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Treating the System: A Spotlight on Dr. Salma Abdalla

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"In Sudan, if you get really high grades in high school, you become a doctor or an engineer," Dr. Salma Abdalla laughed, recounting her initial introduction to medicine. Though a physician by training, Abdalla doesn't currently practice medicine. Rather, she's an Assistant Professor at WashU's School of Public Health, and a researcher who investigates how social and economic policies impact health outcomes. From authoring dozens of papers on health policy and mental health to coauthoring the Surgeon General's Report in 2021 and assisting the World Health Organization (WHO) in reviewing the COVID-19 response, Abdalla's work speaks for itself. Getting there, however, required leaving medicine behind.

Abdalla attributes this pivot towards public health and policy research to a realization that struck her during medical school. Deeply passionate "about helping people in [her] community," Abdalla "thought medicine was a good vehicle to do that." But, once inside the hospital, a pattern emerged: I got into medical school in 2007 and it was clear most of the health issues [my patients] faced came from factors outside of the healthcare system."

At first, Abdalla assumed the solution was to "fix the health care system" from within, which drove her to work with the Minister of Health in Sudan. Two experiences during her rotations would prove her wrong. The first was a malnourished infant, less than one year old, who kept returning to the hospital. "He would always come to the hospital," Abdalla explained, "because his family didn't have enough food to feed him well enough, and they weren't educated." Every time, the treatment was the same. "We would give him food for malnutrition so he would get better, then he would leave, and then he would come back again after a few months." The futility hit her immediately. Not only was the child suffering, but she knew early malnutrition carried "developmental delays that would affect him for the rest of his life. There must be a better way for the system to intervene," she thought.

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The second came from advocacy campaigns Abdalla worked "to eliminate female genital mutilation (FGM) in rural areas in Sudan." There, she encountered a striking paradox. "Mothers who themselves underwent FGM still thought [FGM] was the best way to go [for their daughters], despite health complications." It "wasn't because they didn't know it's bad for their health," Abdalla clarified, "they just thought there's something larger they need to worry about."

That larger concern was financial security. For many families, FGM is a precondition for marriage. And, as Abdalla explained, for a lot of women who are not educated, marriage is the only reliable path to financial security. Just talking to mothers about health risks, no matter how medically sound, was not sufficient. This problem operated at an entirely higher level.

These two experiences crystallized a distinction Abdalla would carry through her entire career: the difference between a treatment intervention and a systemic one. Telling someone what's bad for their health means very little if the conditions shaping their choices remain unchanged. The solution, she realized, must come from upstream.

What Abdalla lacked, until 2014, was a framework. That came through an internship at the WHO's Social Determinants of Health Unit. There, Abdalla met Sir Michael Marmot, the "father of social determinants of health," who gave language to everything she'd been grappling with. Marmot spoke to her about "how political systems, economic systems, and social systems" also determine health outcomes. "I was sitting in Geneva," Abdalla recalled, "and it just clicked when someone explained how an entire system actually shapes health outcomes." She chuckled, "I think the next day, I just applied for my master's degree."

That application led her to Boston University (BU). At BU, Abdalla found her mentor, Dean Sandro Galea, whose research centered on "social and economic policies'" and their impact on health outcomes. At BU, Galea's research targets perfectly matched Abdalla's budding interests.

One of the first areas she gravitated towards was mental health, and she immediately ran into a wall of skepticism.

Abdalla explains. Yet, her work consistently proved the opposite. It was actually the "poorest people who are most affected by [mental health conditions]. If you're someone who lost your job and you don't have enough money, you're actually more susceptible to depression. But society is set up in a way that is minimized and people think, oh no, it's only rich people who have the time to worry about their problems." What this resistance to mental health research ultimately reflects, Abdalla argues, is the broader tendency in how we

"tell stories about diseases in a way that minimizes the social and economic factors that shape them."

To avoid these pitfalls, Abdalla grounds her research in systems thinking. This concept demands one thing above all: the recognition that solving one problem without understanding the whole can quietly create another.

