PANHANDLE HEALTH

A QUARTERLY PUBLICATION OF THE POTTER-RANDALL COUNTY MEDICAL SOCIETY

SUMMER 2022 | VOL 32 | NO. 3

Social Determinants of Health

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On The Cover: *Sunflowers* by Marsha Clements

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President's Message: *Happy Summer!*

by Evelyn Sbar, MD, FAAFP, AQH

Happy Summer! It is that time of year where we say goodbye to graduating medical residents as they embark on new practices and educational opportunities. Simultaneously, we open our doors to new bright-eyed interns eager to take on the world of 21st century medicine!

However, as another May (Mental Health Awareness month) ticks off the calendar, I can't help but worry about our profession. I have never been a fan of the term "burnout". I have always believed in the "suck it up" and " fake it 'til you make it " principles of my mentors...that is until I lost another friend and colleague to suicide. Call it burnout, call it depression, call it whatever you want but it appears the same traits that help us excel in our profession are likely to make us experience burnout and mental exhaustion.

While we encourage our patients to seek care for their mental health conditions, as a group, physicians still fear the stigma and possible effects such a diagnosis might have on licensure. In addition, the "physician personality" with an exaggerated sense of personal responsibility, doubt, and guilt drives us to be crushingly dedicated to our work and also at the greatest risk for being consumed by it. Revenue expectations, busier schedules, documentation and administrative duties mean less time to spend with our colleagues and a tendency to cope alone. Pair that with the survival mentality that persists throughout residency and we continue these traits through our entire career. (AMA July 20, 2018).

Sadly, 300 physicians a year die by suicide in the U.S. Compared to nonphysicians who took their lives, physicians were less likely to be participants in mental health treatment even though depression occurs at the same rate in both groups. The suicide rate among male physicians is 1.4 that of the general population, and for female physicians, it is even worse at 2.27 times the general population. We know that the risk of suicide increases when mental health conditions go unchecked – depression, anxiety, insomnia – it is too easy to self-medicate and not effectively treat the underlying problem.

While we may not realize it, unaddressed mental health concerns are much more likely to have a negative impact on our professional reputation than reaching out for help early (ACGME.org Ten Facts about Physician Suicide). So as the Panhandle summer descends on us, check on your colleagues...check yourself. We can no longer "suck it up". That is nothing more than perseverance. We must move to ENDURANCE and pace our lives and handle survival. I'll leave with you an updated adage: " Don't fake it 'til you make it. Face it 'til you make it. Get up. Work hard. Fail. Get help. Stand back up. Face it again. Do a little better. Fail again. Get help. Get back up. Repeat. (Anonymous)"

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Executive Director's Message

by Cindy Barnard, Executive Director

Social Determinants of Health

I imagine that the above topic of this journal is unfamiliar to many of us. Quite simply, social determinants of health (SDOH) are the conditions in the environments in which people are born, live, work, play, worship and age. The latter affect a wide range of health, functioning and quality of life outcomes and risks. SDOH also represent nonmedical factors such as housing, transportation and poverty, all of which affect the public's health. Differences in these conditions may put people at risk for poor health outcomes. During all stages of life, "health is determined by complex interactions between social and economic factors, the physical environment, and individual behaviour. These interactions do not exist in isolation from each other." One public health agency identifies 12 determinants of health: income and social status, social support networks, education and literacy, employment/working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic environment, health services, gender, and culture.

"The concept of 'place' is used to help understand how these determinants impact health." Obviously, different places have different social, economic and physical conditions impacting health status, risks, health behaviors and opportunities. In addition, 'place' affects the patterns of social interaction and well-being. "The SDOH objectives have been organized into five place-based domains: economic stability, education access and quality, health care access and quality, neighbourhood and built environment and social and community context. Understanding and addressing place-based determinants linked to health disparities can improve health and advance health equity."

Clearly, SDOH is a very broad topic. We hope you find aspects of SDOH interesting as well as educational. A notice to our member physicians – we must fill vacancies on our Board of Directors and our Panhandle Health Editorial Board. Our Board of Directors meets every other month and the Editorial Board every month. Our meetings do not last over an hour and include dinner. If you have more questions about what these positions entail or simply want to fill a vacancy on either Board, again, please call our office at (806) 355-6854. We hope to hear from you soon. Thank you.

Our Next Issue Of
Panhandle Health
Features:
Update in Diabetes

Message from the Potter-Randall County Medical Alliance

by Tricia Schniederjan, President

The Alliance had a wonderful event at the Power of the Purse Luncheon supporting The Laura Bush Institute for Women's Health here in Amarillo. We hosted our TMA Alliance President Libby White. We enjoyed spending time with her discussing ideas and issues that they are working on at the state level.

Join us in July as we welcome our new medical residents and their families to town at a Sod Poodles baseball game. Look for the invitation in the mail.

If you haven't renewed your membership now is the time. It's going to be so much fun!

Guest Editor's Message:

Social Determinants of Health, Why Here and Why Now?

by Sheryl Williams, MD

Concerns over the effects of social determinants of health (SDOH) are not new. Physicians have always been admonished to "prescribe the right medication" based on formulary availability so patients would not have to pay out of pocket or, worse, not be able to afford certain medications at all. However, SDOH are more than just prescribing habits. The World Health Organization (WHO) defines SDOH as "The conditions in which people are born, grow, live, work, and age" and can be linked to an estimated 30-55% of health outcomes worldwide (1). Our healthcare system has conveniently ignored the effects of these determinants to focus on diseases and treatments, despite the fact that so many of our common maladies (such as obesity, diabetes, hypertension, heart disease, and cancer) can be linked directly to failure within the SDOH framework. As our current healthcare model transitions to value- and outcome-based care, we need to become more cognizant of treating our patients within the framework of where they live, work, and how they are able to access healthcare.

Social determinants of health are usually defined as the patient's conditions in six major areas: economy, education, food availability, healthcare access, neighborhood, and community. Each of these areas need to be examined individually, but they often interact to keep patients in a cycle of poverty and poor health.

These major areas can be further subdivided into issues of employment status and worker safety, gender inequity, racial bias, food insecurity, childhood development, crime prevalence, and access to safe recreational and leisure activities.

In the U.S. much has been said about SDOH but, in reality, little has been done. A 2016 article by Perla, et al (2) reminds us that "only 10% of health outcomes are affected by medical care, whereas 60% are rooted in social and environmental factors and associated behaviors." The authors suggest that, while Berwick's Triple Aim of improved care experience, reduced costs and improved population health has sparked success in bending the curves in cost and quality, the third aim of "population health was elusive – a Ghost Aim" (2). Unmet social needs are major factors in the health of our patients. As physicians and as members of healthcare organizations, we must be willing not only to advocate for the needs of individual patients, but also to operationalize efforts in the greater realm of population health – including access, equity, and timeliness.

Before change can be initiated, the need for change must be defined and measured. Problems found in Amarillo, Texas are not quite the same as those in New York, Los Angeles, or even Houston. The U.S. Department of Health and Human Services has created data-driven national objectives through Healthy People 2030, a program that includes 355 core public health objectives. Developed by national working groups, Healthy People 2030 provides 10-year targets based on evidence-based interventions. The Social Determinants of Health Workgroup focuses solely on SDOH. Communities, states, and organizations across the country use Healthy People objectives to set their own priorities, based on this database of hundreds of evidence-based interventions and resources.

In this issue of Panhandle Health, we will explore specific examples of SDOH interventions and how they are improving lives in Amarillo and the Panhandle. Access to care will be discussed by Dr. Alan Keister and Anna Gonzales from their experience with Heal the City free clinic, Dr. Skye McLaurin from Texas Tech in the perinatal care continuum, and Mary Coyne from her experience in behavioral health. In a separate article, Dr. Steve Urban and Dave Clark will explore access to rural health care. Zack Wilson of the High Plains Food Bank will discuss how food insecurity ties into

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Panhandle Eye Group
Texas Oncology
Women's Healthcare Associates
Amarillo Anesthesia Consultants

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health status and Jason Riddlespurger will discuss housing and health inequities. Anette Carlisle, our education specialist, will discuss how educational status effects healthcare outcomes, Pam McCarty of the J.O. Wyatt clinic will explore how affordable childcare has affected family health (especially in the setting of the COVID pandemic), and Dr. Zane Grodman will discuss the effects of the SDOH during disasters. Dr. Ako Bradford will discuss healthcare equity in light of racism, and Dr. Scott Milton will analyze our local data on health disparities during the COVID pandemic. Finally, we are providing a directory of local resources, assistance, and support programs used by our hospitals' case managers and social workers when transitioning our patients back to their homes.

Addressing SDOH is a huge undertaking. So Why Here and Why Now? Aside from the basic answer that it is the right thing to do, alleviating some SDOH will improve the health of fellow Texans, reduce cost pressures on the healthcare system, and decrease the waste in healthcare utilization. By tackling upstream problems before they surface to cost us time, money, and resources, we can circumvent or at least ameliorate the downstream consequences. Preventing strokes, heart attacks and heart failure by managing blood pressure, cholesterol and obesity is of benefit both to patients and to our healthcare system. Preventing the complications of diabetes such as amputations, advanced renal disease, and blindness keeps patients employable and functional, decreasing disabilities. These past two years of COVID have pointed out even more starkly the inequities in our delivery of healthcare, education, housing, and nutrition. Why now? Because if we continue to practice the same methods and actions, we will simply continue to get the same results. (Dare I quote Dr. Urban: "The more times you run over a dead cat the flatter it gets.") Now is the time to improve our system, expand our viewpoint, change our approach to dealing with inequalities that promote unhealthy lifestyles and actions, and take ownership of what we do best – managing health and wellness for all our patients.

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1) World Health Organization website. Retrieved 4/4/2022 from https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1.
2) Perla RJ, Onie R, Lee TH. Population health: The ghost aim. NEJM Catalyst. 2016; Retrieved 4/5/2022 from https://catalyst.nejm.org/doi/full/10.1056/CAT.16.0568.
3) Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved 4/5/2022 from https://health.gov/healthypeople/objectives-and-data/social-determinants-health.

Dr. Sheryl Williams received her medical degree from the University of Texas Medical Branch at Galveston. She completed her residency and internship at Texas Tech University Health Sciences Center in Amarillo. Dr. Williams is board certified in Internal Medicine and is a member of the PRCMS. She is currently associated with the BSA Hospitalist Group.

PANHANDLE HEALTH

A Publication of the Potter-Randall County Medical Society

Editorial Policy and Information for Authors

Purpose *Panhandle Health* strives to promote the health and welfare of the residents of Amarillo and the Texas Panhandle through the publication of practical informative papers on topics of general interest to most physicians while maintaining editorial integrity and newsworthiness.

