scientific meetings.

Over time, he became one of the few voices from the Middle East helping shape international discussions about cancer care.

He chaired ASCO's International Affairs Committee.

He helped develop ASCO's international travel grants and ASCO's International Development Educational Awards (IDEA), and the launching of ASCO's Journal of Global Oncology, now renamed JCO Global Oncology.

He contributed to educational initiatives. He helped develop the ASCO-ESMO Global Curriculum.

"I was and remain very proud to serve in ASCO," he says.

His work within the American Society of Clinical Oncology (ASCO) extended far beyond committee membership. As Chair of ASCO's International Affairs Committee, he advocated for the needs of oncologists practicing outside North America and helped expand ASCO's international vision.

At FASCO award ceremony, ASCO

"Fifty percent of ASCO members are from outside the United States," he says. "Their problems also matter."

The statement reflects one of the central themes of

his career.

Cancer care cannot be designed exclusively from the perspective of wealthy nations.

The realities of Lebanon, Egypt, Jordan, Pakistan, Africa, South America and many other regions must also shape international oncology.

Many young physicians, who participated later, became leaders in their own countries.

"You want them to become leaders where they live."

Under his leadership, ASCO expanded travel grants, educational initiatives, Multidisciplinary Cancer Management Courses and international training opportunities. Young oncologists from low- and middle-income countries received opportunities to attend scientific meetings, visit major cancer centers and return home with new knowledge.

Education, El Saghir believes, creates multiplication. You teach one physician, and that physician later teaches hundreds more.

Cancer care, he argues, cannot be designed exclusively from the perspective of wealthy nations.

Shaping Global Oncology

His influence also extended to the European Society for Medical Oncology.

Through ESMO, ASCO and other international organizations, El Saghir contributed to efforts aimed at standardizing medical oncology education worldwide.

The ESMO/ASCO Global Curriculum became one of these achievements. The initiative sought to establish common standards for medical oncology training worldwide while allowing adaptation to local realities.

For countries with developing oncology programs, these frameworks proved invaluable.

He also participated in international consensus conferences and expert guideline panels addressing treatment of patients with breast cancer, multidisciplinary care and resource-stratified approaches.

Why Guidelines Matter

One of his most influential contributions involves resource-stratified guidelines.

Basic. Limited. Enhanced. Maximal.

"We do not advocate giving inferior treatment. *"We are recommending the best possible treatment with the resources available, while working on improving them."*

His work with the Breast Health Global Initiative helped establish one of the most important principles in global oncology: care should be adapted to available resources without compromising quality.

For countries and regions facing financial limitations, the approach offered realistic pathways toward improving care.

"While we work to improve resources, we still have to treat patients."

These ideas eventually influenced international guidelines at ASCO, WHO and other societies and helped shape discussions about equity and access worldwide.

The Tumor Board Revolution

"Medicine is teamwork."

He repeats the phrase often.

Surgeons. Medical oncologists. Radiation oncologists. Pathologists. Radiologists. Nurses. All discussing patients together.

Tumor Boards

"One physician cannot know everything."

Research from Lebanon as well as an ASCO survey demonstrated that multidisciplinary discussions frequently changed diagnoses and treatment decisions.

The physician learns. The resident learns. The patient benefits.

Research that Changed Practice

Research has remained central to El Saghir's career. His advice to young physicians: Follow literature advances. Keep your eyes open. Perform situation analysis where you are. Determine unmet needs. Make proposals. Have a research team and proceed. You will succeed.

His work contributed to important advances in breast cancer epidemiology in Lebanon and the Arab world, as well as treatment, endocrine therapy and targeted treatment worldwide.

He participated in international studies involving CDK4/6 inhibitors and ribociclib, and co-lead with Dr. Yen-Shen Lu of Taiwan the practice-changing RIGHT Choice trial, which demonstrated that endocrine therapy combined with targeted treatment could outperform chemotherapy in patients with aggressive hormone receptor-positive disease.

"For years people believed aggressive disease meant chemotherapy," he says. *"The data suggested otherwise."*

JCO Senior Deputy Editor commented on the relevance of the RIGHT Choice study: The *"conventional wisdom"* that patients with visceral disease need chemotherapy even if estrogen receptor–positive should be retired.

His research has consistently focused on improving outcomes while making treatment more individualized, more effective and more accessible.

For El Saghir, research is valuable only when it ultimately changes patient care.

The Fight for Equity

One theme returns repeatedly: Equity.

"It cannot be that patients participate in research and later cannot receive the new treatments."

Modern oncology has produced extraordinary advances. Yet millions remain unable to access them.

Drug pricing concerns him. Disparities concern him. Access concerns him. A large percentage of patients participating in clinical trials are from Low- and Middle-Income countries. Dr El Saghir argues that they should benefit from special pricing formulas.

For El Saghir, equity represents the defining challenge of modern oncology.

Cancer Care During Crisis

His career has unfolded against civil war, economic instability, political crises and global pandemics.

"To lead, you have to be present. You have to communicate and be transparent. You have to reassure people."

He believes oncology must pay greater attention to displaced populations and patients affected by conflict.

"We do not speak enough about refugees and displaced patients."

He often returns to one observation.

"If we spent even a fraction of military budgets on healthcare, we could treat everyone everywhere."

The Brain Drain

"We export brains."

The phrase appears repeatedly.
Lebanon educates excellent physicians.
Many leave.

The answer, he believes, is not preventing migration.
It is creating reasons to return.

"We need to reverse the brain drain by improving infrastructure, advancing basic and clinical research, and improving living conditions for skilled physicians and other experts. We need to give people opportunities. We did succeed at AUB and recruited back over 100 physicians of Lebanese origin."

The Teacher

"We are eternal students and eternal teachers."

