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Biomarker Testing

Stories Behind the Statistics

Real Tennesseans whose lives were changed because they had access to comprehensive biomarker testing that opened the door to the right treatment.



Stephen Lung Cancer Thriver, Husband, Father

"Biomarkers are the single most important thing that kept me alive this long."

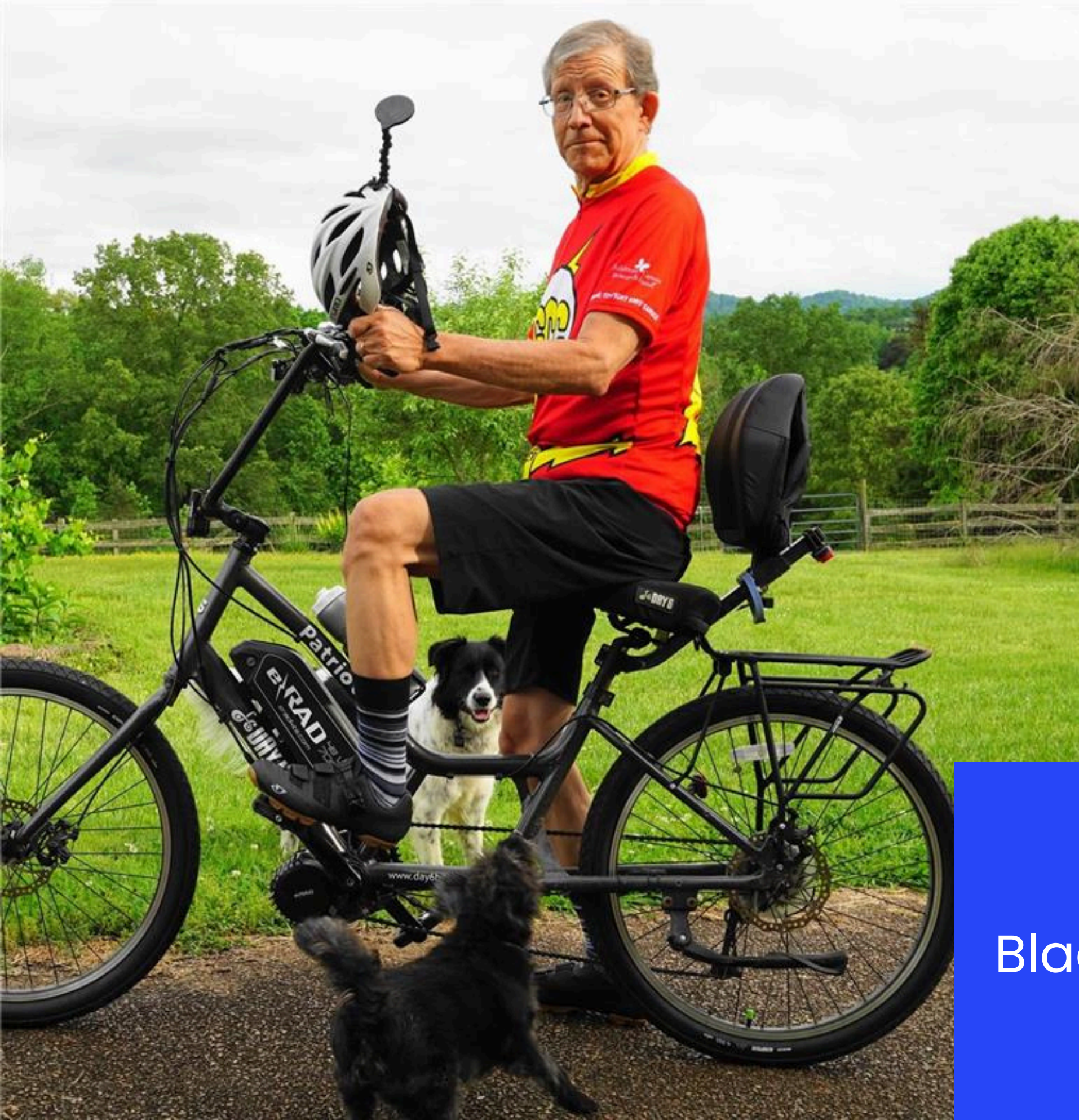
I was diagnosed with stage 4 lung cancer age 29, four months before my fiancée and I were to be married, and just five years after retiring from my professional baseball career. It was a huge shock: I had never smoked, and had always prioritized my health.