Spectrum *The Journal* seeks a wide range of review articles and original observations addressing clinical and non-clinical, social and public health, aspects as they relate to the advancement of the state of health in the Texas Panhandle. Pertinent letters to the editor, news submissions, and obituaries listings are accepted pending editorial review. The Editorial Board accepts or rejects submissions based on merit, appropriateness, and space availability.

Submission process Material should be e-mailed to the editor at prcms@suddenlinkmail.com or mail a hard copy to Cindy Barnard, PRCMS, 1721 Hagy, Amarillo, TX 79106. A recent photograph of the author (optional) and a curriculum vitae or a biographical summary are also to be submitted.

Conflict of Interest Authors must disclose any conflict of interest that may exist in relation to their submissions.

Journal Articles Manuscripts should be double-spaced with ample margins. Text should be narrative with complete sentences and logical subheadings. The word count accepted is generally 1200 to 1500 words. Review articles and original contributions should be accompanied by an abstract of no more than 150 words.

References References to scientific publications should be listed in numerical order at the end of the article with reference numbers placed in parentheses at appropriate points in text. The minimum acceptable data include:

Journals: Authors, article title, journal, year volume, issue number, inclusive pages.

Books: Author, title, place of publication, publisher, year.

Web sites: URL of the site and the date the information was accessed.

Other sources: Enough information must be included so that the source can be identified and retrieved. If not possible, the information for source should be included parenthetically in the text.

Illustrations Illustrations should be black and white only with complete-sentence legend.

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Letters Letters will be published at the discretion of the editor and editorial board. The length should be within 400 words. References should not exceed five. All letters are subject to editing and abridgment.

News News should be e-mailed prcms@suddenlinkmail.com or mailed to Cindy Barnard, PRCMS, 1721 Hagy, Amarillo, TX 79106.

Obituaries Listings of deceased members of PRCMS with highlights of their contributions are published when adequate information is available.

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The Hitchhiker's Guide to Case Management

by Sheryl Williams, MD and Nicki Davis

Hospitalists have always been touted as the solution to help hospitalized patients traverse the medical system in a safer and more efficient pathway. After all, we are the "experts" in hospital medicine therapeutics, guideline adherence, latest safety measures, and efficiency. Managing length of stay (LOS) has been the recent focus of CMS, insurance companies, and accountable care organizations (ACOs). As a card carrying hospitalist, I know we should be really good at this….right?

The truth of the matter is that it is teamwork that makes for effective and efficient patient care. Clinical teams of physicians, mid-levels, nurses, and therapists all work together to guide the clinical course of the patient. In this scheme, though, Case Management teams are essential in preparing the patients for discharge and transitioning them to the outpatient management of their problems. Social determinants of health are not just an inconvenience to the patient but play a major role in how patients access care, understand their care while in the hospital, and then follow up in the outpatient setting. Regardless of what we want for our patients, the disadvantaged patient has a more difficult time understanding their condition and affording medications, therapy, and post-acute care. Even for patients with insurance, coverage for Skilled Nursing or LTAC may not be approved by their payer. Case Managers and Social Workers are the ultimate McGyvers in working to provide the necessary care, medications, and equipment to safely transition patients out of the hospital. This article is mainly a resource: a Hitchhiker's Guide to navigating the services available in the Panhandle for our patients who require assistance in accessing care and basic necessities. Don't panic – and remember to pack your towel!

The following resources are used not just to arrange discharges but also to

| *continued on page 12*

TABLE 1. HOUSING PROGRAMS & SHELTERS, UTILITY ASSISTANCE, AND BASIC RESOURCES

RESOURCE	PHONE	ADDRESS	SERVICES
HUD (Housing & Urban Development) / City of Amarillo Community Development:	(806) 378-3098	509 E 7th Ave	Housing assistance
Faith City Mission	(806) 373-6402	401 SE 2nd	Emergency shelter, food, clothing
Salvation Army	(806) 373-6631	400 S Harrison	Emergency shelter, food
Amarillo Housing First	(806) 414-2243	200 S Tyler St. Ste. 1A	Mobile Shelter Unit; HOPE: Homeless Outreach Program
Another Chance House	(806) 372-3344	209 S Jackson St.	Emergency shelter; Transitional housing for men
Martha's Home	(806) 372-4035	1204 SW 18th Ave.	Transitional housing for women and their children
Downtown Women's Center	(806) 372-4035	409 S Monroe	Transitional housing for women and families
Catholic Charities	(806) 376-4571	2801 Duniven Circle	Affordable/ low income housing; Emergency youth shelter
Panhandle Community Services	(806) 372-2531	1309 SW 8th Ave	(CEAP) Utility Assistance; Weatherization
Canyon Cares	(806) 655-1032	1719 5th Ave. Canyon	Assistance with rent, gas, electricity & water
Public Utility Commission of Texas	(512) 936-7000		Website: puc.texas.gov; Low income assistance programs

RESOURCE	PHONE	ADDRESS	SERVICES	DAYS/HOURS
SNAP: Texas Department of Health and Human Services	(806) 376-7214	2406 W 6th St	Nutrition program for low income individuals & families	
Meals On Wheels	(806) 374-1521	219 W 7th St	Meal services for elderly homebound or unable to prepare meals	M-F
High Plains Food Bank	(806) 374-8562	815 Ross St	Commodity supplemental food program: for seniors who struggle with food insecurity; SNAP assistance; Nutrition education	Call for more information
Catholic Charities	(806) 376-4571	2801 Duniven Circle	InterFaith Hunger Project: for those living on fixed income (55 & older or those with disabilities at any age)	Tu-Th 9AM-2:30PM
Bethesda Outreach	(806) 381-0361	1101 N Panhandle Blvd	Food pantry; Clothing assistance	Wednesday 9:30 AM
Acts Community Center	(806) 418-2136	202 S Louisiana	San Jacinto residents only: food, hygiene, clothing, & baby supplies	Call for more information
Washington Street Family Service Center 9-10:30	(806) 352-1307	4400 S Washington	Food pantry; Clothing assistance	M 6-7; Tu & Th 5-6:30; Sat
Perkins Community Center	(806) 372-3954	1515 S Buchanan St	Emergency food; Clothing assistance	Tu & Th 9-10:45 AM
Wesley Community Center	(806) 372-7960	1615 S Roberts	Food, clothing, housing, utilities & other basic needs	
Salvation Army	(806) 373-6631	400 S Harrison	Food & clothing for low-Income families/Individuals	

TABLE 2. MEDICATIONS, MEDICAL CARE, MENTAL HEALTH AND SUBSTANCE ABUSE PROGRAMS

MEDICATIONS RESOURCE	CONTACT	SERVICES
Walmart/Target	Visit websites or local locations	$4/$10 generic medications
Heal the City	609 S. Carolina / (806) 231-0364	Physicians at Heal The City prescribe prescriptions and assist with prescription refills free of cost
Needy Meds	needymeds.org	Website includes comprehensive lists of programs and companies offering lower cost meds Provides assistance with online applications and offers medication coupons
Partnership for Prescription Assistance (PPA)	pparx.org	Assist uninsured, low-income individuals access free or low-cost meds and healthcare services
Rx Assist	rxassist.org	Resources for low-cost meds; Searchable database by drug or pharmaceutical company
Rx Hope	rxhope.org	Helps low-income US residents access free or low cost prescriptions; Access to pharmaceutical companies with drug discount programs
Rx Outreach	rxoutreach.com	Mail order discount drug program; Eligibility based solely on income
The Medicine Program	themedicine program.com	Assists those who may qualify enroll in one or more of the many patient assistance programs

MEDICAL CARE RESOURCE	PHONE	ADDRESS	SERVICES
Regence Health Clinic	Martin Rd: (806) 374-7341 Coulter Rd: (806) 322-3273 Outreach Clinic: (806) 345-7917	850 Martin Road 1301 S Coulter Ste. 200 723 N. Taylor Street, Suite B	Medical, dental & behavioral Medical Medical Full-service primary health care system. Accepts most insurance, Medicaid, CHIP, Medicare, Self-Pay and provides sliding fee discounts to those who qualify
Northwest / JO Wyatt Clinic	(806) 351-7200	1411 East Amarillo Blvd.	Community health center; Services for low-income individuals
Northwest Women's & Children's Clinic	Northeast location: (806) 351-7600 Southeast location: (806) 351-7540	1411 East Amarillo Blvd. 1900 SE 34th Ave.	Clinic offers obstetric/gynecological services and pediatric care
Heal The City	(806) 231-0364	609 S Carolina	Hours: Monday- (Acute Care) Arrive at 1:30 to receive a number & return at 4:00 to see a provider Thursday: (Lab Review) 12:00-2:00; Urgent care services for the uninsured, no appointment needed. Diagnostic services, dental exams, immunizations, pharmacy, vision referrals, spiritual support, diabetic education and mental health services

SUBSTANCE ABUSE PROGRAMS RESOURCE	PHONE	WEBSITE	SERVICES
Alcoholics Anonymous (AA)	24 hr answering services: (806) 329-3088 / (877) 421-4334	nwta66.org	Alcohol abuse support
Narcotics Anonymous (NA)/Nar-Anon	24 help line: (806) 429-2171	amarilloareana.org	NA: Drug abuse support; Nar-Anon: Family support group
Al-Anon/ Alateen	(806)371-6366	amarilloareaalanon.net	Al-Anon: Family support for alcohol or substance abuse Alateen: Support for those under 20 who have lived or live with someone who abuses drugs or alcohol
Amarillo Council on Alcohol & Drug Abuse (ACADA)	(806) 374-6688	acada.org	Drug and alcohol abuse support; Outpatient treatment programs
Cenikor	(806) 318-7712	cenikor.org	30 day residential treatment facility for drug and alcohol addiction
The Pavilion	(800)557-2585 / (806) 354-1810	pavilionnwtexashealth care.com	28 day inpatient substance abuse program; Intensive Outpatient Program
Faith City Mission	(806) 373-6402	faithcity.org	Hope for Men or Hope for Women Program: 12 month discipleship program dealing with drug or alcohol addiction; biblical support & educational classes
Downtown Women's Center	(806) 372-3625	dwcenter.org	Recovery programs for single women or women with children