He tells residents to remain curious. To ask questions. To challenge assumptions.

"I never make anyone feel that I am teaching them. We learn together."

Medicine requires excellence. It also requires humility.

Many of the young oncologists who benefited from his international programs later became leaders themselves. For El Saghir, mentorship extends far beyond the classroom. It means opening doors, creating opportunities and helping the next generation build institutions of their own.

Building Oncology at AUBMC

At the American University of Beirut Medical Center, Dr El Saghir helped build one of the region's leading oncology programs. As Head of the Division of Hematology and Oncology, he promoted multidisciplinary care, expanded clinical research, strengthened fellowship training, obtained ACGME accreditation for the Oncology Fellowship at AUBMC and developed international collaborations.

He emphasizes that hard work and good clinical training build strong decision-making personalities of medical students, residents and fellows.

Many of the physicians trained at AUB later became leaders throughout the Middle East and beyond.

"You build people," he says. *"And they build institutions."*

Music, Memory and Hope

The conversation frequently returns to music. He encourages patients who develop forgetfulness and so-called chemo brain to sing. He recommends memory exercises.

Crossword puzzles. Songs. Mental activity.

"I tell my patients to sing along with the songs they love."

For him, healing extends beyond medicine.

Hope matters. Music matters. Human connection matters.

Doctor of Hope

Last year, at Casino du Liban, artists, musicians and public figures gathered to honor individuals who had influenced society.

El Saghir received an unusual title: Doctor of Hope.

He remembers standing before an audience very different from those he usually addresses.

"I usually speak to doctors and students. That evening I spoke to artists."

The title remained with him. Not a professor. Not chairman. Not an international leader.

Al Zaman Al Jamil Awards 2025

Doctor of Hope. His patients had already given him that title long before.

Helping Patients Beyond Medicine

Throughout his career, El Saghir has supported fundraising initiatives and charitable efforts aimed at helping patients who could not afford treatment.

For him, access to care remains a moral responsibility.

To ensure better access to care for patients, Dr El Saghir is very active in fundraising for needy patients and does dinners, campaigns, telethons and is custodian of AUB Breast Cancer Support Fund.

"A diagnosis should not determine a person's future because of financial limitations."

Breast Cancer from A to Z

His commitment to education also led to the publication of Breast Cancer from A to Z, a book written to help patients and families better understand diagnosis, treatment and survivorship. Physicians-in-training and medical students found it very helpful.

Great positive feedback at book signing ceremonies and debates in Beirut, Dubai and Cairo International Book Fairs.

"Education reduces fear," he says.

Recognition and Legacy

Professor El Saghir's work has been recognized by numerous professional societies, academic institutions and national leaders. He has received awards for medical research, continuing medical education, public service and contributions to cancer care including AUB Dean's Excellence Research Award, King Hussein Cancer Research Award, Cedar Medal of Honor from the President of Lebanon.

At the American University of Beirut, a conference room bears his name, honoring decades of leadership, mentorship and service.

Yet he measures success differently.

"The greatest reward is when a patient says, 'Doctor, now that I saw you, I feel better.'"

The Unfinished Chapter

When asked what remains unfinished, his answer comes immediately.

Prevention. Research. Early detection. Equity. Access. Collaboration. National cancer control plans.

The story of cancer in the Middle East remains unfinished.

But much has changed. People speak openly. Smoking is decreasing. Women seek screening. Patients survive. Young physicians lead. Research grows.

More than fifty years after his father whispered those words at Beirut airport, Professor Nagi El Saghir still arrives at work for the same reason.

"I love my patients."

He has treated tens of thousands of people. He has helped build institutions. He has trained generations of physicians. He has argued for equity, access and global collaboration. But perhaps his greatest achievement is simpler.

He helped a society say the word cancer. He taught patients that hope belongs inside the clinic.

And in a region where cancer was once spoken about in whispers, the Doctor of Hope helped turn silence into conversation.

"Cancer is no longer a death sentence."

After half a century in medicine, he still believes the most powerful treatment may begin with a physician sitting beside a patient and saying:

"We will face this together."

About the Author

Knarik Arakelyan (PhD) is a psychologist and communications professional with over 14 years of experience in public relations, health communication, and public awareness campaigns. She is currently the Managing Editor of "CancerWorld" magazine, Head of the "OncoDaily TV," and serves as PR and Communications Officer at "EMERTÉ" Clinic.

Finding a Voice Beyond Cancer

How Karen Nakawala transformed a cervical cancer diagnosis into a movement for survivor leadership and better cancer care

By Knarik Arakelyan

Karen Nakawala spent decades telling other people's stories.

As one of Zambia's well-known broadcasters, she knew how to command a microphone, connect with audiences and give voice to people whose experiences might otherwise go unheard. Whether presenting a live radio programme, hosting national events or championing Zambia's fashion industry, storytelling had always been at the heart of her life.

Then, in 2019, she became the story herself.

A diagnosis of cervical cancer divided her life into what she now calls two chapters: before and after.

"My first thought wasn't treatment," she recalls. "It was that I was going to die and leave my children without a mother."

During the difficult months that followed, Nakawala searched for another woman who had survived cervical cancer—someone who understood the fear, uncertainty and loneliness that come with hearing the words you have cancer.

She found almost no one.

Today, as founder of **Teal Sisters**, Nakawala has become one of Africa's leading voices for cervical cancer awareness. Her organisation has helped hundreds of thousands of women find information, support and, perhaps most importantly, the confidence to tell their own stories. Recently, Karen received the President's Insignia of Honour for her work in cervical cancer advocacy in Zambia and beyond.

But before she became an advocate, she first had to find her own voice.

Learning to Find Her Voice

Nakawala traces the foundations of her advocacy back to her childhood.

