

# ST. LOUIS METROPOLITAN MEDICINE

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## DISPARITIES IN HEALTH



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# When Treatment Doesn't Lead to Healing

## How trauma and toxic stress impact health

By Fred W. Rottnek, MD, MAHCM, Saint Louis University School of Medicine

Empathy has its limits.

As physicians, we are trained to care for our patients. Sometimes that caring is relatively straightforward. We listen, we evaluate, we diagnose and we treat. Goals are clear and attainable.

But we always have patients who are difficult to treat. We may try our best to care, to place ourselves in their situation, and to imagine what they need to be healthy. We may go out of our way in providing referrals, staff support, and resources for them to be successful. But ultimately they do not get better. Many times, they make choices that lead them down the path toward illness, and we are left scratching our heads. Seemingly, no amount of time, no amount of empathy makes a difference in our outcomes.

Persistently poor outcomes are frustrating to the patient and to the physician. They lead to poor individual health, poor outcomes for family and communities, and ultimately strained systems of care.

In this article, we look at research that resulted from one physician's struggle with persistently poor outcomes that led him to discover a root cause of illness and self-defeating behavior. In 1985, Dr. Vincent Felitti, chief of Kaiser Permanente's department of preventive medicine, could not understand why patients continued to drop out of his obesity clinic even after experiencing success in losing weight. Through his persistent quest to find an answer, he discovered an alarming number of his patients had experienced sexual assault and experienced significant weight gain only after the assault. He learned why overeating was a preferred solution for patients.<sup>1</sup>



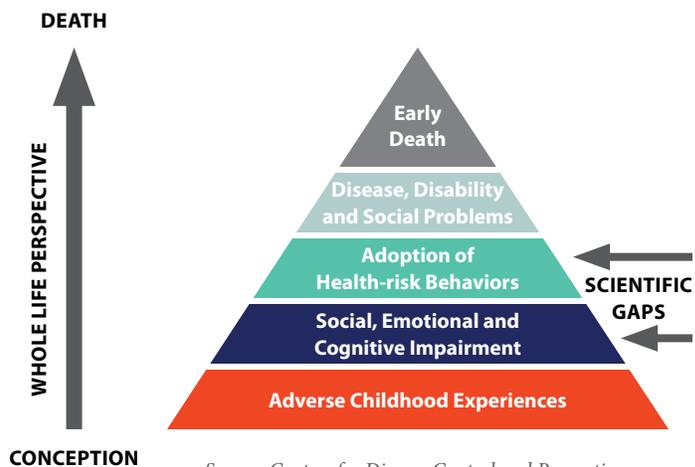
Dr. Fred W. Rottnek

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*For more information about Alive and Well STL, visit [www.aliveandwellstl.com](http://www.aliveandwellstl.com).*

His acknowledgment of this root cause and his modification of his practice to address it with his patients not only brought him greater clinical success, it sparked a collaboration with his health system and the Centers for Disease Control and Prevention. This work ultimately led to the Adverse Childhood Experiences (ACE) Study, which some have called, "the most important public health study you never heard of." In short, the study demonstrated a staggering correlation between adverse events as a child and poor health outcomes as an adult.

The ACE Pyramid represents the conceptual framework for the study.



Source: Centers for Disease Control and Prevention.

Today, the ACE study is shaping how we think about improving the health of our community. As leaders of the St. Louis Regional Health Commission, we are particularly interested in how we can apply the findings from this research to reduce health disparities in our region, leading to better health outcomes for all citizens, regardless of age, race, sex or insurance status. Many attempts have been made to reduce these disparities. Solutions often have been focused on the delivery of health care to uninsured and underinsured individuals.

Historically, St. Louis—like most communities—has served uninsured and under-insured patients through public hospitals and clinics. Some of the names of the public hospitals may sound familiar, but all of their doors closed during the

last century. Homer G. Phillips, St. Louis Regional Hospital, City One, and others are now part of the archives of St. Louis history. The closure of the last public hospital—St. Louis Regional Hospital—marked a turning point in the delivery of health care to the uninsured and underinsured.