I was seeing a general oncologist who was eager to get me started and enrolled in a clinical trial immediately. However, my mother has worked in cancer research her entire career said, "We need to wait. You need to have biomarker testing. We aren't moving forward with treatment until we had a definitive direction to go."

So, I didn't sign up for the trial. And I waited for the results. That was incredibly hard, the first thing you want to do is fight back immediately, but the results took about three weeks. I'm so glad I waited. My biomarker test revealed that I had a biomarker that was seen in less than 5% of non-small cell lung cancer patients: ALK+. This came with good news: this specific biomarker has multiple targeted therapy treatments that my type of lung cancer is more likely to respond to.

If I had enrolled in the trial, I'd be giving my body treatments that my cancer wouldn't respond to as well. I think every patient across the spectrum who can benefit should have access to biomarker testing, regardless of what kind of cancer or insurance they have.

Here I am, 7 years later, I'm alive: I've changed careers, I've gotten married, we've welcome two children into our family. We always dreamed of having a family, and with my diagnosis, we weren't sure if it would ever be possible. Biomarker testing and precision medicine helped make that possible, and has given me more time to be here with my family.



Jon

Bladder Cancer Survivor, Husband,
Father, Researcher

"I do believe that if my disease does come back, I will see it first with biomarker testing."

The first sign of cancer was blood in my urine. My doctor had me get a CT scan that afternoon and a cystoscopy the next day. We saw a tumor which was later "scraped" away in an endoscopic procedure. The pathology came back as muscle invasive bladder cancer (MIBC). A chief concern with MIBC is whether it has spread outside the bladder. You can detect this spread with a PET/CT scan. Over 20 years ago, I led software development of PET/CT - and my first scan as a patient with this technology found my disease had spread to four local lymph nodes.

I began a new treatment - a combination of targeted chemotherapy and immunotherapy - the week it was granted accelerated approval by the FDA. I learned of a biomarker test validated to detect signs of my cancer at least 3 months before it could be seen by imaging. A series of imaging and biomarker tests came back negative. This evidence of complete response led to my decision, with support of my oncologist, to keep my bladder. Two years later, I have completed treatment and have no evidence of disease. I will continue biomarker testing as I believe it will be the first to alert me to take action again.



Beth

RA and Cancer Thriver, Mother, Wife, Professor

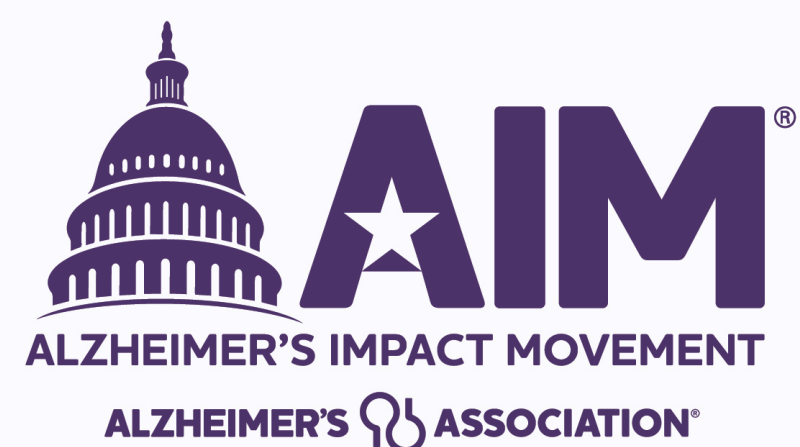
“Biomarkers are essential to helping our doctors make wise, timely, and effective medicine choices so we can thrive in each day we are given.”

As a fourth-generation rheumatoid arthritis (RA) patient, I know well the need for access to effective treatment and exactly where I'd be without it. I'd be curled up in bed in agony like my grandmother was for nearly twenty years before dying from complications from RA damage to her body.

At my first rheumatologist visit fifteen years ago, he said, “we can't cure arthritis; we can only hope to slow its progress.” With that in mind, he ordered biomarker testing to know how to better treat the RA quickly moving my former distance runner body to one needing a cane, walker, and electric scooter. Biomarker testing showed him which medicines would be more effective for my genetic predisposition to both RA and lupus. This testing helped him make better choices early in treatment to try and slow permanent damage and further disability. With RA and lupus, doctors aren't just concerned about pain and joint decay but with irreversible damage to major organs and overall health.