MENTAL HEALTH RESOURCES RESOURCE	PHONE	ADDRESS	SERVICES
Texas Panhandle Centers Behavioral & Developmental Health (TPC)	Non-Crisis: (806) 337-1000 Crisis: (806) 359-6699	Administration: 901 Wallace Blvd	Mental health services Amarillo/rural behavioral health; Intellectual & developmental disabilities; Veterans' services; Children's services; Respite care
The Pavilion at Northwest Texas Healthcare system	(806) 354-1810 / (800) 537-2585	1501 S. Coulter	24 hr emergency assessments; Inpatient treatment; Partial hospital programs Intensive outpatient programs; Aftercare groups; Community support groups First responder/military groups; Addiction treatment; Panhandle employee assistance program
Family Support Services (FSS)	Administration: (806) 342-2500 Crisis Hotline: (806) 374-5433 Spanish Hotline: (800) 799-7233	1001 S. Polk	Counseling services/programs; Crisis Services; Advocacy Services Public education/prevention programs; Veterans' resources/programs
National Alliance on Mental Illness (NAMI)	Helpline: (800) 273-8255 Texas Panhandle: (806) 678-7385	Meeting/Class Location: 1401 S Polk St. Rm 105	Programs offer support, education and advocacy for individuals living with mental illness and their families
The Agape Center: Amarillo Area Mental Health Consumers	(806) 373-7030	Polk Street United Methodist Church: 1401 South Polk St	Peer support groups; Mental health education groups Advocacy training; Individual peer mentoring
Wesley Community Center	(806) 372-7960	1615 S Roberts	Social Services Programs: Mental health counseling services for low income families in crisis on a sliding scale according to family's income; Additional services for basic needs

provide options for patients to access particular needs on their own. These resources are dynamic and may change from month to month based on funding and resource availability. Trying to address every social need is a nice goal, but the reality is that sometimes change is slow. Sending a patient out of the hospital may sometimes involve the patient needing to take responsibility to contact resources and follow up for care on their own. Case Management teams try to equip each patient with the tools and resources to smooth the pathway, but patient responsibility is of paramount importance.

Homelessness and poverty are the most obvious basic needs affecting many of our patients.

These tables are not an exhaustive list of resources but serve as a starting point to assist patients to combat their deficiencies in basic food, shelter, and access to medical care. The ultimate solution is not a case-by-case short term fix for individual patients, but investment in addressing the global social determinants of health.

Nicki Davis graduated from WTAMU in 2000 with a Bachelor of Science in Nursing and started working in the ICU at BSA, where she worked as a staff nurse and relief charge nurse for 18 years. In 2006 she joined the Case Management team at BSA, while continuing to work in the ICU on a prn basis. She became the director of BSA Case Management in 2018 and is currently still in the director's role.

TABLE 3. RESOURCES FOR SENIORS & CAREGIVERS

RESOURCE	CONTACT	ADDRESS	WEBSITE	SERVICES
Area Agency on Aging of the Panhandle	(806) 331-2227	415 SW 8th	theprpc.org	Benefits counseling; Information, referral & assistance Care coordination; Caregiver support program; Ombudsman program Congregate/delivered meals; Adult day care; Transportation; Emergency response services
Jan Werner Adult Day Care	(806) 374-5516	3108 S Fillmore	janwerneradultdaycare.org	Transportation for clients to the center and medical appointments Meals provided and dietary counseling; Medical services/physical rehab Alzheimer's day care; Organized activities; PACE program
Amarillo Senior Community (ASCA)	(806) 374-5500	1220 S Polk St	(membership required)	Activities & meals; Clubs; Additional services to connect members to resources and programming
Senior Ambassadors Coalition	(806) 340-5377	PO Box 2024	sac-panhandle.com	(membership required); Homebound grocery delivery; Promotes accessible transportation Community education; Elder abuse awareness; Vials of life
Amarillo VA Hospital	(806) 355-9703	6010 Amarillo Blvd. W	amarillo.va.gov	Caregiver support services for qualified veterans' families
Alzheimer's Association-West Texas Chapter	(806) 372-8693	5410 S Bell St. Ste.411	alz.org	Support groups; Early-stage social engagement program; Community education programs

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Upstream Solutions Provide Downstream Benefits:

Social Determinants of Health and Heal The City Free Clinic

by Alan Keister, MD, FACP and Ana Gonzalez, MSW

Up the river without a paddle is an idiom to describe when someone is stuck in a difficult situation without the resources that are needed. It also is a good description of what it feels like for many to navigate their health care when they are economically and educationally challenged. An anecdote that describes this issue is the story of the three doctors who find themselves in the jungle. As they are standing by a river, they hear a baby's cry. They look in the river and they see babies floating and sinking in the river. Immediately, the first doctor jumps in and throws as many babies as he can to the shore. The second doctor starts gathering limbs trying to build a raft to put the babies on and save more. Finally, the third doctor starts running upstream. The other doctors scream, "Where are you going?" He replies, "I am going to see who is throwing the babies in the river." The idea of thinking of upstream solutions is really the challenge of addressing social determinants of health.

Social determinants of health are defined as the economic and social conditions that influence the health status of individuals and groups. Certainly, a global pandemic highlights how these factors impact the health of the most vulnerable. Serving as a primary care doctor both in private practice and at Heal the City Free Clinic has opened my eyes to this issue in new ways. In my private practice, my patients have insurance, usually are well-educated, and often employed. They generally have the resources to pay for their care and their medications. Most can read and are actively engaged in their health care journey. Most have healthy relationships and are connected to the community. This is rarely the case at Heal The City.

Texas has the lowest insured rate in the United States. In Amarillo, 1 in 4 adults does not have medical insurance. Even more distressing is seeing the differences between Potter and Randall Counties. Potter County is in the bottom 10% of counties in Texas in health outcomes while Randall County is in the top 10 % of Texas counties. The economic and educational disparities are evident between counties. In Randall County, 96% of adult residents are high school graduates and 74% have some college. In Randall County, only 13% are uninsured and 11% of kids live in poverty. In Potter County, 90% of adults are high

| *continued on page 14*

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school graduates and only 45% have some college education. Potter County is 24% medically uninsured, and 28% of kids live in poverty. {www.countyrankings.org}

So how does this translate into real-world situations? A patient presents to Heal the City clinic and I ask about his diabetes control. He tells me his blood sugars fluctuate. I ask if he is taking his insulin and he says no. Immediately I am frustrated, and I ask why he doesn't take the free insulin we are giving him. His reply: I only take my insulin when I know I am going to have food to eat. And suddenly I realize this patient is living in chaos mode. I do not understand the choices he has to make every day because it is outside my experience. I now recognize the judgments I make about my patients' compliance have more to do with my understanding the social determinants of health than with my patients' motivation. Each day our patients must figure out how to feed their families and themselves, how they will get to work, and pay their bills. Their health is an afterthought. Surviving one day at a time leaves little time to plan and invest in their future.

The Center for Disease Control defines social determinants of health as life-enhancing resources (such as food supply, housing, economic and social relationships, transportation, and education) and their effects on health care. Our community is blessed to have many organizations trying to address different aspects of the social determinants of health, but clearly there are many sides to this problem. This issue of Panhandle Health explores the unique ways our region is tackling the challenge. Heal the City has partnered with many of these innovative groups.

As I write this article, we just celebrated Martin Luther King Jr's birthday. Dr King once said, "Of all the forms of inequality, injustice in healthcare is the most shocking and inhumane." The breadth of the problem is overwhelming, but our community is striving for solutions. One of the upstream solutions at Heal the City involves the way we educate patients. Each patient who is interested in enrolling in our Shalom Chronic Care Program meets with one of our social services team. During the appointment, the patient is assessed with the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE). PRAPARE helps health centers such as Heal the City by collecting data and providing the primary care providers with information about their patient's social determinants of health (National Association of Community Health Centers , 2019). This tool also aids the social services team to understand the needs of the patient and the barriers they are facing in their daily lives. When reviewing the success of our orientation program in the Shalom Chronic Care Program, our social service team noted gaps in our patients' ability to grasp and retain information about how the program works. Part of the issue was related to literacy. Despite sending patients home with a notebook of information, we found that many could not read. The team came up with a solution to use QR-coded videos recorded in the native language of patients for education. The patients can scan the code and watch the video over and over at their convenience. This is an example of unique way HTC is trying to address literacy gaps with our patients.

Another solution that HTC is implementing is a wellness program for our patients. We know that our patients have more incentive to participate when they have skin in the game. In order to stay in the Shalom program, patients must participate in 2 wellness classes a month. The classes range from exercise to financial management to spiritual classes. Patients not only improve their physical health, but they also connect with staff and other patients to build community. The results of this program are encouraging because the most vulnerable patients appear to benefit most from the program. We look forward to sharing the results of this program and hope to use it as another upstream resource to share with other clinics.

One of the interesting aspects of Heal the City Wellness Program is how it addresses the social relationships in our vulnerable population. The classes were intended to improve the individual lives of the patients. What we did not realize is how it would impact the patients collectively by creating a unique community. Many of the patients at Heal the City are isolated and disconnected. The wellness classes give our patients the opportunity to connect with others. A patient will come to a class and meet another patient. By the end of the class, they are asking "Hey, are you coming to that walking group class next week?" Soon these disconnected people become friends and encourage one another on their healthcare journey. Community is one of the paddles that helps our patients navigate the river; it is upstream thinking. The fascinating thing is that, when we made these wellness classes a requirement, we had no idea that this sense of connectedness would result.

Thinking upstream is the key to navigating the unique challenges of providing health care to marginalized. Our community seeks to find innovative ways to address these issues. Heal the City continues to test the waters in a collaborative way. We are trying to understand our patients' unique circumstances as they try to swim upstream. Helping them by intentional use of technology for improving our orientation is one of the tools. Incorporating mandatory wellness requirements reinforces the importance of investing in exercise for better health. Connecting them with community through wellness classes furthers their integration into the community. Upstream solutions take time and testing to refine, but the process is worthwhile if it can keep patients from drowning in their chaos.

Dr. Alan Keister attended medical school at the University of Texas Southwestern Medical Center. He completed his internship and residency at the Vanderbilt University School of Medicine. Dr. Keister is board certified in Internal Medicine. He a member of PRCMS and is currently associated with Amarillo Medical Specialists.

Ana Gonzalez graduated from West Texas A&M University with a Master of Science in Social Work. She was born in Ciudad Juarez Chihuahua, Mexico and moved at age 10 with her family to the United States. Ana says that "being an immigrant and coming from a low-income family has made me aware of the barriers each of our patients at Heal the City face every day. I am thankful that my job provides me with the ability to give back to my community and help people get access to adequate healthcare."

Comparing COVID Deaths for Potter and Randall County: *Socioeconomic Factors* A review of the 2018 Community Health Assessment

By Scott Milton, MD

Although readers may be tired of hearing about the COVID-19 pandemic, I've written this article for the purpose of summing up its impact on our community and as the final manuscript that I will write on the subject in this journal. Since this edition is dedicated to social impacts on medicine and healthcare, I will use COVID mortality data to highlight the social and cultural differences in our community, specifically, between Potter and Randall counties. I think the difference in the number of deaths between the two counties – with Potter County suffering 729 deaths and Randall County suffering 507 deaths at the time of this writing – is astounding and highlights the social factors that can lead to poor health outcomes and a more vulnerable community at large.