Regional leaders determined that the community did not need more hospital beds to provide health care to the uninsured and under-insured but instead needed viable physician services located in the communities of highest need. In 2001, the St. Louis Regional Health Commission (RHC) was formed to restructure the safety net system and ensure its financial stability.



Today, the St. Louis health care safety net includes a network of five community health centers and area hospitals and medical schools. The RHC in partnership with the State of Missouri operates a Medicaid 1115 Waiver—Gateway to Better Health. This is an outpatient coverage model, serving as a temporary funding source for the region’s health care safety net, currently scheduled to expire at the end of 2015, or when Missouri expands Medicaid.

More than 21,000 otherwise uninsured adults in St. Louis City and County are currently enrolled to receive basic medical services through Gateway to Better Health. These individuals represent about 50 percent of uninsured adults living in poverty in St. Louis City and County. Of those enrolled, about 50 percent are living with a chronic condition, most commonly diabetes or hypertension, or both.

## The physicians at our community health centers know simply providing access to medical care isn’t enough to improve the health of our region. ▶

The physicians at the community health centers are on the frontlines treating these patients and their chronic diseases along with the thousands of other patients they treat each year, most of whom are uninsured or insured through Medicaid. The physicians at our community health centers know simply providing access to medical care isn’t enough to improve the health of our region.

### Comparison of Mortality Rates by Race for Selected Chronic Conditions, 2008-2009

Age-adj. rates per 100,000 COMBINED CITY AND COUNTY	WHITE	BLACK	HIGHER RISK
HEART DISEASE	194.0	294.0	↑52%
Chronic Ischemic	81.6	97.5	↑20%
Acute myocardial Infarction	58.2	79.9	↑37%
Hypertensive	7.2	32.0	↑344%
Heart Failure	12.3	16.1	↑31%
CANCER (all types)	173.0	240.0	↑39%
CEREBROVASCULAR (stroke)	38.1	64.0	↑68%
DIABETES	14.5	40.7	↑180%
KIDNEY DISEASE	12.3	31.4	↑155%
ASTHMA	19.0	34.0	↑80%
CHRONIC LIVER DISEASE/CIRRHOSIS	6.6	7.4	↑12%

✓ Indicates chronic conditions in which age-adjusted risk for death among African-Americans is over 100% greater than the risk among Caucasians.

*The table presents information that for many chronic conditions African Americans have at least a 30% higher mortality rate than Caucasians. The relative risk for three conditions—hypertensive heart disease, diabetes and kidney disease—is substantially greater or double.*

This discussion about our regional health outcomes began in earnest in 2010 when the RHC released a *Decade Review of Health Status*,<sup>2</sup> focusing on the changes observed in our region’s health since the formation of the RHC. Over the observed ten-year period, St. Louis City and County saw a substantial drop in mortality attributable to leading chronic health conditions, including heart disease, stroke, diabetes and cancer. Between 2000 and 2010, the rate of heart disease mortality fell 29%; diabetes mortality rates declined 24%; and mortality for breast, lung, colorectal and prostate cancer fell (11-24%).

Despite an improvement in health status in the St. Louis region over the past 14 years, race- and gender-based disparities persist. In 2010, three-fold differences or greater were observed between African-Americans and Caucasians in diabetes and AIDS mortality, low birth weight, and emergency

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room visits attributable to childhood asthma. Two-fold or greater differences were observed between males and females in heart disease, stroke and diabetes mortality.