My story with biomarkers doesn't stop there. In 2024, I was diagnosed with triple positive breast cancer. As I'm now near the end of IV chemo treatments, I am grateful for how biomarker testing has helped my oncologist better design an effective course of treatment for me. Triple positive breast cancer is very aggressive with a high rate of recurrence. Biomarkers are essential in my fight with cancer now and later. Also, biomarker testing has helped my rheumatologist work with my oncologist for better treatment for my chronic illnesses as well.

Patients with autoimmune illnesses and/or cancer like me need access to good care. Biomarkers are essential to helping our doctors make wise, timely, and effective choices so we can thrive in each day we are given. As it says in Psalm 118:24 GW, “This is the day the Lord has made. Let's rejoice and be glad today.”



Tonya

Daughter, Advocate

“Sadly, dementia can impact anyone or any family. Expanding access to biomarker testing will profoundly impact the future trajectory and positively influence the future management of these diseases.”

My mother dedicated her career to education, continually enhancing her expertise to teach children during their formative years. She maintained an active and healthy lifestyle for many decades. Around age 65, we began to notice recurring behaviors and statements, as well as an increase in misplaced items. Despite these observations, her primary physician frequently attributed her symptoms to typical aging, as she was able to answer questions without apparent difficulty during appointments. Only after persistent communication regarding her behavioral changes was a referral and subsequent brain scan ordered, resulting in a formal diagnosis of Alzheimer’s disease at age 67. Unfortunately, by the time the disease was detectable on her scans, intervention options were limited.

Advancements in biomarker testing represent an important step forward. Early detection provides individuals and families with greater understanding of dementia, allowing them to make informed decisions, arrange legal documentation, and ensure meaningful participation in decision-making processes for those diagnosed. Current scientific research suggests that Alzheimer’s may be present in the brain for up to 20 years before any clinical signs are evident or detectable.

By assessing biomarkers such as blood, genes, proteins, DNA, and other molecules, researchers can improve treatment planning and investigate potential cures using the most current data. Sadly, dementia can impact anyone or any family. Expanding access to biomarker testing will profoundly impact the future trajectory and positively influence the future management of these diseases. Your support and approval are crucial and highly valued.



**Laura, in Memory of
Joanne**
Sister, Advocate

“I will carry her love forward, and I will fight for every sister, brother, parent, and friend still facing this journey.”

I advocate for Alzheimer's because of my sister, Joanne. I watched her lose memories that shaped our childhood, the fun stories that only we shared, and lose the pieces of herself that would never be replaced. Alzheimer's didn't just change her—it changed me.

When my sister passed, I decided to advocate to HONOR her—And to help other families that are walking this road. I will continue to push for research and biomarker testing that will change the future, and to make sure the world never forgets the people this disease tries to erase. Until the day Alzheimer's has a cure, I will continue to share my sister Joanne's story, I will carry her love forward, and I will fight for every sister, brother, parent, and friend still facing this journey.



Joe Advocate, Son

“...sound laboratory testing was not an option for us; it would have provided an extended runway for treatment options and extended time and life with our family members.”

I am driven to honor lost loved ones that have fallen to Alzheimer's and other dementia, while having a fire burning inside to find a cure and ensure other families do not have the same experience. My loving, active, and strong father, Henry, succumbed to dementia over 20 years ago, followed by the passing of his sister Josephine seven years later, and then seven years later my mom's sister Dolores. In addition to prematurely losing a dad and two precious aunts, our family has seen seven more in-laws and relatives fallen victim to a form of dementia. We experienced the lengthy cycle of waiting months, or years, for a timely and conclusive disease diagnosis while losing valuable time and seeing our loved one's decline accelerate and experiencing the increased demands in caregiving. From drug trials and nursing homes to overnight caregiving shifts and expensive home care, we did everything we could to try and slow the progress of these ruthless diseases, but the lead time was gone. Not having answers early on to prepare for the disease's path and having to follow a trial-and-error approach for treatments was unfortunately common then.

Accurate and sound laboratory testing would have provided us an extended runway for treatment options and extended time and life with our family members. Through recent developments in biomarker testing, accurate diagnosis and a course of action can now occur and extend the runway in the fight against the disease. Please reaffirm your commitment to fighting Alzheimer's by supporting biomarker testing in Tennessee. This would provide more patients with a precise diagnosis and disease state while providing critical insights into viable treatment plans and therapies for each individual's disease characteristics.



