



It's Not One Thing, It's All Things

Shari Barkin, MD, MSHS

From the Academic General Pediatrics, Vanderbilt University Medical Center, Nashville, Tenn

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Address correspondence to Shari Barkin, MD, MSHS, Academic General Pediatrics, Vanderbilt University Medical Center 2200 Children's Way, 8158 Doctor's Office Tower, Nashville, TN 37232 (e-mail: Shari.barkin@vumc.org).

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IT WAS 1993 on a dry, beautiful day in Hollywood, California. I was a second-year resident at Children's Hospital Los Angeles and was assigned to handle any traumas that came through the door of our Emergency Department. That day it was 2-year-old boy, a victim of a dry-by shooting where a bullet ricocheted into his brain. My job was to stabilize the bleeding. Was this preventable? Was there something doctors could contribute to addressing the problem of youth violence? Fast forward to 1999 on a rainy damp day in Winston-Salem, North Carolina. I was in the clinic and it was as if I had new eyes—why did so many of my Latino patients suddenly look more overweight and obese than the other children in my clinic. This is not just the introduction of this new thing called the internet. What factors contributed to this? What can we do to understand and intervene?

I am drawn to understanding public health issues, like violence prevention and obesity, working in the real-world as my messy laboratory. That is why I need a control group, because everything is changing all the time and we can not know all the factors that could affect the outcomes.

Looking over more than two decades of research, I have garnered three key insights:

1. It is not one thing, it is all things: While basic science discoveries often fit into a Newtonian paradigm of linear cause and effect, when examining common chronic diseases like obesity, it is complexity science that offers us more insight. Complexity science examines the emergent properties of systems, understanding how components interact. For childhood obesity, this means looking for nonlinear relationships and considering the context in which physiology meets sociology.

2. It is not alone, but together: We are designed to be a social species, our survival depends on this. We are not individual agents acting completely independently but we live in social structures—families, friends, neighbors, teachers, and those we do not even yet know who are likely to influence us. While existing social networks often reinforce our current behaviors, new social networks introduce new ideas, and new behaviors. In our research, we build in the development of new social networks as part of our behavioral interventions for parent–preschool–child pairs as we seek two-generation solutions to improve the health of both children and parents.
3. It is not one-at-a-time, but over time: We are not only a snapshot in time, we are a movie. What adds to our narrative is what has come before, what is happening now, all the complex interactions between genetics, behavior, and environment overtime, and what that means could be done to shift the trajectory toward health and away from disease. Using a life course lens, changes the questions we ask and the potential interventions we develop and test.

I am truly honored to receive this award and to be acknowledged by my valued colleagues as making meaningful contributions to pediatric research. Research is a team sport and I am grateful to my research team and all the students and mentees with whom I have worked over the years.

After all, academic pediatric research is. . .

1. Not one thing, it is all things
2. It is not alone, but together
3. It is not one at-at-time, but over time.