The consequences of ignoring systems thinking became clear to Abdalla during her time on the WHO's independent panel reviewing the global COVID-19 response. More specifically, Uganda's case still features prominently in her mind. "Uganda didn't have a lot of COVID-19 cases," Abdalla noted, "Education was picking up [in Uganda]…COVID hits, and they managed to control it, but they also closed their schools." Two years later, Uganda's schools are still closed. "Now there is a generation of kids in Uganda that missed school who didn't need to." In fact, since education is a strong determinant of health, Abdalla argues that these kids' "health outcomes are likely going to be much worse." One question driving her research crystallizes here. Why do decision-makers keep missing the full picture?

Abdalla's Lancet paper on cardiovascular disease may offer one answer to why we currently have, as she puts it, "policies in place that clearly privilege a very small minority of people." The paper finds that the top 20% of earners saw consistently better health outcomes than the rest of the population. Yet, beyond this finding is a crucial implication. "The top 20 percent matters, at least for me," Abdalla expressed, "because those are the people who make policies—the people running the hospital, the politicians, and the judges. These are the ones who actually make the decisions that affect the rest of the population." "Our hope," Abdalla says, "is just to shed light on those connections"—ones that the very people responsible for fixing them may not even recognize they're missing. That's the core of why Abdalla's research matters.

But Abdalla isn't just theorizing about her research's impact on policy. Working with Bloomberg Philanthropies across 15 cities globally, she is now evaluating whether recommended interventions actually work. In Dakar, Senegal, her team will spend the next four years tracking whether policies improving access to healthy food in schools actually reduce child obesity. "I'm really excited about this," Abdalla beamed, "Now I can see whether or not the type of work we're doing actually improves health outcomes."

Abdalla noticed a deeper-rooted issue in modern-day public health—the collapse of public trust. Trust is all about "actually convincing people that what we're doing is reasonable, is scientific, and we actually care about the health of the population…and it seems like there is a big gap there." To her, this dilemma demonstrates how "public health itself is at such a pivotal moment right now." It was this pivotality, coupled with the potential "to think differently about how we train, think, act, and do public health differently," at WashU's new School of Public Health, that brought Abdalla from BU to St. Louis. In fact, WashU's location in the Midwest matters deeply for Abdalla to begin addressing the crisis of trust. "I think I get to speak to more people who might have different views than me, which I very much appreciate," Abdalla explained, "especially if we want to talk about trust, that's where we need to start."

The topic of trust is also the animating concern behind the Purple Public Health Project, developed alongside Dean Sandro Galea, who became WashU's inaugural School of Public Health dean in January 2025. The name signals their intent to move beyond political polarization in public health and focus on practice and communication. Abdalla is direct about what that requires.

> ***"We can't do this except by going on the ground, talking to people, listening to people who have been leading communities for a while, and then hopefully learning from them."***
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In fact, her team "just did a survey of about 6,000 public health professionals across the U.S…taking it to the ground and seeing, what do communities actually think of us? And what can we do to improve?"

The tension she's working through is most visible in debates like harm reduction. The science supporting hard reduction is solid, but advocacy campaigns that frame the issue purely in moral terms tend to trigger an equal and opposite moral counter-framing from communities. To Abdalla, the failure isn't scientific—it's empathetic. "If trust is the goal, then separating the science from your values is the only path," Abdalla said.

> ***"Are you, as someone doing harm reduction, who clearly cares deeply about this, capable of saying: those are not bad people. They just have a very different view of the issue than me?***
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Abdalla is asking these hard questions, which don't have straightforward answers. So, she started the Healthier Futures Lab—a think tank and gathering point for researchers wrestling with the same questions about public health's future. Already, like-minded researchers have reached out wanting to collaborate, proof perhaps that the questions Abdalla is asking are the ones the field has been quietly sitting with for a while.

For students wondering how any of this gets started, Abdalla's answer is simple. "I think you need to read a lot," she says, "and you need to read from different disciplines all the time." Yet, reading isn't the full picture. The other ingredient is discomfort. "If you're interested in this, that means something is bugging you that you've seen that just doesn't make sense," she tells students. "You should research the thing that's bugging you a lot." For those who don't yet have a thing that's bugging them, she has equal advice: find someone whose work you admire, reach out, and say yes to projects until one clicks.

This is, in a way, the same philosophy that has always guided her. Years ago, a malnourished infant kept returning to the hospital, yet standard treatment kept falling short. That nagging feeling never left her. The itch, it turned out, was all she needed to follow. ■