Griffin
Hemochromatosis,
Husband, Father

“Without biomarker testing, I would be living with a disease that could be slowly killing me.”

When my wife and I decided to try for our son, we paid for genetic testing out-of-pocket to make sure we were not passing down anything dangerous. While we had expected to find nothing, we found that I had tested positive for genes associated with a disease called hemochromatosis. This is often referred to as “Iron Man” disease, the body absorbs too much iron. I went to my doctor, and he did a biomarker test to confirm this diagnosis. Not only did I have the disease, but because I have it, our son would also have it.

Because we caught it in my 30s, we are able to manage the disease and test my iron levels accordingly. We will have to do the same with our son when he gets older. Early diagnosis is crucial for this disease. Without this testing, I would be living with high levels of iron in my body, which can lead to damaged tissue and organs, liver disease, liver cancer, and heart problems.

My treatment is simple and cheap, I just donate blood multiple times a year. My son will have to as well. But had we not caught this when we did, treatment down the road would have cost much more and likely could have cost me my life.



Olivia

Mental health advocate,
astrophysicist, mom

“This is not a story about a perfect solution, but about how access to biological insight can reduce harm and make treatment safer, faster, and more humane.”

I was first treated for depression at ten years old. At the time, psychiatric care relied on trial and error rather than biology. I was prescribed Prozac because my mother took it. It didn't help, but no one knew why, and there wasn't a path to figure out why. For years, I stopped treatment altogether. My symptoms felt manageable until graduate school: between the stress of an astrophysics program at Vanderbilt, parenting a young child, and worsening depression, my ability to function deteriorated.

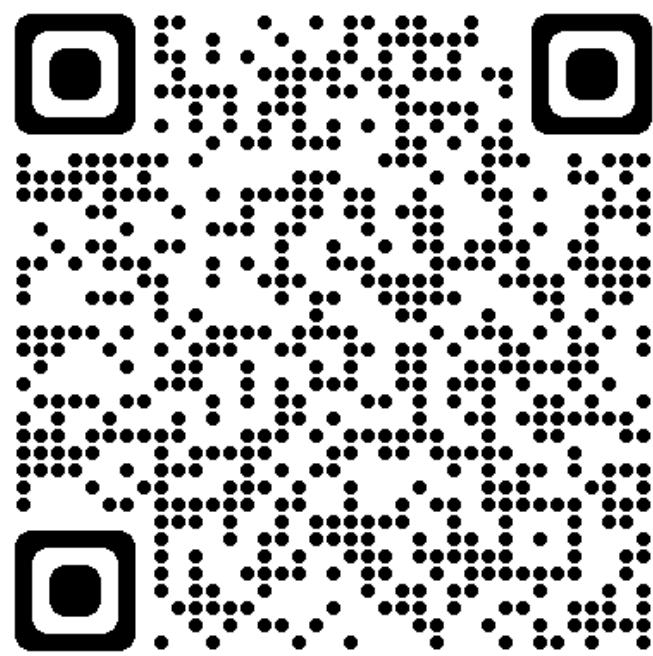
Treatment once again began with medication. Over the next few years, I was prescribed seven anti-depressants and five ADHD medications. None worked as intended, and many caused significant side effects, worsened my symptoms, or left me unable to function for weeks at a time. Despite the availability of a comprehensive biomarker test that can easily determine which psychiatric medications would be most effective for me, it took years of dealing with detrimental side effects before my insurance covered this test.

When I finally received the test, we learned that every medication I had been prescribed fell into the category “poorly metabolized.” My body simply could not process these drugs effectively. What appeared to be treatment resistance was actually predictable metabolism.

With this information, my care changed. My provider selected medications aligned with my genetic profile and adjusted dosing to account for how quickly my body processes them. It's not perfect, but I can function again, I have my life back. Looking back, the hardest part is knowing this test could have come first. It might have prevented years of ineffective treatment, worsening symptoms, and unnecessary suffering. This is not a story about a perfect solution, but about how access to biological insight can reduce harm and make treatment safer, faster, and more humane.

Stories Behind the Statistics

For more information about expanding access to biomarker testing in Tennessee, and to watch videos of Jon and Stephen, use the QR code below.



For questions about biomarker testing and Tennessee legislation:

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