

## 21 Years of NCI CURE

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National Institutes of Health

I thank Dr. Springfield for the kind introduction and for her incredible support of the UMB CURE Scholars Program. Dr. Springfield is a presence at UMB. She comes to our ceremonies, our celebrations, our presentations. She understands our progress and our challenges. The scholars who are with us today—they see Dr. Springfield, they know her, and they know they have the full weight and confidence of the Center to Reduce Cancer Health Disparities behind them.

I thank Dr. Lowy and the entire leadership and staff of the National Cancer Institute. I'm indebted to NCI for the vision and the courage it took to design this program more than 20 years ago, and I thank you for modeling so extraordinarily well what we hope to replicate at UMB.

It is our privilege to have such wonderful examples—such instructive examples—of success all around us. You are what keeps us going, keeps us excited, and keeps us dreaming of what we might ultimately achieve.

### **Why CURE?**

The seeds of the UMB CURE Scholars Program were planted before I ever arrived at UMB. A dozen years ago, I was the dean of the University of Kentucky College of Medicine. For those of you who know Kentucky, you know it's not a diverse state: 88 percent of the population is White.

And, every year, I saw the students who matriculated into Kentucky's medical school—a starkly homogeneous group, hardly any students of color among them. And it worried me.

It worried me not only from an equity and social justice perspective, though I think equity and social justice are critical. It worried me, as well, because I knew our medical students would be, as physicians, responsible for the care of all people and populations. And if they were to provide effective care for all, they would need to be culturally competent.

We have to start developing that competence in school—alongside classmates of color, classmates of different backgrounds and life experiences. I didn't want my students' first immersive experience with diversity to come in a patient setting, when their skill deficit could, in fact, cause harm.

So with Dr. Elsie Stines, my colleague in the Dean's Clinic, I started reaching out to undergraduates of color who were interested in health careers. Each year, we'd see a group of 40–50 students. We'd get together with them informally—talk about their plans and aspirations—and they were so enthusiastic about careers in biomedicine.

But a few years into college, that pipeline was leaking terribly. The number of students still on a health care track shrunk significantly. They grew discouraged, their preparation was lacking, and eventually they chose other fields.

And that's when I realized that you can't start building this pipeline in college; it's already too late. You have to reach scholars when they're young, when they're excited, before educational deficits can form themselves into insurmountable obstacles. We know we have significant breaches in our pipeline, and we know those breaches are costing us so much talent, year after year.

### **The Early Days of UMB CURE**

These lessons stayed with me when I came to UMB. Dr. Stines and I asked the University of Maryland Greenebaum Comprehensive Cancer Center and its director, Dr. Kevin Cullen, to partner with us. Of course, all of us knew the enormous success of the NCI CURE Program, and we were confident that we had something innovative to contribute to the model—the age at which we started engaging and recruiting scholars.

The CRCHD grant we were awarded in 2014 put us on the incredible path we're on today. We hired Dr. Robin Saunders as program director. After a year of planning, we were ready in fall 2015 to induct our first cohort of 6th graders into the UMB CURE program.

We selected three middle schools in West Baltimore where we already had close relationships established. And then we began recruiting. We interviewed the hopefuls, asked about their interest in science and their commitment to the program. That was our baseline criterion—not whether their grades were the highest in the class, or their test scores better than the other students'. It was whether they understood the commitment they were taking on and whether this was something they really wanted.

And, still, we knew this would be an intensive program, requiring not only a lot of the students' time, but also requiring sacrifice on the part of their families. After all, the scholars would have to get to and from activities and events, using transportation that's often unreliable. They'd have to spend several hours away from home each week—time they might otherwise spend helping out with their siblings and with the running of the household. Their parents often work multiple jobs, and losing the help of their children—that extra set of hands—is absolutely a sacrifice.

So we over-enrolled. We thought we'd shed students throughout the year, as the commitment intensified. And we have experienced some attrition since then, but perhaps we didn't fully appreciate the scholars' enormous dedication to this program. After two full years, we've retained 36 of our original 41 scholars—now rising 8th graders. That's an 88 percent retention rate.

We learned our lesson in year 2, and inducted a smaller class than year 1. In our second cohort—now rising 7th graders—we have 25 scholars.

Twice a week, the scholars come to the UMB campus after school for tutoring and for science workshops and experiments. On Saturdays, they're on campus all day—in our classrooms, laboratories, and operatories—interacting with our faculty and our researchers.

They learn about anatomy and physiology, about how disease spreads and about the grave disparities we see in the health of populations. They learn about food science, kinesiology, healthy living, and healthy eating. They learn about oral health and pharmacology. We've even

got a program on genomic science, led by our renowned genomics institute. Their engineering skills get a workout, too: They build robots and bottle rockets and lava lamps and gliders.

The yearlong program is supplemented with our 6-week summer camp. A lot of the summer activities are science-focused—yes—but some of them are just plain fun: swimming in the University’s pool, playing basketball at our rec center, going to an Orioles game or the aquarium or the zoo. Having fun is important, building connections is important, finding a community of care and encouragement is important.

And it’s paying off: Among all scholars, we have a 90 percent attendance rate for after-school activities. For Saturday activities, we have an 84 percent attendance rate.