The 2018 Community Health Assessment (CHA)

In 2018, a community health needs assessment was conducted by the City of Amarillo Public Health Department. Data for the Community Health Assessment was obtained by performing a random-digit dial telephonic survey, a key informant survey, interviews with focus groups (end users of the health system in Amarillo), and a community health data scan (publicly available data review). The Community Health Assessment also incorporated portions of the United Way Report, which is used as guidance for potential grant programs and projects. The United Way Report focuses on three main areas of concern: education, health and income stability. The CHA incorporated health topics and data trends from this report. Finally, the CHA utilized data from the University of Texas Center for Population Health as a source for information about infant mortality. Infant mortality rates in various ZIP Codes were derived from birth records in Texas between 2011 and 2015.

I was the Health Authority in 2018 and had the opportunity to review the results of the CHA with the rest of the staff at the health department as well as with community leaders. The results of this assessment, while sobering, offer insight as to why Potter County suffered so many more deaths than Randall County. Therefore, I'll provide a brief summary of the CHA for the reader. Of note, the Community Health Assessment is available at the Amarillo Public Health department website, and I would encourage anyone interested to review the full report.

Health Practices and Outcomes as measured by the Community Health Assessment

Chart #1 compares Potter and Randall counties among the 254 counties in Texas (lower number is better or more positive).

Health outcomes include length of life and quality of life. Health behaviors include tobacco abuse, diet and exercise, alcohol and drug use and sexual activity. Clinical care includes access to care and quality of care. Social and economic factors include education, employment, income, family and social support and community safety. Physical environment includes air and water quality and housing and transit. (Several supplemental graphs can be accessed at the Amarillo Public Health Department website.)

One can see the stark differences between the counties and can therefore understand why the results of this assessment were so sobering. Potter County ranks amongst the lowest in Texas in most of these categories. Death from cancer, cardiovascular disease, and diabetes are all significantly higher in Potter County when compared to Randall County, Lubbock County and the state of Texas. In addition, smoking, sexually transmitted diseases and obesity are also more prevalent in Potter County residents. These differences certainly are important in explaining the 728 COVID deaths in Potter County – over 220 more than have occurred in Randall County

Perinatal care and infant mortality

Care received in the first trimester of pregnancy was also compared amongst these entities. Once again, Potter County was significantly lower in comparison. The report states that many industrialized nations use prenatal care as a predictor of overall health status. 75% of pregnancies in Randall County received the first trimester care, while slightly more than 50% the pregnancies in Potter County received first trimester care.

Infant mortality rates were also analyzed by ethnicity including all, White, Black, and Hispanic. The overall rate for the state of Texas was 5.48 deaths per 1000 live births during this time period. Multiple figures are listed in the CHA report, and I will refer the reader to the Amarillo Public Health website for fur-

| *continued on page 16*

Chart #1	Potter County Pop. 118k (2019)	Randall County Pop. 138k (2019)
Health Outcomes	200	27
Quality of Life	193	42
Health Factors	202	9
Health Behaviors	238	29
Clinical Care	52	7
Social And Economic Factors	173	9
Physical Environment	63	48

ther details. Overall, however, these data illustrate significant disparities in infant mortality rates when comparing ZIP Code regions North of I-40, all of which are found in Potter County, as compared to those south of I-40 or Randall County. In particular, area code 79104 is the area north east of downtown Amarillo. The infant mortality in this ZIP Code is 18.36 per 1000 births, almost 3 ½ times the state rate for all ethnicities. This astounding number was sobering to all of us at the health department as well as to our civic leaders. We had discussions as to how this could be occurring in our community, as well as strategies to improve this number, but these data became available just months before the start of the pandemic.

Sexually transmitted infections

Sexually transmitted diseases were also included in the CHA report. While sexually transmitted diseases per se are not necessarily noted to produce a poor outcome in patients infected with COVID, patients with HIV were found to have worse outcomes. Since many patients infected with HIV are also at risk for sexually transmitted diseases such as gonorrhea, chlamydia and syphilis, I think it's pertinent to review the differences in STD rates of Potter and Randall Counties when trying to explain the higher number of COVID deaths in Potter County. This comparison is illustrated in the chart below. Rates are calculated as the number of cases per 100,000 population.

Once again, Potter County was shown to have markedly higher rates of sexually transmitted diseases than Randall County or the state of Texas. As stated previously, STDs are not a direct risk factor

	Potter	Randall	Texas
Gonorrhea	423.4	39.4	160.2
Chlamydia	865.9	156.9	511.6
Syphilis	56.5	8.9	40.6

for a poor outcome of those infected with COVID. Sexually transmitted diseases, however, are more often found in those suffering from multiple social disparities, which may help explain the higher number of deaths that occurred in Potter County from COVID.

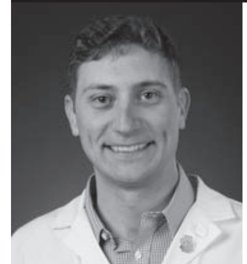
COVID risk factors and vaccination practices

Before proceeding to my conclusion, it's important to consider whether vaccination reluctance is significantly different when comparing Potter and Randall County. Vaccination rates are not included in the health department Dashboard. At the state level, however, vaccination rates are compared by ethnicity. Asians and Hispanics were vaccinated at significantly higher rates than Whites or Blacks. Extrapolating this data, one would expect significantly more vaccine hesitancy in predominantly white Randall County, which in turn should lead to more deaths, as unvaccinated individuals are clearly more at risk of severe disease and death. Therefore, vaccine hesitancy is unlikely to explain the disparity in COVID mortality.

In summary, the pandemic exposed or brought to light many of the social factors which have been plaguing our country, our state and our community for many years. Randall County has 20,000 more citizens than Potter County and had 3000 more confirmed COVID cases than Potter County. Data compiled through the state reveals significantly different vaccination rates among different ethnicities with Whites and Blacks having the lowest vaccination rates and Asians and Hispanics having the highest. These factors would predict more deaths in Randall County. And yet Potter County has had 220 more confirmed deaths from COVID than Randall County.

Citizens at increased risk of death from COVID 19 are those afflicted with chronic medical conditions such as cardiovascular disease, diabetes and obesity. Individuals living in Potter County are at greater risk of having these chronic medical conditions. But surely social inequities – such as poverty, lack of insurance, poor access to medical care and perhaps nutritional and other lifestyle factors – contributed to the 222 excess deaths in Potter County. The Community Health Assessment, conducted by the Amarillo Public Health Department just prior to the pandemic, revealed many of the social and health disparities existing in our community and in fact predicted the ultimate outcome of the COVID pandemic in our community. The markedly increased number of deaths occurring in Potter County underscores why it is so important to bridge the gaps and remove the social barriers that hinder many of the citizens in our community.

Dr. Scott Milton attended the University of Texas Medical School. He completed his internship and residency at the Medical College of Georgia. Dr. Milton did a Fellowship in Infectious Diseases at Vanderbilt University. He is Board Certified in Internal Medicine and Infectious Diseases. He is a member of PRCMS.



Parenting while hungry:
How the MamaMeals program can mitigate the consequences of food insecurity for new mothers in the Panhandle

by Matthew DeVries MS3, Skye McLaurin-Jiang, MD, MPH and Christine Garner PhD, RD, CLC

As I walked up to the front door, the occasional child's push toy and fresh sidewalk chalk on the driveway were the only indications this was not an abandoned residence. There was no doorbell, so I knocked. As the seconds passed, my heart rate involuntarily quickened. So much of my daily life is conducted in the most manicured parts of Amarillo – the well-maintained TTUHSC campus, the medical center, the tidy neighborhoods that surround it. The longer I waited, the more uneasy I felt. All of a sudden, I was greeted by a warm and kind face. In Spanish, we exchanged greetings, and then she apologized, "Sorry it took me so long to come to the door – it's getting harder to move around these days". The woman, whom I'll refer to as Lisa, was in her final weeks of pregnancy, peering over her own belly to lay eyes on her toddler who was crouched playing at a dollhouse on the cement floor made homey by a vibrant threadbare rug. What should have been a wall between the front room and the garage was open framing, contributing to the draft inside the house on this early spring morning.

I provided Lisa her allotted meal samples, which we've called "Platos de Mamá" in Spanish or "MamaMeals". That weekend, Lisa would be participating in a focus group with other pregnant or new mothers aimed at providing feedback on the MamaMeals program. MamaMeals is a novel adaptation of the concept of medically-tailored meals (defined as meals designed by a registered dietitian aligned to a patient's physiologic state) to address the health

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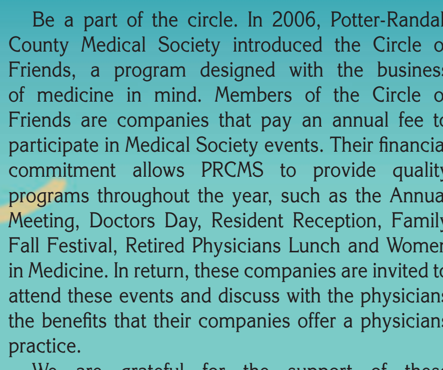

Be a part of the circle. In 2006, Potter-Randall County Medical Society introduced the Circle of Friends, a program designed with the business of medicine in mind. Members of the Circle of Friends are companies that pay an annual fee to participate in Medical Society events. Their financial commitment allows PRCMS to provide quality programs throughout the year, such as the Annual Meeting, Doctors Day, Resident Reception, Family Fall Festival, Retired Physicians Lunch and Women in Medicine. In return, these companies are invited to attend these events and discuss with the physicians the benefits that their companies offer a physicians practice.

We are grateful for the support of these organizations and anticipate another great year of serving the needs of our members. The purpose for Circle of Friends is to provide a valuable base of resources to assist the physician in the business of medicine so their practice of medicine can improve.

This program has proven to be a valuable resource of services such as liability insurance, accounting, banking and much more. This year, we hope to expand the Circle to include services the physician may use in his or her personal life. Through this program, we can invite businesses serving physicians to support the Society and increase their visibility among its members. Corporate support contributes to the Society's ability to advocate and care for physicians and patients in Potter and Randall Counties.