Raised by a single mother, a teacher whose life was grounded in faith, resilience and service to others, she learned early that difficult circumstances should never define a person's future.

"My mother always said there is no circumstance bigger than any person," she recalls. *"Sometimes all people need is a push in the right direction."*
Her maternal grandfather reinforced those same lessons, teaching perseverance, compassion and hope.

As a child, Karen imagined a very different future.

She loved singing, dancing and fashion. Her mother designed many of her dresses, encouraging her creativity and imagination. Looking through magazines, she dreamed of one day living a glamorous life.

"I thought I was going to be a singer," she says with a laugh.

In many ways she was right.

She would spend much of her life on stage.

Just not the stage she expected.

One moment in primary school changed everything.

A classmate failed to appear for drama rehearsal, and Karen's teacher asked her to step in.

She had a stammer.

She had never imagined speaking before an audience.

"I was terrified," she remembers.

The teacher gave her one instruction.

"Just use your own words."

She did.

From that moment she became the student chosen to perform in school plays, deliver speeches during national celebrations and represent her school before large audiences.

Without realising it, she had discovered the gift that would shape every chapter of her life.

A Communicator Before She Became an Advocate

Although many assume she studied journalism,

Talking to survivors

Nakawala never trained as a journalist.

"I think journalism found me," she says.

In 2003, while working for a private company, she was asked to present a radio programme explaining a new product. After hearing only a couple of broadcasts, the owner of one of Zambia's largest private radio stations approached her with an unexpected offer.

"I want you on the radio."

He recognised her natural ability to communicate, connect with callers and tell stories.

More than twenty years later, she still presents her weekly Sunday programme.

Communication became more than a profession.

It became the way she built relationships and connected with communities.

At the same time, she established herself as an entrepreneur, leaving formal employment at the age of 38 to create what became Zambia's largest fashion event.

"You can't keep a creative mind in a box," she says.

She travelled across Africa promoting local designers and proudly wore Zambian fashion.

"I literally became a walking billboard."

Looking back, she sees that both journalism and fashion had prepared her for something much bigger. Both were about creating platforms for voices that deserved to be heard.

When Life Changed

Before her own diagnosis, Nakawala knew very little about cervical cancer.

"I had very little information," she says. *"And for someone like me, being in the media, that was sad."*

Like many women, she knew the disease existed, but never imagined it would affect her.

Then, in 2019, everything changed.

The words you have cervical cancer stopped time.

"It was like being in a time capsule," she says. *"The world just stopped moving."*

Fear, anger, uncertainty and disbelief followed.

Cancer, she says, divides life into two parts.

"The before and the after."

Her greatest fear was not treatment. It was leaving her daughters without a mother.

Fortunately, her cancer was diagnosed early and treatment was successful. But the emotional journey proved far more difficult.

She searched for another cervical cancer survivor who could help her understand what lay ahead.

"There weren't many women who came out and said, 'I'm a cervical cancer survivor,'" she says. *"Cancer can be a very lonely journey."*

Later she discovered something that transformed her grief into purpose.

Cervical cancer is largely preventable.

"There is actually a vaccine," she says. *"I just said, 'I have to let women know.'"*

She also realised why so many women remained silent.

"In Africa, anything below the belt, you don't talk about freely."

Many women blamed themselves. Others delayed seeking care because symptoms were attributed to myths, shame or even witchcraft.

Nakawala understood that silence was costing lives.

"I realised that if I was going to help anybody, I had to tell my story. I couldn't tell it to one person. I had to tell it to many people."

Building Teal Sisters

The idea was simple.

Encouraged by her doctor, Nakawala created a Facebook page where women affected by cervical cancer could ask questions and support one another.

She expected perhaps 50 women to join. The following morning there were already more than 1,000. Within two weeks, membership exceeded 60,000. Within a month, more than 100,000 women had joined.

"They were asking where they could get screened, what the symptoms meant and how they could protect their daughters," she recalls.

Searching for a name, she looked up the colour associated with cervical cancer awareness.

Teal.

The Facebook page became **Teal Sisters.**

Soon it became much more than an online community.

Recognising that many women living in rural Zambia had little access to social media, Nakawala registered Teal Sisters as a foundation, expanding its work into awareness campaigns, survivor support, community outreach and policy advocacy.

"It wasn't enough to reach the women online," she says. *"We had to reach the women who were never going to see Facebook."*

From Survivor to System Changer

One day a hospital called with unexpected news.

"Karen," they told her, *"you've created a very big*

problem."

Women inspired by Teal Sisters were arriving for cervical cancer screening in such large numbers that the hospital was running out of screening supplies.

She smiles remembering the conversation.

"For me, that's a good problem."

Another moment has stayed with her ever since.

A woman approached her in a shopping mall, fighting back tears.

After watching Nakawala speak about her symptoms in a video, she recognised the same warning signs in herself and sought medical care immediately.

Her cancer was diagnosed early.

"You saved my life," the woman told her.

For Nakawala, those encounters remain the greatest reward.

Today, her work extends far beyond awareness campaigns.

WHO 75th Regional Meeting

She collaborates with government, healthcare institutions and international organisations to improve cervical cancer prevention, survivor representation and patient-centred care.

"The story is no longer my story," she says. "It's the story of millions of women."

She believes health systems must listen more carefully to patients.

"We talk about graphs. We talk about numbers. But sometimes we forget the human cost."

For Nakawala, better cancer care cannot be designed without the people who experience it.

"The solutions have to be rooted in the lived experiences of the people they're meant to serve."

She also believes care must be culturally grounded.

Communities differ.

Beliefs differ.

Messages that work in one place may fail in another.

Listening, she argues, is as important as educating.

Today she mentors other survivors, encouraging them to become storytellers themselves.

"I want them to become storytellers and agents of change."

