Science Will Win Season 6

Prologue Script

Johanna:
There is always hope for patients even when they are diagnosed with cancer. I know the diagnosis of cancer is devastating to patients and to their loved ones. And I remember when I would meet people who were just diagnosed with their cancers, and I would take their hand, and I always said, I'm here to walk this journey with you.

Things are always getting better in our treatments for cancers. We're always getting better in diagnosing people earlier. We're getting better in developing treatments. We're getting better in supportive care. We're getting better in understanding how to better take care of patients and maintain quality of life.

RAVEN: I'm willing to bet that cancer has touched your life in some way. Maybe it was a parent, a sibling, or a close friend. Maybe it was a neighbor who waved at you every morning.

Every year, millions of people around the world hear the words "You have cancer." In the United States, that happens about once every 30 seconds.

Cancer looms *large* in our culture. Sometimes it feels too big to talk about. I get it!

But silence can make it feel even scarier.

It can lead to confusion, to someone not getting timely screenings, or it can mean that treatment options aren't getting to the people who need them.

Today, more than ever, there are scientific innovations that are making real progress in the fight against cancer.

That's why *we* don't shy away from the cancer conversation.

We're *going* to talk about it. Because when we talk about cancer, we take away some of its power.

[THEME SONG]

RAVEN: I'm Dr. Raven Baxter – I'm a molecular biologist and science educator. And I'm back as your host for season six of Science Will Win, which, you guessed it, is all about cancer.

As a molecular biologist, I've actually *worked* on cancer drugs in the lab. Cancer is such a complex set of diseases. Learning about all the different ways we can address cancer has been fascinating to me.

But beyond the scientific, you'll learn pretty quickly this season that people who I love have had cancer. So, this topic hits very close to my heart.

I really want to use my platform to educate people about cancer detection and treatment – and honestly, if just *one* person decides to get screened after listening to this podcast, that would be worth it for me.

Today, in this special prologue episode, we're going to set the stage: we'll break down the state of cancer today, how that's changed over time, and what questions we still have to answer.

Let's get into it.

[Music]

I'm gonna take you back to the year 2000 – a time that feels like a different world in how we understood cancer.

For much of history, cancer has been seen as a singular disease. By the year 2000, scientists had uncovered 100 distinct types. Cancer death rates were beginning to decline, but the numbers were still devastatingly high.

Research was pushing forward, though. That same year, the FDA approved the very first antibody-drug conjugate, or ADC, designed to deliver cancer-killing drugs directly to tumors while limiting damage to healthy cells.

Today, ADCs are recognized as one of the most exciting and promising treatment types in cancer care. For patients and researchers alike, this breakthrough was a glimpse into a future where treatments could be more precise, more effective, and more tolerable.

[Music picks up]

Of course, the approval of that first ADC was not the finish line - it was the starting point for a new era of innovation. Over the last quarter-century, we've completely revolutionized our understanding of cancer, and the landscape today looks entirely different.

> *Johanna:*
> *We've made a lot of progress in how we treat different types of cancers. We've got new therapies that are helping people –live longer with their cancers.*

RAVEN: That's Johanna Bendell, Chief Development Officer of Oncology at Pfizer – a company at the forefront of the fight against cancer. You heard from her at the top of the episode—and you'll hear from her again in episode one.

She's a former practicing GI oncology specialist who now oversees Pfizer's late-stage oncology development programs. So, she's especially tapped into the latest in research and treatment.

> *Johanna:*
> *In the medical community, we know that this is happening and that there is hope. And so for the patient that may not have that education or that knowledge yet, that's where it comes on the medical team to make sure that they know it too.*

RAVEN: Over the past decade, in the U.S., cancer death rates have *consistently* decreased by an average of 1.5% per year. That's thanks to a variety of factors—like advances in treatment, early detection, and a greater understanding of how to reduce health risks.

> *Johanna:*
> *We have a lot of different ways that we're behaving as humans in this world from potentially modifying our diets, doing more exercise. We have medications out there that are there to decrease the risk of cardiovascular disease and other metabolic diseases that actually might help affect the diagnosis of cancer that we're seeing.*

RAVEN: And scientists have continued to expand on our understanding of cancer as not just one disease, but a complex group of diseases. With molecular and genetic subtyping available today, scientists have identified over *200* kinds of cancer, each presenting very differently – which is why continued innovation is essential.

This progress has opened the door to precision medicine on a scale never before possible. Remember that first antibody-drug conjugate, or ADC, that came out in 2000? Today, there are *14* FDA approved ADCs for various cancers! And they're just one approach out of many new methods of treatment designed to slow or stop tumor growth that have been introduced since 2000.

Exciting research and a surge in oncology clinical trials are poised to bring the next wave of cancer breakthroughs to patients. Some of these breakthroughs include bispecific antibodies, which use the body's immune system to attack cancer, and next-generation small molecules — typically taken orally, these medicines are small enough to enter cancer cells.

People across the healthcare field are exploring ways to improve healthcare outcomes beyond treatment, and address disparities that exist in care. At the same time, digital tools, such as AI, are supporting smarter, more accurate, and faster scientific progress – bringing new, and better, treatment options to people with cancer sooner.

[Pensive music]

RAVEN: There's definitely a lot to celebrate and be hopeful about — but even with the latest advancements in science, cancer remains one of the biggest health challenges of our lifetime. Twenty million people globally receive a cancer diagnosis each year. And even with more

promising treatment options, it still can be life changing, devastating, and overwhelming to navigate.

Progress has brought about *new* trends – and the need for continued research. Why are certain cancers rising in younger adults at an alarming pace? Why are young women now twice as likely as men to be diagnosed with cancer?

All of the incredible advancements we've talked about so far are already being harnessed to understand and tackle problems like this. And they're changing the way patients and caregivers are experiencing and living with cancer.

And that's what we're exploring this season: the *latest* in cancer. The latest challenges, the latest research, the latest treatments, and the latest sources of progress and optimism that keep researchers going.

Here's just a taste of what's coming:

> *Karin:*
> *We are seeing a global pace of drug discovery accelerated beyond anything we've ever seen. There are some very innovative and exciting new targets that we will continue to develop and continue to pursue, but we're also looking at ways that technology can help move this forward.*
>
> *Marshall:*
> *Early detection is so vital... if you are feeling symptoms now, go get the screening now. Be an advocate. And if your primary care is refusing, get you another primary care that will, like, you have to be an advocate for your own life.*
>
> *Katrina:*
> *We cannot let cancer or any chronic illness define who we are.*
>
> *Dr. Dionigi:*
> *I feel joy in seeing them come back to clinic after everything is done and be grateful that they have their life back.*

[Theme song fades in]

RAVEN: Subscribe to this season of Science Will Win to hear more about inspiring new developments in cancer research.

Plus, you can tune in on YouTube for exclusive full-length conversations that didn't make the show, led by yours truly! Y'all, I am so excited for you to see what we have coming up.

Science Will Win season six is coming soon wherever you get your podcasts.