The Medical Society thanks all of its supporters as it offers new opportunities to its membership.If your business is interested in being a part of our Circle of Friends, please contact Cindy Barnard at 355-6854 or e-mail prcms@suddenlinkmail.com.

consequences of food insecurity among postpartum women. Studies have shown that medically-tailored meals can reduce healthcare expenditures and hospital readmissions among adults with food insecurity and chronic medical conditions such as congestive heart failure and type 2 diabetes. The Maternal and Child Health (MCH) Research Lab at Texas Tech University Health Sciences Center is among the first in the nation to explore the impact of medically-tailored meals on a postpartum population.

In 2016, state officials reported that the severe maternal morbidity rate in Texas was highest among non-Hispanic black women (23.8 per 1,000 deliveries), followed by Hispanic women (18.5 per 1,000 deliveries), and non-Hispanic white women (12.7 per 1,000 deliveries). Severe maternal morbidity is a marker for community health and reflects the environmental context in which women experience perinatal care. A substantial proportion of severe maternal morbidity is preventable. Thus, targeted strategies during pregnancy, labor and delivery, and the postpartum period could reduce maternal complications, morbidity, and health disparities.

Underlying chronic conditions including obesity, hypertension, type 2 diabetes mellitus and depression or anxiety are all risk factors for pregnancy-related morbidity and are more prevalent among Black women, Hispanic women, and women exposed to poverty and food insecurity. Between 2013 and 2015, Texas reported an increase in women with pre-pregnancy obesity (from 24.2%, to 24.6%, and finally to 25.3%). Clear disparities in pre-pregnancy obesity exist, with rates nearly 10% points higher for Black women (30.7%) and 7% points higher for Hispanic women (27.3%) compared to White women (20.6%). Furthermore, in one of the lowest-income zip codes in our target community of Amarillo, Texas, pre-pregnancy obesity is as high as 35% among Hispanic women.

Food insecurity is a potent social determinant of health. The counterintuitive mechanism by which food insecurity contributes to cardiometabolic risk factors such as obesity, hypertension, and type 2 diabetes is the overreliance on cheaper, low quality (high fat, high carb, nutrient-poor) foods due to limitations in affordability and access to high quality, nutrient-rich foods. The built environment (including man-made structures and locations of grocery stores versus fast food chains) is a fundamental factor in the affordability and accessibility of healthy foods. Two concepts which illustrate the impact of the built environment on nutrition are "food deserts" and "food swamps". Food deserts, described as large distances between people's homes and supermarkets (where food such as fruits and vegetables may be obtained), are associated with poorer diets and higher rates of obesity. Food swamps, on the other hand, describe neighborhoods where fast foods and junk foods are highly abundant, overrunning healthy (and often more expensive) alternatives. Both food deserts and swamps are present in Potter and Randall counties in communities experiencing the worst health disparities.

In addition to consuming cheaper foods, other compensatory mechanisms exist among individuals who are exposed to food insecurity. In fact, studies among Hispanic individuals who were food insecure during pregnancy have identified limiting of healthy foods as a coping strategy for food insecurity. Maternal concern about inadequate dietary intake has also been associated with avoidance of breastfeeding, and thus a missed opportunity to improve metabolic health. Food insecurity during and after pregnancy can be particularly harmful, as food insecurity is associated with greater gestational weight gain and development of gestational diabetes, both of which have negative consequences on health of the mother and child.

Addressing food insecurity among pregnant women is essential to reduce excess morbidity for new mothers. But it is important to note the transgenerational impact that food insecurity has on families. Children growing up in food insecure households may face numerous health consequences such as chronic under-nutrition and toxic stress, leading to impaired cognitive development and growth. Chronic hunger and undernutrition may negatively affect their ability to concentrate and achieve academically. Often, children exposed to food insecurity struggle with social and behavioral problems. There is also a strong link

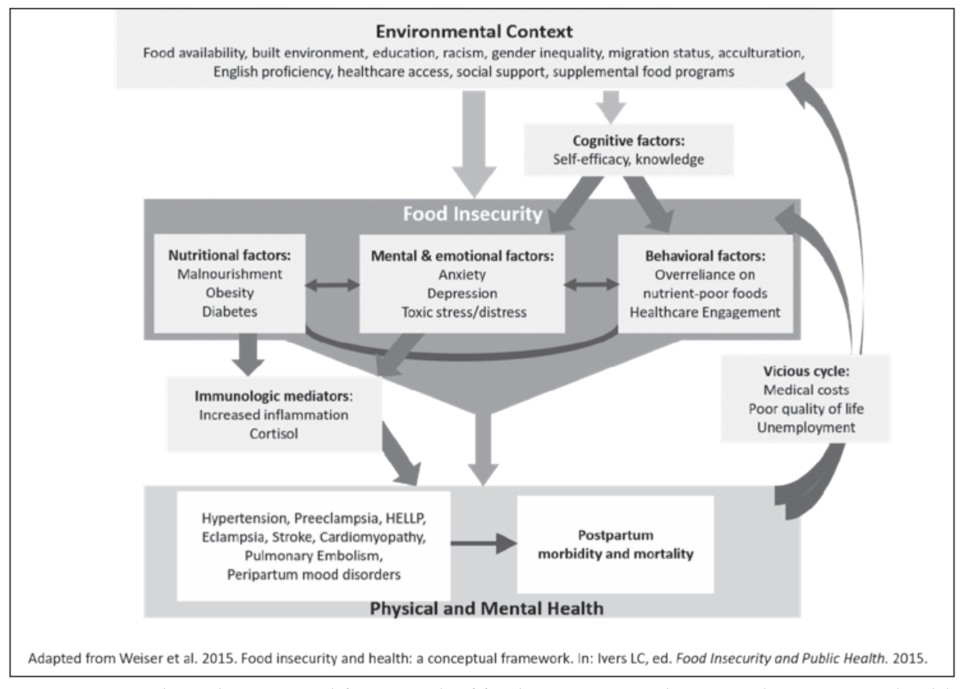

Figure 1. An adapted conceptual framework of food insecurity and maternal postpartum health

between food insecurity and childhood obesity, hypertension and type 2 diabetes.

The health consequences of food insecurity are associated with higher healthcare utilization, increased hospitalizations, and increased healthcare spending. This leads to a vicious cycle of missed work or school days, reduced income or educational attainment, worsened food insecurity, and worsened health status. The MCH Research Lab adapted the following conceptual framework to describe the complex relationship between maternal morbidity and food insecurity (Figure 1). It is this framework that underpins the research and nutritional interventions developed by this group.

The MamaMeals intervention is a natural extension of other local efforts to mitigate the impact of food insecurity on health. The Nutrition4Change program (a subsidiary of Snack Pak 4 Kids) has been implemented at Heal The City, a non-profit clinic providing healthcare for individuals who are un- and/or under-insured, with positive signs on health markers. Market Street on Georgia (from The United Family of Stores) has been a key community stakeholder and is preparing all of the meals for this intervention. These meals, which average in price around $6.50, include a healthy protein (e.g., fish, chicken, pork, shrimp), a whole grain, and vegetables. In addition to daily meals delivered to their homes in the first several weeks after delivery, mothers receive one substantial snack per day (e.g., fruit and Greek yogurt or hummus and vegetables). Brenda Garcia, MS, RD, a Health and Wellness Manager from the United Supermarkets corporate office, has worked extensively to develop the meals used in this project and to identify appropriate snack items to pair with the meals. In all, the meals provide about 1/3 of the nutrition needed for a lactating postpartum mother of average weight. As funding for the program grows, our hope is to better tailor the meals to the mother's weight status and underlying medical conditions.

A pilot study involving the MamaMeals intervention is underway at the Texas Tech University Health Sciences Center MCH Research Lab. This work is sponsored by the Don and Sybil Harrington Foundation, the Amarillo Area Foundation, United Way of Amarillo and Canyon, the Laura W. Bush Institute for Women's Health Research, and Texas Tech University Health Sciences Center. Findings from this pilot study will then be used to apply for large-scale federal grants, which we hope will ultimately to inform policymakers such as the Supplemental Nutrition Program for Women, Infants and Children (WIC Program), which serves about 50% of U.S. children.

Mothers such as Lisa have contributed greatly to the development of MamaMeals by sharing their experiences about barriers to eating healthy meals during the postpartum period and by providing feedback on the meal options themselves. Overwhelmingly, Lisa and the dozens of mothers who contributed to the formative focus groups on MamaMeals have supported the need for such an intervention in our area. As food costs have risen and the COVID pandemic has plagued the nation in recent years, the need for easy, prepared, accessible, and nutritious meals has grown. MamaMeals is one potential way of preventing the multi-generational health consequences of food insecurity that confront too many struggling parents today.

(If you are interested in supporting the MamaMeals project, you may contact Kevin Friemel at the Texas Tech University Health Sciences Center Office for Institutional Advancement: kfriemel@ttuhsc.edu, 806-414-9466.)

Matt DeVries grew up in Utah and attended Brigham Young University where he completed a bachelor's degree in microbiology. He began medical school at TTUHSC in 2019 and is currently finishing his third year rotations at the Amarillo campus. He is hoping to pursue a career in general pediatrics and will be applying for residency programs this fall.

Dr. Christine Garner joined TTUHSC in 2020 as an Assistant Professor in the Department of Pediatrics and a researcher with the InfantRisk Center. Dr. Garner completed her doctoral training in Maternal and Child Nutrition at Cornell University, followed by work as a pediatric dietitian, first at the University of California San Francisco and then with UNICEF on a global Infant and Young Child Feeding project. Her research centers on the intersection of maternal and child health, particularly during the first 1000 days.

Dr. Skye McLaurin-Jiang is a childhood native of Amarillo and joined TTUHSC as an Assistant Professor in the Department of Pediatrics in 2020. After graduating from medical school at TTUHSC, Dr. McLaurin-Jiang completed a pediatric residency at Wake Forest, followed by fellowship training in Primary Care Research at the University of North Carolina at Chapel Hill. Her research focuses on strategies to promote health equity in maternal and newborn outcomes.

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TOA Lifetime Achievement Award

Dr. Richard McKay

This year, we will begin annually recognizing an orthopaedic surgeon with the TOA Lifetime Achievement Award. Look around, and you'll see a lot of worthy winners. But our first recipient was obvious for our first award. We are honored to present the first ever Lifetime Achievement Award to Dr. Richard McKay in recognition of his lifelong dedication to orthopaedic surgeons and our patients.

Dr. McKay first became involved in organized medicine in 1975. As a senior ortho resident in Galveston, he was invited to attend the annual TOA meeting by his mentor in life, Dr. Bob Hyde of Amarillo, President of TOA.

Since then, Dr. McKay has continued his TOA membership for 47 years. His commitment to excellence has never faded, and his legacy in ADVOCACY continues to set the standard for ortho surgeons both in Texas and the nation.