Looking Forward

Success, Nakawala says, is not measured by recognition.

It is measured by a future where no woman dies from a cancer that can be prevented.

A future where girls receive HPV vaccination, women have access to timely screening and treatment, and geography no longer determines survival.

She also remembers the woman who gave her

President Hakainde Hichilema presents an award to Karen Nakawala during the Africa Freedom Day investiture ceremony at State House

hope when she needed it most—American cervical cancer survivor and advocate Tamika Felder, whose online rvivor community became her lifeline during treatment.

"If it wasn't for her," Nakawala says, *"I think I would have had a very, very long journey."*

Years ago, Karen Nakawala searched desperately for another woman willing to say, *"I survived cervical cancer."*

She found almost no one.

Today, through Teal Sisters, thousands of women no longer have to search alone.

"I decided I needed to become the person I was looking for."

In doing so, she transformed her own diagnosis into something much larger: a movement that is changing how women understand cervical cancer, how survivors support one another, and how health systems begin to recognise that the most meaningful solutions are often found by listening to those who have lived the experience.

About the Author

Knarik Arakelyan (PhD) is a psychologist and communications professional with over 14 years of experience in public relations, health communication, and public awareness campaigns. She is currently the Managing Editor of "CancerWorld" magazine, Head of the "OncoDaily TV," and serves as PR and Communications Officer at "EMERTÉ" Clinic.

When RAS Becomes Treatable

Eileen O'Reilly on daraxonrasib in Pancreatic Cancer

By Amalya Sargsyan

Daraxonrasib nearly doubled median survival in previously treated metastatic pancreatic cancer. For Dr Eileen O'Reilly, the result is not simply a remarkable curve on a conference screen, but the beginning of a new way to think about a disease long dominated by chemotherapy.

By the time metastatic pancreatic cancer has progressed after a first treatment, the questions in the clinic are rarely abstract. Can the person still eat comfortably? Is pain controlled? Is there enough energy left for another treatment? And will the next treatment take more from daily life than it gives back?

"This disease is particularly challenging at any time point," says Eileen O'Reilly, Pancas and GI Medical Oncologist, Winthrop Rockefeller Endowed Chair at Memorial Sloan Kettering Cancer Center. In the metastatic setting, she says, pancreatic cancer can affect appetite, energy, weight, pain and a person's ability to function. Existing treatments can help, *"but they leave a lot to be desired."*

That is the context for RASolute 302, the phase III trial of the oral drug daraxonrasib in people with metastatic pancreatic ductal adenocarcinoma, the most common type of pancreatic cancer - whose disease had progressed after one prior line of treatment.

The results are clear. In the 500-patient, international, open-label trial, median overall survival was 13.2 months with daraxonrasib and 6.7 months with investigator's-choice chemotherapy. In the overall study population, median progression-free survival, the time before the cancer grew or spread, was 7.2 months with daraxonrasib and 3.6 months with chemotherapy. Tumours shrank in 31.6% of patients receiving daraxonrasib, compared with 11.2% of those receiving chemotherapy.

For O'Reilly, a gastrointestinal medical oncologist at Memorial Sloan Kettering Cancer Center, the significance is not contained in the survival curve alone. *"It's not just that it's a new drug,"* she says. *"It's a new way of thinking about this disease, a new way of treating this disease"* - and, she adds, evidence that RAS is no longer the untouchable target it was for most of her career.

Why RAS Matters

The biology behind the result is central to its promise. More than 90% of pancreatic ductal adenocarcinomas carry activating mutations in RAS genes—usually KRAS—which act like a jammed growth switch, continually telling cancer cells to divide and spread.

For decades, RAS was regarded as one of cancer medicine's most frustrating targets. Researchers could see that it was driving the disease, but could not find a reliable way to switch it off.

Daraxonrasib takes a broader approach. It is described as a RAS(ON) multi-selective inhibitor: rather than targeting one mutation only, it is designed to block the active form of both mutant and normal RAS proteins. It does this by forming a three-part complex with RAS and a cellular protein called cyclophilin A, preventing RAS from activating downstream growth pathways.

"The current class of drugs targets essentially everybody with this disease," O'Reilly tells Sargsyan. That should not be read as a guarantee that every patient will respond. But it does mark a shift from the earlier era of RAS-targeted drugs that applied to only a small molecular subgroup.

Survival is Only Part of The Story

A survival difference is important. In pancreatic cancer, however, the quality of the months gained may matter just as much.

RASolute 302 found that daraxonrasib delayed deterioration in cancer-related pain: median time to worsening pain was 9.2 months, compared with 3.8 months with chemotherapy. The time before global health status and quality of life worsened was also longer, 5.7 months versus 2.6 months.

That does not mean the treatment is free from burden. But it changes the conversation from simply adding time to asking what that time feels like.

O'Reilly says the benefit was apparent in the clinic before the phase III results were complete. *"These drugs are meaningful therapeutics,"* she says. *"They are inducing responses and people are feeling it, and feeling it relatively quickly."*

The trial was open label, meaning patients and clinicians knew which treatment was being

given. That is worth keeping in mind, particularly when interpreting patient-reported outcomes. Progression-free survival, however, was assessed by blinded independent review, and the overall survival difference is less vulnerable to expectation bias.

A Better Treatment Does Not Mean an Easy Treatment

Daraxonrasib was not without toxicity. A rash is very common and can be severe; mouth inflammation, diarrhoea, nausea, fatigue and nail changes also occur. In RASolute 302, severe (grade 3 or higher) treatment-related side effects affected 43.6% of patients on daraxonrasib, compared with 57.5% on chemotherapy. One patient on daraxonrasib died from treatment-related lung inflammation — a reminder that *"targeted"* does not mean *"without risk."*

What stands out is not that the drug is effortless, but that far fewer patients stopped because of side effects: 1.2% on daraxonrasib against 11.2% on chemotherapy, with most patients able to stay close to the full dose.