### **The Community of Care**

And this is where I need to talk about the “community of care” I just invoked. Because the reason our scholars have stuck with this program, the reason they show up—day in and day out, sometimes against all odds—is that we have assembled around these scholars a reinforced community of support.

Right now, we have 182 mentors—five mentors for every scholar. They’re UMB students, faculty, staff, and friends. They come from all seven of our schools—medicine, dentistry, pharmacy, nursing, social work, law, and our graduate school. The mentors are deeply invested in these students, in their lives and in their success. If this program requires sacrifice from our scholars and their families, it requires the same from our mentors. But you can just see that it’s a labor of love for them.

The CURE Program has catalyzed something special at UMB. It’s brought us together. Our faculty and staff spend countless hours planning and delivering programs tailored to the CURE curriculum. They leverage their influence and their relationships to create some once-in-a-lifetime opportunities. It’s not unusual to see some of our best-known researchers taking the scholars on a tour around their labs, sharing their work, and modeling the passion and discipline that science demands.

### **The CURE Effect**

Our two-year track record at UMB pales next to your 21 years of success, but we do have a lot to celebrate. Here’s just a sample.

At one of our partner schools, Green Street Academy, the scholars’ school attendance rate this year was 93 percent. Our 6th-grade scholars at the school boasted an average GPA above 3.0. At Southwest Baltimore Charter School, fully 100 percent of the 7th-grade scholars had a GPA of 3.0 or higher.

One of our scholars from Franklin Square Middle School started the program two years ago with math scores below a 3rd-grade level. In just two years’ time, her scores climbed 154 points. She’s now doing math at the 6th-grade level. In that same two-year span, her family moved—a couple of times, in fact—and she’s endured tragedy and trauma, and seen violence up close, *too* close. Despite all this upheaval, she stayed in our partner school because she couldn’t bear to leave the CURE program.

We have scholars who never miss an after-school activity, who never miss a Saturday session, all the while dealing with challenges at home that many of us would find unfathomable. That's the resilience we see in our scholars every day.

And we see a dramatic shift in what the scholars want for their future. We're fortunate to have about 30 of our scholars with us today, and they'll tell you themselves how their dreams and plans have changed since they entered the program.

A couple of years ago, when they applied to UMB CURE, we asked them the question that adults *always* seem to ask: What do you want to be when you grow up? Let me tell you: There were a lot of singers and basketball players, hairdressers and NFL stars on those applications.

Now they want to be surgeons, scientists, inventors, pediatricians. I know we have a paleontologist in the group and a NASA astronaut. Now they want to help children like themselves and families like their own. They want to care for their neighbors and their neighborhoods. And, yes, they want to cure cancer.

They just needed more options. They just needed more role models who look like them, who understand them, who share their background. They just needed a community of care telling them that their plans are doable, their dreams achievable—with the right access and opportunity. They just needed hope.

And that reassurance has transformed these scholars into some of the most poised and confident young people I've ever seen. They're developing into true leaders. The 7th graders are already role models to the 6th graders coming after them.

These students know they're pioneers. They know the program's sustainability depends on their making it a success early on. And they take that responsibility seriously. One of our scholars just proposed establishing a Student Government Association for the group. You'll see the scholars' confidence on display this afternoon, when some present their research posters—their exploration of different types of cancer, and each cancer's prevalence in African American communities. They presented these posters a couple of months ago at the annual meeting of the American Association for Cancer Research. They were the first-ever middle schoolers to present at the meeting, and they were amazing. Our own 7th-grade scholar Princaya Sanders delivered a powerful keynote on why this nation needs more physicians and scientists of color.

### **The Challenges to Sustainability**

Right now, we're looking forward to the milestones ahead. We induct our third cohort of scholars this fall. And just last month we signed agreements with three Baltimore City high schools. The schools will reserve seats in their classes each year for our scholars. These high schools have terrific life sciences programs, great facilities, and committed faculty.

And yet we're well aware of the challenges that remain. Frankly, the struggles that greet our scholars at home are more than we anticipated. Our program director, Dr. Saunders, calls these challenges complex, layered, unique, and dynamic. They can inhibit the scholars' hopes and diminish their goals. We need to engage a social worker full-time to support our families and help us manage these obstacles.

School mobility is a significant issue for us as well. It's one of our biggest threats to program retention. Housing for West Baltimore residents is often unstable, unreliable, and multiple moves—often within a single school year—aren't uncommon. Of course, this kind of transience wreaks havoc on the continuity our scholars need. We have to find a way to keep these scholars in our partner schools, and help their families find stable, secure housing.

### **Transforming Communities**

My bottom-line takeaway from two years of the UMB CURE Scholars Program is that it *can* be transformative. Not only for the scholars, but for their families, too, for the communities they call home, for the people who will be served by their work in research and health care, for their fellow scientists and providers who will learn from these colleagues, and, ultimately, for a better system of U.S. health care—one that addresses the unfair and immoral disparities we see in the health of populations.

What you are supporting at UMB is important. It matters. And on behalf of the 31 scholars with me today, and the 30 more back home in Baltimore; on behalf of the enormously dedicated people who run the program seven days a week, long into the night; on behalf of our mentors who care so deeply for these young students, I offer you my profound gratitude.