Education as a Social Determinant of Health

by Anette Carlisle

"Americans have worse health than people in other high-income countries, and have been falling further behind in recent decades. This is partially due to the large health inequalities and poor health of adults with low education. … health disparities grew hand in hand with the socio-economic inequalities. Although the average health of the US population improved over the past decades, the gains largely went to the most educated groups. Inequalities in health and mortality increased steadily, to a point where we now see an unprecedented pattern: health and longevity are *deteriorating* among those with less education (1)."

We all know education is important to help position folks for success in life and to increase job opportunities and lifelong earnings, but did you know it's also important for your health? And the role that education plays in your health begins even before you are born, then continues through childhood, and throughout your life. So, let's get educated about education and health.

Population studies typically measure education by educational attainment, or how far one has gone through formal schooling, including milestones such as high school graduation, level of degree completion, and number of years in school. Readers are likely very familiar with measures of health, including relative birth weight in infants and body weight of children and adults, diseases experienced, vaccination rates, longevity, and mortality. We will cover the many ways education and health are interrelated, and bring in a discussion of poverty as well.

Getting an education is good for you, and getting more education is often even better for you. As a long-time education advocate, I've been saying that for years, in one way or another. But, as it turns out, education is actually good for your overall health and longevity, and for the health of your children, and for their children.

People with higher levels of educational attainment significantly outlive individuals with lower levels of education by over five years on average. The reasons for this are complex, and will be discussed further below.

This article is an overview and compilation of the studies cited, along with experience from my work with education, educational attainment, and poverty over the years.

We have all seen healthier outcomes and increased longevity in developing countries as global organizations have addressed issues of parasitic, waterborne, insect-vectored, viral or bacterial diseases, either through elimination of the cause, better treatment, or public health education about avoidance of the vector, plus success with vaccines. And actually investing in education itself, with the goal of improving literacy and general knowledge, has been shown to decrease both child and adult mortality. The education of adult women vastly improves the outcomes for healthy births, and improves the longevity of not only children and of the women, but also of the adult men in the population as well.

Here let us focus on the interconnectedness of education and health, and how one can influence the other. The level of education one is able to achieve definitely influences our own health down the road in life, and is also influenced by our fitness at birth, and by the healthcare we received (or didn't) before birth, during our childhood, and in early adulthood and beyond.

Benefits of Education

Some of the health benefits of education include better income and resources and better access to healthcare. Also, social and psychology benefits include reduced stress (which can cause poorer health), improved resilience, greater ability to form relationships, and larger social networks that can open the doors to opportunity. Low-income individuals rarely have social connections to middle-class people except in positions of authority. Educated individuals are more likely to learn about and practice healthy behaviors as well.

Other health benefits of education and the possibility of improved income include living in safer neighborhoods with less crime, less exposure to pollutants, better access to healthy foods, and more green space for physical activity. Families with lower levels of education often live in food deserts, nearer pollutants, and in higher crime areas.

Conversely, poor health can also lead to lower levels of educational attainment. Chronic health issues in children can cause extended absences, leading to poorer performance in school, and, ultimately, failure to complete the desired degree.

Correlation Begins Before Birth, and is Multigenerational

The correlation between quality of health and levels of educational attainment begins before birth. Mothers who don't have access to prenatal care, or who experience malnutrition or exposure to toxins (including smoking) during pregnancy, more often have lower birth weight babies, and this is predictive of increased risk of those children developing asthma, heart disease, diabetes, obesity, and some mental health conditions (2). These chil-

| *continued on page 22*

dren are at increased health risk, and they haven't even been born yet! Low birth weight deliveries are much more common for poor mothers, and also for Black and Hispanic mothers. Exposures to lead and to carbon monoxide vehicle exhaust are correlated to lower birth weight deliveries, and, again, with higher rates in Black and Hispanic mothers. Stress in the mother has been shown to be harmful to the fetus, and can cause health issues later on in life, leading to inter- and multigenerational effects.

Underlying Issue of Poverty

The interrelatedness of health and education can't be discussed without talking about poverty, which is often the culprit for many of the challenges. Poverty leads to less access to good healthcare, fewer opportunities for safer jobs, greater housing and food insecurity, residing in potentially unsafe neighborhoods, and, in some communities, less access to healthy food and quality schools. Individuals struggling with poverty typically eat more processed food and fewer fruits and vegetables; they experience greater stress and feel less in control of their lives. With fewer networks of support, healthcare and education often become less of a priority than survival. Indeed, "Less educated adults report worse general health, more chronic conditions, and more functional limitations and disability (1)."

Even access to healthcare is different in low-socioeconomic individuals, as they less often have a primary care physician, often wait to access healthcare until absolutely necessary, and are more likely to enter the medical complex through visits to ERs (a much more costly pathway).

Investments in public insurance, in food support, and in extra income have all been shown to improve health and educational attainment, not only for pregnant women and mothers of small children. These measures can improve the health and well-being of the next generation, as well as the educational attainment levels of those children.

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Reproducing Inequality Through Education

One interesting topic that surfaced when researching this subject was the concept that education can be a "sieve more than a ladder" for some populations, leading to increased inequality across generations (1). So, in effect, children of middle-class or affluent families are much more likely to get more education, and those from the lower quintiles of income levels are much less likely to get a degree, leading to an increasingly bifurcated society in both education and health.

State-level Variation

Since the 1980's, many of the decisions impacting health, education, and social policy have been left to the states, with wide variation across the country. These variations have little impact on adults with high levels of education, while less-educated adults were more heavily impacted. Texas is low on the list for investment in both education and in healthcare.

Investing in education is investing in a healthier community, state, and nation. Policy that supports low-income families, helps them afford healthcare, and moves them successfully through education and to completion, leading to healthier and more economically stable families.

A Local Example

After years of focus on issues of educational attainment, Panhandle Twenty/20, an organization I founded and directed

in conjunction with many local partners, has added poverty to its focus. Many things have grown out of the work, both locally and beyond, but one example is how Amarillo College has embraced the challenges of our low-income students. Many interventions were put into place to increase success of these students, including case management, eight-week classes versus the standard sixteen weeks, a food pantry, emergency aid, and mental and physical health assistance through Heal the City and others. Success rates for students tripled, leading to increased completion of certificates and degrees. While it may be too soon to measure those students' health outcomes over their lifespan, I believe that they will improve because of such interventions.

COVID-19

It is definitely too soon to see what happens long-term to students of all ages when education at large gets thrown on its head by a pandemic. Educators at most levels agree that the pandemic impacted learning for many students, and especially those living in poverty, leading (if causality as discussed continues) to less healthy lives.

CONCLUSION

After decades of studying and researching educational attainment, then poverty, and working to build systems to improve the former and reduce the latter, I knew there were direct and important correlations to health and well-being. When I looked for studies more specific to education and health, I again found report after report discussing the connections between the two. Sadly, Americans do not fare well in measures of health compared to most other developed countries, and our health and wellness are directly correlated both with our levels of educational attainment and with our income levels. Affluent Americans are getting wealthier and healthier, while the health and longevity of low-income Americans continues to decline. Significant and strategic social policy will need to be developed and supported to change these trends, with considerable investment in and alignment of social services, education, and healthcare.

I began the work of Panhandle Twenty/20 with the question, "Who is planning for the future of Texas?" "Whose job is it?" – was the question that followed. I pose those questions here again, as we decided then it was both everyone's job and no one's, which often means it doesn't get done. While this is a larger societal concern, I'll suggest that each institution of education and each institution of healthcare reach out to one another, along with social service providers, and learn of each others' challenges and opportunities. Let's make this a part of moving forward together toward a healthier future for all.

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Physician Discretion or Unconscious Bias?
Racism and Health Disparity: An African-American Perspective

by Ako D. Bradford, MD, FACP

When they arrived at Bethsaida, some people brought a blind man to Jesus, and they begged him to touch the man and heal him. Jesus took the blind man by the hand and led him out of the village. Then, spitting on the man's eyes, he laid his hands on him and asked, "Can you see anything now?" The man looked around. "Yes," he said, "I see people, but I can't see them very clearly. They look like trees walking around." Then Jesus placed his hands on the man's eyes again, and his eyes were opened. His sight was completely restored, and he could see everything clearly. Mark 8: 22 – 25 (New Living Translation)

A physician's mandate includes being presented with an issue, assessing the issue, and then addressing the issue for the betterment of the patient. However, let's explore elements of access to care--disparate provision of care, barriers to patient trust, and physician use of discretion--that may contribute to racially-influenced health disparities.

Access to healthcare includes private office visits, hospitalizations, emergency department care, surgeries, etc. In the Bible scripture, a group of people brought a blind man to Jesus with the expectation that he would be healed. By contrast, the "Tuskegee Study of Untreated Syphilis in the Negro Male", now referred to as the "USPHS Syphilis Study at Tuskegee" (or "The Tuskegee Experiment") exemplified purposeful denial of access to healthcare within a Black community in Alabama. The study, which started in 1932, did not obtain the informed consent for participation from the Black patients. The 399 syphilis-positive Black men who were recruited into the study were not informed that they tested positive. Rather, the men were told they were being "treated" for "bad blood". By 1943, penicillin had become the treatment of choice for syphilis, but this treatment was withheld from the study participants. After 40 years of the study, a news organization exposed the experiment in summer of 1972, leading to the study's termination in fall of 1972 when it was deemed "ethically unjustified … results [were] disproportionately meager compared with known risks to human subjects involved." (1).

The Tuskegee Experiment in Alabama outlines a cautionary tale of racism and disparate treatment impacting the health and trust of Black communities. However, the Johns Hopkins School of Public Health published a research survey in July 2005 documenting an underlying distrust of medical care in Black communities that was ***independent of*** knowledge of the Tuskegee Experiment: "*Our findings indicate that, for African-Americans, other factors, such as negative interactions with the health care system, are more important to mistrust than the Tuskegee Study*" (2). What are these other interactions that may contribute to racial health distrust and disparity?

The influence of the esteemed Dr. James Odis (J.O.) Wyatt is well-chronicled in Amarillo, as seen in a recent issue of Amarillo's own *Brick & Elm* magazine (3). Dr. Wyatt's story readily acknowledges that both Northwest Texas Hospital and (then) St. Anthony's Hospital denied him admitting privileges because he was Black, prompting him to create his own North Heights practice (Wyatt Memorial Hospital – Clinic). Dr. Wyatt also understood that these efforts limiting access to hospital-based healthcare reflected systems, policies and procedures being visited upon Black, tax paying Amarilloans--systems that denied them access to the very institutions which their tax dollars were funding. Dr. Wyatt penned his concerns in a letter that was included in Hearings before the Subcommittee on Health of the United States Senate:

I am writing you concerning … hospitals in this area seeking Federal funds for enlargement of buildings … Northwest Texas Hospital, Amarillo, Tex applied for and received from the Federal Government [$1.75M] for an enlargement program … [A]lthough this is a county hospital built and … supported by tax funds … Negro physicians and dentists are arbitrarily barred from practicing there. No Negro nurses or technicians are employed … and no statement of policy forthcoming … St. Anthony Hospital of Amarillo, Tex, although they have recently adopted a policy of hiring Negro graduate and vocational nurses, does not admit Negro physicians and dentists to take their patients in and Negro professionals are not employed in any other capacity than nurses … these requests are being made of you … where Federal funds are to be allotted … (4).