In O'Reilly's clinic, managing the rash now begins before it appears. *"We use and recommend prophylaxis,"* she says, - antibiotics, topical steroids, moisturiser, sun protection, with brief treatment breaks or dose reductions when symptoms flare. The early nausea and diarrhoea, she notes, are usually controllable with prompt attention, and the mouth inflammation tends to come later and respond to dose adjustment.

She is careful not to wave the toxicities away. But she keeps coming back to a dynamic she did not expect to weigh so heavily. *"Because people are feeling better, they're very motivated to want to continue,"* she says. When patients can feel their symptoms easing, they judge the trade-offs differently, and they tell their doctors so.

The Next Questions

If RASolute 302 settles one question, it opens several.

The most immediate is whether daraxonrasib belongs earlier in treatment. RASolute 303 is testing it in newly diagnosed metastatic disease, alone, combined with gemcitabine and nab-paclitaxel, and against chemotherapy, while a separate phase III trial is examining it after surgery, where the goal is to prevent relapse. Early first-line data reported at this year's AACR meeting, including a combination cohort with a response rate near 58%, have been enough to sustain interest without yet answering the durability question.

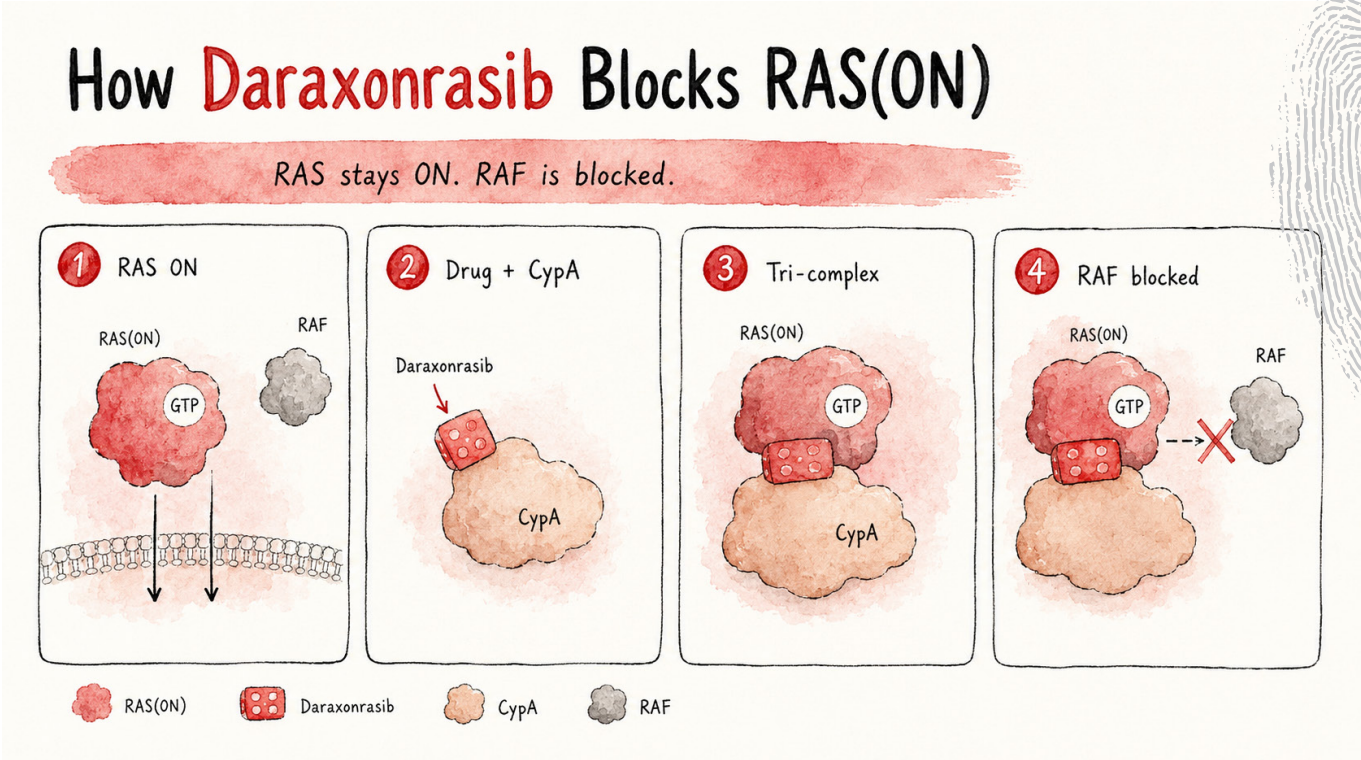
Beyond that lies the harder, more interesting work of combinations. O'Reilly sketches several lines at once. Pairing a broad RAS inhibitor with a mutation-specific one - for example a KRAS G12D–selective agent now in development, might delay resistance. For the roughly quarter to third of pancreatic cancers that carry an MTAP deletion, drugs targeting an enzyme called PRMT5 are a promising partner; early readouts, she says, *"look very encouraging,"* with the caveat that they apply only to that subgroup. And the prize she is most cautious about naming is immunotherapy. *"Can we combine immunotherapy with RAS targeting and convert some of these responses into a more durable setting?"* she asks. *"That's one to stay tuned and look out for."*

There is also a quieter consequence that may matter as much as any combination. A targeted pill, taken at home, changes who can be treated at all. *"It's going to open up a new group of people,"* O'Reilly says, patients who might have declined chemotherapy, or who were never well enough for it. Pancreatic cancer chemotherapy is hard on the body even in fit, younger patients; a treatment that more people can start, and stay on, expands the population that stands to benefit.