**The ACE study led by Dr. Felitti, demonstrates that persistent, toxic stress creates poor health outcomes. The study also highlights the prevalence of trauma and toxic stress in our society. ▶**

After the RHC published the *Decade of Health Status Report*, the Missouri Foundation for Health and area universities undertook an effort to dive deeper into the underlying cause of the highlighted disparities. This work—*For the Sake of All*<sup>3</sup>—details the factors that lead to poorer health outcomes, particularly among African Americans. The result of this work and national research demonstrate that while the health care delivery system can impact health outcomes once someone is sick, the system may have little impact on preventing poor health—especially in communities that experience significant stress. While access to physicians, medications and other health services is necessary, and just, it is not enough.

The ACE study led by Dr. Felitti, demonstrates that persistent, toxic stress creates poor health outcomes. The study also highlights the prevalence of trauma and toxic stress in our society. Conducted in 1995, patients enrolled in the Kaiser Permanent HMO in San Diego, received questionnaires asking about adverse childhood experiences. The topics included physical and sexual abuse, emotional and physical neglect, the marital status of parents, and having family members who were incarcerated or had a mental illness. The physicians conducting the study assigned each patient an ACE score by assigning points for each adverse experience the participant reported.

The results revealed the prevalence and impact of traumatic experiences. One in eight of the surveyed population had an ACE score of four or higher. In addition, researchers identified a staggering correlation between negative childhood experiences and adult health outcomes. For nearly every chronic disease and addictive behavior, the correlation between a high ACE score and poor health outcomes was nearly linear. Based on the study, patients who reported an ACE score of four or higher were four

times as likely to have emphysema or chronic bronchitis, twice as likely to be diagnosed with cancer, twice as likely to have heart disease, seven times as likely to experience alcohol abuse and twice as likely to smoke. When controlling for lifestyle by looking at patients who did not smoke, drink to excess, and were not obese, patients with an ACE score of 7 or more were 360 percent more likely to have heart disease than those with an ACE score of zero.<sup>4</sup>

The correlation between traumatic and stressful childhood events and negative adult health outcomes results not only from behavioral factors but also from biological changes to the body. For example, the increase in stress hormones can cause increases in glucose levels and blood pressure. When these hormones overload the body for a long-period of time, particularly in youth, individuals experience negative effects that impact physical, psychological and neurological development.<sup>5</sup>

The prevalence of toxic stress and trauma in the region is inhibiting people's abilities to be healthy and well. To continue supporting a healthy population, the RHC is working with regional partners and community members to build a resilient and trauma-informed community under the name Alive and Well STL. The RHC encourages service providers both in health care and other sectors to become trauma informed, and create understanding and acceptance in the general community of the fact that good health is a result of both physical and emotional well-being. This also will highlight the region's best practices for trauma-informed services to ensure that mental wellness is a funding priority for the State of Missouri, foundations and other funders.



St. Louis is the latest region to build upon the ACE study to reimagine a healthy community for all. Communities across the country are engaged in efforts to become “trauma informed.” We are hopeful that our trauma-informed community will prevent illness before it occurs, giving people the skills, tools and resources they need to overcome the stress in their lives in order to lead a healthy life. As physicians, when we encounter patients whose health is not improving despite our every effort, perhaps we should ask about the stress in their lives. Connecting patients to resources to help them heal from

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**AGE 3 – GRADE 6**



On September 30, 2014 more than 150 community members and health care professionals gathered to begin planning the Alive and Well STL initiative sponsored by the St. Louis Regional Health Commission (RHC). Participants in this conversation engaged in small group conversation about:

1. The impact of trauma and toxic stress on our health
2. The barriers to becoming "Alive and Well" and
3. Actions we can take to advance the emotional and physical wellness of our community using the research around the impact of trauma.

stress and trauma may improve their health more than any other intervention we can recommend.

To learn more and to become involved in Alive and Well STL, visit [www.aliveandwellstl.com](http://www.aliveandwellstl.com).

(Right) During the September 30, 2014 Alive and Well STL Community Conversation, an artist illustrated the discussion. This design is based on the group's conversation on how we can become Alive and Well in St. Louis.



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