Access to healthcare is a multifaceted concept; but historically, so are the demonstrated barriers to this access that impact Black communities both within the Panhandle and beyond.

In our Bible scripture, imagine Jesus responding to the people with: "Oh, I don't think he's *really* all *that* blind." Or "Whaddaya mean you can't see the people clearly?! Everybody else I've treated this same way has done just fine."

Dr. Charles R. Drew, a Black surgeon and research scientist, is best known as the "Father of the Blood Bank" by helping develop the process for preserving and storing large quantities of plasma to be used for transfusions. Dr. Drew's monumental discovery occurred as WWII raged

and there was a desperate need for plasma in Great Britain. Interestingly, what is also part of Dr. Drew's legacy is the misinformation surrounding his death.

Dr. Drew died on April 1, 1950. He was driving through North Carolina to deliver a lecture in Tuskegee, Alabama when he sustained profound injuries in a rollover car accident. Despite receiving a blood transfusion and other emergency treatments at Alamance County General Hospital, Dr. Drew succumbed to his injuries. However, what follows his death speaks to the profound mistrust of healthcare involving Black patients of the day (5).

The misinformation surrounding Dr. Drew's death is summarized thusly: *Dr. Drew was taken to a "whites-only" hospital where the "Father of the Blood Bank" was denied a transfusion and subsequently bled to death*. This myth has been disproven many times over. Nevertheless, the myth endured because this type of mistreatment of segregated Black patients was both ***commonplace and expected*** at the time of Dr. Drew's death (5a). To this end, exactly 8 months after Dr. Drew's death, there was another well-publicized death. The latter death, again, involved Alamance County General Hospital; but this time, the patient was 23-year-old Black WWII veteran and North Carolina A&T student/husband/father Maltheus Avery who died on December 1, 1950. Mr. Avery was taken to and initially stabilized at Alamance General Hospital. However, when he was transferred to Duke University Hospital for higher level care, Mr. Avery was turned away because the Hospital no longer had available hospital beds … ***for Black patients***. Shortly after leaving Duke University Hospital for Lincoln Hospital for Black patients, Mr. Avery succumbed to his injuries. Spencie Love, the historian who wrote the book *One Blood: The Death and Resurrection of Charles Drew*, is at least one prominent author who believes that it is the truth of Mr. Avery's death that fueled the myth of Dr. Drew's death (6).

Healthcare now acknowledges a similar concern for poor outcomes related to maternal mortality in Black mothers. While ***any*** and ***every*** maternal mortality represents an indescribable tragedy, the CDC recognizes that "Black women are three times more likely to die from a pregnancy-related cause than White women" (7). The Regional Analysis of Maternal and Infant Health in Texas identifies our Panhandle as Public Health Region 1 (PHR 1), which had the highest maternal death rate in Texas; and where Black mothers had the highest rate of any subgroup. Severe maternal morbidity (SMM) "… is closely related to maternal mortality because it involves conditions that, if left untreated, could result in maternal death." The top contributor to SMM was obstetric hemorrhage, and rates of obstetric hemorrhage were highest among Black mothers (8). Considering these and other findings, one asks the question: for what reason(s) might conditions be left untreated in Black mothers that contribute to the highest rates of maternal deaths?

The myth of innate racial differences between Black and White patients leads to false beliefs that inform medical judgements and, subsequently, may contribute to racial disparities in healthcare delivery.

In 1985, the Secretary of the Department of Health and Human Services Margaret W. Heckler produced the Report of the Secretary's Task Force on Black and Minority Health (a.k.a., the "Heckler Report"). This "… landmark report marked the first convening of a group of health experts by the U.S. government to conduct a comprehensive study of racial and ethnic minority health and elevated minority health to a national stage (9)." This 1985 Report laid the foundation for research published in 2016 by Hoffman *et. al* about how racial bias, based in false beliefs, resulted in racial disparities in pain assessment and treatment recommendations of Black patients (10). For context, the 2016 article described the history of myths surrounding fundamental differences between Blacks and Whites that had been championed by scientists, physicians, and enslavers to justify the inhumane treatment of Black people. Dr. Samuel Cartwright in the 19th century described how Black people bore a "Negro disease [making them] insensible to pain when subjected to punishment (11)." To this end, the 2016 study participants were White laypeople without medical training (Study 1), and White medical students & residents (Study 2). The hypothesis was that Black patients are systematically undertreated for pain relative to White patients; and the researchers sought to examine whether this racial bias is related to false beliefs about biological differences between Blacks and Whites. The study participants used a defined pain scale to report the pain they would feel across 18 scenarios (*e.g.*, slamming their hand in a car door). The participants were then randomly assigned to rate the pain of a gender-matched Black or White target across the same scenarios. The participants also used a 6-point scale to rate the extent to

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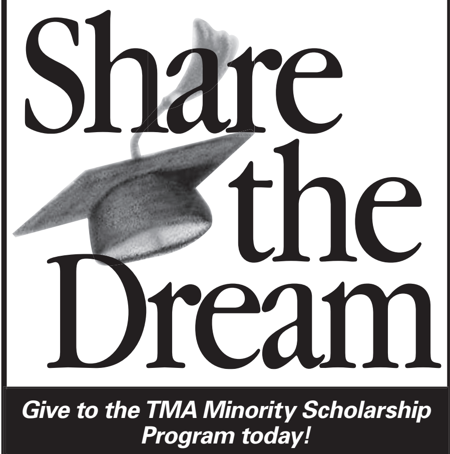

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which 15 biological differences between Blacks and Whites was true or false. The scale ranged from "definitely untrue", to "possibly true", to "definitely true." The biological differences ranged from true or factual statements (*e.g.*, "Blacks are less likely to contract spinal cord diseases"; or "Whites are less likely to have a stroke than Blacks") to false statements (*e.g.*, "Black couples are significantly more fertile than White couples"; or "Whites have larger brains than Blacks").

73% of Study 1 participants (White laypeople) indicated that at least one of the false items was possibly, probably, or definitely true. The researchers were still surprised that 50% of Study 2 participants (White medical students & residents) held the same beliefs in false statements. In Study 1 participants, "… target race did predict racial bias in pain ratings among participants who endorsed more false beliefs ($P = 0.002$), such that participants who rated the black target reported lower pain estimates than did participants who rated the white target." Furthermore, "… participants high in false beliefs rated … the pain of the white target higher than did participants low in false beliefs. In other words, relative to participants low in false beliefs, they seemed to assume that the black body is stronger and that the white body is weaker." In Study 2, "… participants who endorsed more false beliefs rated the black target as feeling less pain than the white target [$P = 0.026$]. [*Unexpectedly*], participants who endorsed fewer false beliefs rated the black target as feeling **more pain** [*emphasis mine*] than the white target [$P = 0.020$]." The study conclusions may lend insight to outcomes (such as those surrounding Black maternal mortality) that represent racially-influenced health disparities: "This analysis revealed [that] racial bias in pain perception is related to racial bias in the accuracy of treatment recommendations ($P < 0.0001$)"; and "When adding racial bias in pain assessment … false beliefs was no longer a significant predictor." In other words, racial bias superseded even false beliefs in both pain perception and in the accuracy of treatment recommendations of both White laypersons and White medical students & residents involved in this study.

In the American Journal of Public Health, a 2019 commentary on "The Myth of Innate Racial Differences Between White and Black People's Bodies: Lessons From the 1793 Yellow Fever Epidemic in Philadelphia, Pennsylvania" complements, offers additional historical context to, and references the data gleaned from the 2016 Hoffman study (11). Possibly the highest marker of validation on this topic is the recently released May 2022 issue of *Texas Medicine* from the Texas Medical Association (TMA) discussing the TMA's House of Delegates meeting, held April 29 -30, 2022:

Institutional racism creates obstacles to medical care. TMA's Justice, Equity, Diversity, and Inclusion (JEDI) Task Force aims to remove them. … Much of the work of the … (JEDI) Task Force focused on three resolutions … Resolution 334 – Calls for TMA to recognize that racism within the health care system is a public health threat and to support developing resources to address this threat. Resolution 345 – calls on TMA to develop an official statement on racism and ensure that health equity strategies are prioritized in all activities. Resolution 354 – Calls on TMA to support the development of medical school

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education that addresses the history of race in medicine and the present-day impacts of racial attitudes (13).

Finally, one of the more powerful engines impacting racially-influenced health disparities within the Panhandle may be something as simple as a physician's use of discretion. Regarding the maternal mortality discussion, an Ob/Gyn featured in Magazine of the Harvard T.H. Chan School of Public Health offers a sobering assessment: "The common thread is that when black women expressed concern about their symptoms, clinicians were more delayed and seemed to believe them less … It's forced me to think more deeply about my own approach. There is a very fine line between clinical intuition and unconscious bias (14)." Here in the Panhandle, a person's considerable affluence or education may be belied by their modest attire or their use of other than "the King's English." However, what conclusions do physicians draw when this same modest attire and use of casual language is observed in Black patients? What prompts a physician to document that a patient is non-compliant or argumentative, compared to a patient who is lauded for speaking up for herself while aggressively advocating for her healthcare? One of my childhood friends is a lifelong civil servant, starting out as a firefighter and EMT and completing his firefighter career as a lieutenant before transitioning to the police department. He graduated top of his class from both academies. His police officer accolades include arson Investigator, detective, Internal Affairs Investigator and SWAT operator. We frequently discuss law enforcement encounters that culminate in the deaths of Black citizens; and his statement during one of our conversations stands out to me: "Bradford, the greatest weapon I have is not on my duty belt; it's not my radio to call for backup. My greatest weapon is discretion … the ability, based on training and taking the temperature of the situation, to decide if Condition Red is called for."

May our faith, our compassionate interactions, our appreciation of accurate history, our training and our use of discretion help to eliminate racially-influenced health disparities within the Texas Panhandle.

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Social Determinants of Mental Health and Local Interventions

by Matt Richardson DrPH, MPH, FACHE and Mary Coyne

According to the 2021 State of Mental Health in America report from Mental Health America:

13.2% of Texas youth reported experiencing a major depressive episode, and an additional 3.24% reported a substance use disorder in the past year.