What it Asks of Practice

The result also raises the bar on something more basic: testing. O'Reilly's view is that two kinds of testing should now be routine for everyone with the diagnosis. The first is germline testing - looking for inherited risk, done regardless of age or family history. She tells the story of identifying a family carrying Lynch syndrome through an 88-year-old patient with pancreatic cancer, a finding that mattered for the whole family. *"We just have to be age-independent in our thinking,"* she says.

The second is somatic testing of the tumour, done as early as possible, often using both a tissue sample



and a blood-based test that can return results quickly. The amount of cancer in the body affects what the blood test can detect, she notes, which is why tissue still matters. In an era of targeted drugs, the test is no longer an academic exercise; it is part of deciding what to do.

The Access Gap

For now, daraxonrasib remains investigational. The US Food and Drug Administration has allowed an expanded-access programme for eligible people with previously treated metastatic pancreatic cancer, but expanded access is not the same as regulatory approval.

The distinction has a wider dimension that is easy to overlook from a conference hall in Chicago. An oral drug is, in principle, easier to deliver in lower-resource settings than infusional chemotherapy - no infusion chairs, fewer hospital visits, less supportive infrastructure. That is a genuine potential advantage for much of the world. But it is conditional. The drug must be affordable, and its rational use depends on molecular testing that many health systems cannot yet offer at scale.

For the first time, a drug designed around the dominant biology of pancreatic cancer has outperformed chemotherapy in a large randomised trial.

A High Goal

Asked what headline she hopes to read in five years, O'Reilly does not reach for caution. Today's five-year survival sits around 12–13% across all comers; she wants it nearer 40%.

"It's ambitious," she says. *"That's a lot. That's a high goal. But I'm for it."*

The standing ovation was for a survival curve. But the deeper reason people stood was the possibility that pancreatic cancer, so long treated as a disease beyond the reach of precision medicine, may finally be entering a different era.

About the Author

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Could GLP-1 Drugs Slow Cancer Spread?

New Study Offers Encouraging Clues

By Janet Fricker

Treatment with GLP-1 receptor agonists (GLP-1RAs) was associated with a significantly lower risk of progression to metastatic disease in non–small cell lung cancer (NSCLC), breast cancer, colorectal cancer (CRC), and hepatocellular carcinoma (HCC). The study, presented at the 2026 American Society of Clinical Oncology Annual Meeting (May 29–June 2; Abstract 3143), also suggested lower rates of stage IV progression in prostate, pancreatic, and kidney cancers among patients receiving GLP-1RAs versus DPP-4 inhibitors (gliptins), although these differences were not statistically significant.

"For patients managing both diabetes and cancer, the possibility that their antidiabetic medication may also be working in their favour is an encouraging finding. That said, these are observational data, and observational data have limits," said study presenter Mark David Orland, from Cleveland Clinic Taussig Cancer Institute.

From Metabolic Disease to Cancer Research

Initially approved for treatment of type 2 diabetes and obesity, GLP-1RA therapies, such as semaglutide (Ozempic, Wegovy) and tirzepatide (Mounjaro, Zepbound), have since expanded their indications to include cardiovascular disease, chronic kidney disease, and steatotic liver disease. More recently, interest has extended beyond metabolic outcomes. A study by

Aparna Kamat (Houston Methodist Hospital), published this June in Annals of Oncology, analysed records from 229,467 obese, non-diabetic patients in the U.S.-wide TriNetX database and found that those receiving GLP-1RA therapies had an overall 41% lower risk of developing cancer.

Building on these observations, Orland and colleagues were interested to investigate whether among patients with established cancer, GLP-1RAs might reduce the risk of metastatic spread? The team conducted a propensity score–matched retrospective cohort study using electronic health records from the TriNetX Global Health Research Network, which includes data from approximately 150 million patients across 106 health care organisations worldwide. The study evaluated 10,225 patients with stage I–III cancer who initiated a GLP-1RA after their cancer diagnosis and matched them 1:1 with patients initiating a dipeptidyl peptidase-4 (DPP-4) inhibitor (gliptin), generating a final analytic cohort of 12,112 patients balanced for age, race, body mass index, comorbidities, cancer treatment, and concomitant medications. Eligible patients had one of seven obesity-associated cancers, including NSCLC, adenocarcinomas of the breast, prostate, pancreas, or colorectum, HCC, and renal cell carcinoma.

Lower Rates of Metastatic Progression

Results showed that the matched cohort was racially diverse, comprising approximately 55–60% White, 20–25% Black, and 10–15% Asian participants. NSCLC was the most common malignancy (36%), followed by breast (20%), prostate (17%), CRC (13%), renal cell (9%), hepatocellular (5%), and pancreatic cancer (2%).

Over a five-year follow-up period, initiation of GLP-1RAs was associated with significantly lower rates of progression to metastatic disease compared with DPP-4 inhibitor use across four cancer types. The greatest relative reduction was observed in NSCLC, where metastatic progression occurred in 10% of patients receiving GLP-1 therapy versus 22% receiving DPP-4 inhibitors (HR 0.50, 95% CI 0.43–0.59; P<0.001). Similar findings were observed in breast cancer (10% vs 20%; HR 0.57, 95% CI 0.46–0.71; P<0.001), HCC (19% vs 28%; HR 0.62, 95% CI 0.44–0.89; P=0.009), and CRC (13% vs 22%; HR 0.69, 95% CI 0.54–0.88; P=0.003).

Differences for the three cancers were not found to be statistically significant – prostate (8.2% vs 13.6%, P<0.09), kidney (14.3% vs 18.9%, P=0.76), and pancreatic (23.3% vs 30.8%, P=0.14).

To help understand why the drugs are associated with benefit, the researchers used the Cancer Genome Atlas to examine whether GLP-1 receptor expression for the seven cancer types was linked with survival. Here, they found that high expression was associated with a 33% lower risk of death overall and a 45% lower risk in breast cancer.

Experts Urge Caution Pending Randomised Trials

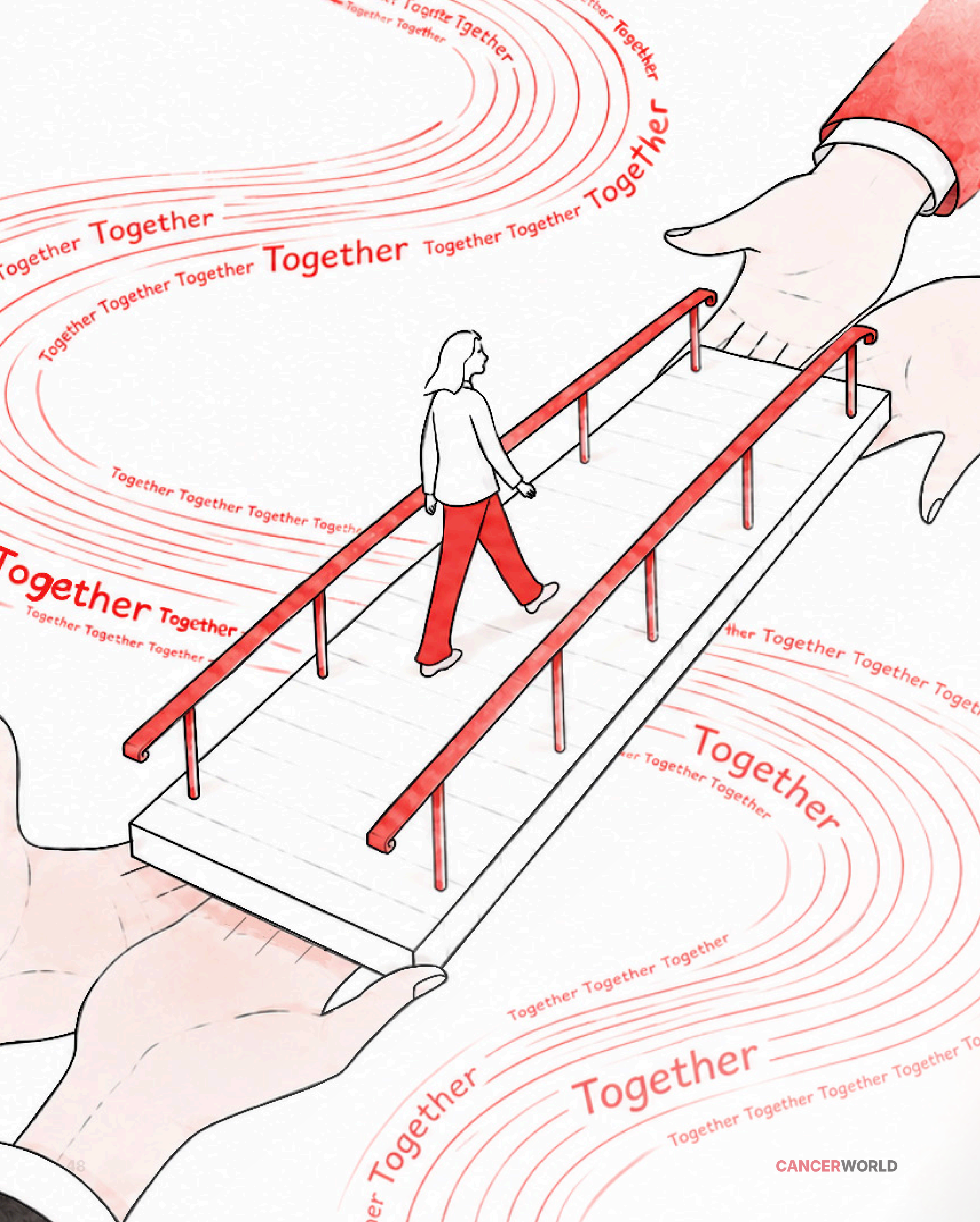
Commenting on the study, Marcin Chwistek, Chief of Supportive Oncology and Palliative Care at Fox Chase Cancer Center, noted that GLP-1RAs have "never been just glucose-lowering drugs," pointing to their anti-inflammatory and immunomodulatory properties that have long suggested broader biological effects. "What's new here is the consistency across tumour types," he said, adding that data of this scale and consistency warrant confirmation in a prospective randomised trial.

Similarly, Julie Gralow, Chief Medical Officer of the American Society of Clinical Oncology (ASCO), said that future research must determine whether the observed associations reflect a direct anticancer effect of GLP-1RAs or whether they are explained by differences in health behaviours among patients prescribed these agents. "We'll need a randomised trial to establish causation," she said.

Commenting on both studies, Kamat said, "Our findings do not prove causation, and cancer risk reduction should not yet be a stand-alone reason to prescribe GLP-1 RAs. However, for obese, non-diabetic patients who are already candidates for these medications, our data provide an additional and potentially important reason to have that conversation."

About the Author

Janet Fricker is a UK medical writer with an MA in Physiology from the University of Oxford. She is the News Editor of CancerWorld. Janet has worked for the Cancer Drug Development Forum, Cancer Research UK, Lancet Oncology, European Journal of Cancer, Molecular Oncology, Ecancer Medical Science, and European School of Oncology (where she wrote the Oncopaedia sections on breast cancer). She has written for consumer publications including The Times, The Economist, The Daily Mail, The Independent and Marie Claire.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Beyond Treatment

Why Psycho-Oncological Education Matters for Patients and Their Caregivers

By Adrian Pogacian

"Cancer is part of a person's life, but it should never become their entire identity." That simple yet powerful observation from global cancer advocate **Carmen Monge-Montero** captures a growing recognition in oncology: treating cancer successfully requires more than surgery, chemotherapy, immunotherapy, or radiation. It also requires helping patients and families understand—and navigate—the profound psychological consequences of the disease.

For decades, oncology has been built on scientific innovation and clinical excellence. Yet alongside diagnosis and treatment, communication has emerged as an equally essential pillar of cancer care. Increasingly, experts argue that psycho-oncological education deserves to stand alongside them—not as an optional support service, but as a fundamental component of quality cancer care.

Psychoeducation equips patients and caregivers with the knowledge, skills, and emotional tools needed to understand their diagnosis, manage uncertainty, cope with distress, and actively participate in treatment decisions. In doing so, it transforms information into empowerment.

Understanding the Emotional Journey

Cancer affects far more than the body. It disrupts relationships, careers, identity, and future plans. Numerous studies have demonstrated that psychological distress is highly prevalent among people living with cancer, with nearly one in two patients experiencing clinically significant distress during their cancer journey. Distress is associated

with poorer quality of life, reduced treatment adherence, and greater healthcare utilization.

For **Carmen Monge-Montero,** founder of MANO Beyond Cancer, psychoeducation is fundamentally a process of self-discovery.

"Many people with lived experience do not have access to professional psychological support. Learning about their own journey becomes a way of understanding what cancer means in their lives. Psychoeducation helps people recognize that every cancer experience is unique. What helps one person may not help another. Most importantly, it reminds people that cancer is only one part of who they are."

That understanding, she argues, restores perspective at a time when diagnosis often overwhelms every aspect of daily life.

More than Information

For **Kayla Fulginiti, LCSW, OSW-C,** Senior Director at Elephants and Tea, psychoeducation goes beyond simply providing facts.

"Psychoeducation provides a vital opportunity to normalize emotional reactions, teach effective coping strategies, and reduce anxiety through understanding. By providing clear, compassionate information about the emotional and psychological impact of cancer, we help patients feel more equipped, less isolated, and better able to engage in their care."

Knowledge itself can become therapeutic. By understanding common emotional responses and learning practical coping strategies, patients regain a sense of control during a period often characterized by uncertainty and helplessness.

A Critical Need for Adolescents and Young Adults

The importance of psychoeducation becomes particularly evident among adolescents and young adults (AYAs), whose cancer experience unfolds alongside major developmental milestones.

While building careers, relationships, independence, and personal identity, young people with cancer are simultaneously confronted with a life-changing diagnosis. These overlapping challenges place them at particularly high risk of emotional distress.

"AYAs are navigating identity development, independence, and peer relationships," says Fulginiti. *"Adding cancer to that process creates unique psychological needs. Integrating psychoeducation into routine cancer care helps address misinformation while supporting the emotional development of this population."*

Tailored educational interventions can help young patients understand not only their disease, but also the emotional changes that accompany treatment and survivorship.

Listening to Those Who Have Lived It

Despite growing recognition of psychosocial care, significant gaps remain.

Monge-Montero believes one of the greatest missed opportunities is failing to involve patients themselves in designing educational programs.

"Many initiatives work in isolation and do not communicate with others facing similar challenges. People with lived experience understand how priorities change throughout the cancer journey. Patient advocates can help ensure educational programs remain relevant, practical, and responsive."

Her message reflects a broader shift toward co-designing healthcare services with patients rather than simply for them.

The Forgotten Patients: Caregivers

Cancer's psychological impact extends well beyond the person diagnosed.

As healthcare increasingly shifts from hospitals into homes, family members and friends are expected to perform complex caregiving tasks, often with little preparation or formal support. Research

consistently shows that caregivers experience high rates of anxiety, depression, burnout, and emotional exhaustion—sometimes exceeding the distress experienced by patients themselves.

"Empowering caregivers with education and emotional support strengthens their ability to care for their loved one while protecting their own well-being," Fulginiti explains.

She argues that caregivers need dedicated opportunities to process feelings of guilt, fear, helplessness, and fatigue while learning practical communication skills, healthy boundaries, and self-care strategies.

Supporting caregivers ultimately benefits patients as well, improving the overall quality of cancer care.

Can Artificial Intelligence Help?

Digital health technologies and artificial intelligence are increasingly being explored as tools for patient education. AI-powered platforms can provide accessible information, explain medical terminology, answer common questions, and guide patients toward reliable educational resources at any time.

These technologies have the potential to expand access to psycho-oncological education, particularly where specialist psychological services remain scarce.

Yet both experts caution against viewing AI as a replacement for human connection.

"AI can provide information and educational resources. However, it cannot replace the value of hearing from someone with lived experience of cancer. A computer has never experienced cancer in the same way a person has. The human perspective, empathy, and understanding that come from lived experience remain irreplaceable."

AI may enhance psychoeducation—but compassion, understanding, and shared experience remain uniquely human.

Education as Supportive Care

Modern oncology has achieved remarkable advances in precision medicine and targeted therapies. Yet the success of treatment cannot be measured solely by survival statistics.

Helping patients understand what they are experiencing, preparing families for the challenges ahead, and equipping both with practical psychological tools are equally important components of comprehensive cancer care.

Psycho-oncological education does not eliminate fear or uncertainty. It gives people the knowledge to face them.

As cancer care continues to evolve, education should no longer be viewed as an optional supplement to treatment. It is an intervention in its own right—one that empowers patients, strengthens caregivers, reduces distress, and ultimately supports better outcomes throughout the cancer journey.

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Interviews

- **Carmen Monge-Montero,** Global Cancer Advocate, Researcher, and Founder of MANO Beyond Cancer
- **Kayla Fulginiti, LCSW, OSW-C,** Senior Director, Elephants and Tea.

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