16.21% of Texas adults reported mental, behavioral or emotional disorder, and 6.34% reported a substance use disorder. Of those, 59.6% went untreated.

The issue of mental health has gained increasing attention since the beginning of the COVID pandemic. Yet, not as well recognized are the social determinants of mental health – the factors that can be modified, and if addressed, could lead to improvement in the mental health of our society and could even contribute to the prevention of mental illnesses and substance use disorders (1). The current state of mental health in America has been characterized as 'disastrous' and 'a national emergency.' However, many of the factors that affect mental health existed before the pandemic and are due to inequities and injustices faced primarily by poor and disadvantaged people.

While most psychiatric conditions have genetic underpinnings, social factors also contribute to risk, although to varying degrees across diagnostic categories and across individuals. There is broad recognition of the importance of both biological and social factors in shaping behavioral disorders.

To effectively treat – and ultimately prevent – mental illnesses and substance use disorders (and promote mental health more generally), clinicians and others must carefully evaluate the role of non-genetic social and environmental factors in bringing about poor mental health and in causing and worsening mental illnesses. This includes consideration of the roles of social justice, political will and power, policy action, resource distribution, and program development and implementation in addressing these factors.

Social Determinants

Scholars have identified this list of the social determinants of mental health (1):

1. Adverse childhood experiences (ACEs)– including traumatic events, such as experiencing violence, abuse or neglect
2. Discrimination/social exclusion/ systemic racism – whether related to race/ethnicity, immigrant status, sexual orientation and/or occupational status
3. Low educational attainment
4. Poverty – including stress from navigating everyday circumstances, anxiety about insecure and unpredictable living conditions and perceived lack of control
5. Housing insecurity
6. Food insecurity
7. Job insecurity and un/ underemployment
8. Limited access to healthcare

Those determinants lead to reduced options, poor choices, high risk behaviors and stress, and all have very high correlation with mental health issues.

Other social determinants to consider (1):

1. Inadequate or unequal access to transportation
2. Exposure to violence, conflict and war at any age
3. Mass incarceration and poor relations between law enforcement and communities
4. Environmental air, water or land pollution
5. Climate change
6. Sexism and other forms of non-race-based discrimination
7. Adverse or unsupportive features of the workplace
8. Family relationships – strongly correlate to both positive and negative mental health impacts (for example, family connectedness and satisfaction with family relationships versus a history of abuse and neglect)
9. Social support, community belonging and trust in others lead to good mental health outcomes
10. Perceived emotional support and family/friend network size are protective factors
11. Neighborhood features – The surrounding neighborhood affects mental health in varying ways. For example, rural residents demonstrate more mental disorders than urban residents. Additionally, neighborhood safety measured by personal perception and experience is a predictor of mental health outcomes.

These social determinants interact with each other in complex and variable ways to drive inequities in mental health status. Reframing the problem as the result of structural inequalities in our institutional systems, rather than patient vulnerabilities, is critical for changing societal attitudes toward funding social programs or interventions targeting populations that have been disadvantaged because of long-term structural inequalities (2).

According to the World Health Organization, mental health and many common mental disorders are shaped to a great extent by the social, economic and physical environments in which people live. Social inequalities are associated with

increased risk of many common mental disorders.

While comprehensive action across all stages of life is needed, scientific consensus is considerable that giving every child the best possible start will generate the greatest societal and mental health benefits (3).

Access Is Critical

Texas ranked 50th out of 51 (includes D.C.) in overall access to mental health care in the 2021 State of Mental Health in America report. Of the 254 counties in Texas, 249 are considered Mental Health Shortage Areas. The Panhandle experiences access problems acutely, but they are not unique to our area.

In a Texas Tribune article from November 25, 2020, Executive Director of the National Alliance on Mental Illness (NAMI) Texas Greg Hansch said that only one out of every seven children in Texas with major depression receives consistent treatment. The percent of Texas children with major depression getting treatment is less than half of the national average.

Many adolescent Texans with mental health disorders struggle with access to care. Those who do receive care rarely receive it when the symptoms of disorder first appear. Hansch cited data that show the delay from onset of symptoms to receiving treatment averages eight to 10 years.

This delay exacerbates mental health disorders. Accessing care – both being able to see a practitioner and being able to afford that care – is essential for managing mental conditions and getting onto the path to recovery.

Access includes two major factors: number of mental health providers and the ability to pay for services. Medicaid is a lifeline for the most vulnerable populations and is the nation's largest payer for services related to mental health and substance use conditions. More than one in four adults with serious mental illness are covered by Medicaid. Because of this, Medicaid expansion is especially vital.

Medicaid expansion means more people with mental health conditions can get coverage that allows them to access the care they need. The U.S. Department of Health and Human Services estimates that more than 400,000 Texans with mental health or substance use conditions could receive health insurance if state leaders accepted Medicaid expansion funds.

Local and Regional Interventions

The risk for poor mental health and mental illnesses can be most broadly and effectively minimized by working at the deepest levels. The socio-environmental – or non-genetic – causes of mental and substance use disorders are driven by the unequal distribution of opportunity, which drives the diverse social determinants of mental health, which in turn creates stress and constricts options, leading to poor choices and risky behaviors. Interventions need to happen at all levels – individual, institutional, societal and public policy.

Many organizations throughout the Texas Panhandle region are working on aspects of mental health social determinants. The following are just a few of many evidence-based examples and some are covered more expansively in this publication.

- City of Amarillo's Coming Home Program – This program prioritizes providing permanent housing before getting a job and also addresses mental health and substance use symptoms.

- Heal the City – This free clinic provides free medical care with dignity and compassion for the uninsured.

- High Plains Food Bank, Snack Pak 4 Kids and numerous food pantries and congregate meal programs – These programs supplement the government SNAP Program for Food Insecurity, which decreases the prevalence of depression among participants.

- Texas Panhandle Centers – This organization is designated by the Texas Health and Human Services Commission as the local mental health authority serving 21 counties in the Panhandle. It provides clients with access to direct services and coordinates Mental Health First Aid training, among other efforts to educate the public.

- Texas Child Health Access Through Telemedicine (TCHATT) – This project of the Texas Children's Mental Health Care Consortium provides the opportunity for primary and secondary at-risk students to receive free teletherapy and telepsychiatry services while in school. Services offered include consultation, risk assessment, medication evaluation and management, counseling and community referrals. TCHATT also provides training for school personnel.

- Child Psychiatric Access Network (CPAN) – Another project of the Texas Children's Mental Health Care Consortium, CPAN provides continuing education and free case consultations to medical providers seeing pediatric patients. According to CPAN, between a quarter and a third of pediatric cases seen by providers each day involve mental health concerns, and many providers do not feel adequately equipped with training and time to address those concerns. Once enrolled in CPAN, a provider can call the hotline to speak with a pediatric psychiatrist or mental health clinician and receive a returned call within about 30 minutes.

- Panhandle Behavioral Health Alliance – This broad coalition works to improve the mental health care system by addressing stigma, the integration of mental and physical health care, the shortage of mental health care providers, and care for those who are incarcerated. The Alliance also created an extensive directory of

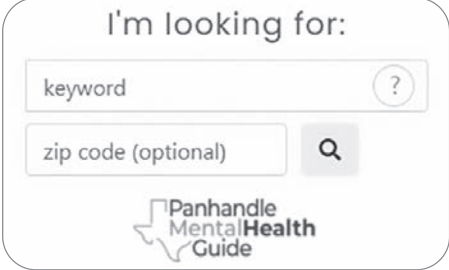
| *continued on page 30*

regional resources that can be found at PanhandleMentalHealthGuide.com – see the sidebar for how you can help promote use of this referral source.

With all the evidence of linkage between social determinants and mental health outcomes, interventions to eliminate systemic social inequalities – such as access to educational and employment opportunities, healthy food, secure housing and safe neighborhoods – are crucial.

While there is much work to do, we can be optimistic that the social determinant movement can ease the mental illness and substance use burden, as well as help the healthcare system recognize the need for a more holistic approach to mental well-being.

The Panhandle Mental Health Guide was launched in 2021 and has been helping people across the Panhandle and beyond access mental health care of all levels. The website lists mental health providers and services available in the top 27 counties of Texas.



To get this valuable information in more hands, please consider adding the Panhandle Mental Health Guide widget to your website to help your audience easily access the Guide. The widget includes search functionality that will help your visitors find mental health providers and services near them.

If you are willing to add the widget to your website, visit https://panhandle.tx.networkofcare.org/mh/services/widget.aspx or contact shawrlette@panhandlebehavioralhealthalliance.org.

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About the Authors

Matt Richardson DrPH, MPH, FACHE is a Fellow of the American College of Healthcare Executives and is a public health official with two decades of experience managing and navigating a wide range of community health issues. As Director of Public Health for Denton County (Texas), he leads a team of 160 employees. Previously, he spent nine years as the Director of Public Health for the City of Amarillo. In his role as a public health advocate, Richardson has frequently testified before the Texas Legislature.

Mary Coyne is a professional communicator with a deep passion for healthcare and systems change aimed at making Panhandle residents healthier. She has had a hand in forming and sustaining several systems-change organizations, including Tobacco Free Amarillo, Panhandle Community Partnership (formerly No Limits No Excuses) and the Panhandle Behavioral Health Alliance, where she serves as current Chair. Coyne also is President of MCMC, an advertising, public relations and crisis communications firm.

Richardson and Coyne are principals of AscentHealth Consulting, a consulting firm specializing in public health research. AscentHealth conducted the most recent Community Health Assessment for the City of Amarillo Department of Public Health. The assessment can be found at https://www.amarillo.gov/home/ showpublisheddocument/ 20009/ 636758045912870000

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Food Insecurity and Health

by Zack Wilson

Of the many social determinants of health, food availability and its flip side – food insecurity – are key factors in determining longevity and health of a population. Thirty-eight million people – including 12 million children – are considered food insecure in the United States (1). Rural communities are hit especially hard. Nearly 2.1 million households in rural communities throughout the nation face the challenge of placing food on the table every day (1).

Although many individuals could make healthier choices if they wanted to, still 1 in 7 individuals in the Texas Panhandle (i.e., those who are considered food insecure) are forced to make unhealthy choices each day just to make ends meet (2). Food insecurity, defined as a household-level economic and social condition of limited or uncertain access to adequate food (3), is a constant threat to these people and their families.

In 2014, the High Plains Food Bank (HPFB) began studying the intersection of food insecurity and health. Many individuals who are served by HPFB had told us that the health of their household would be better shaped by the type of foods consumed. Through a hunger study of the Texas Panhandle, these statements began to be quantified.

Of those surveyed, 28 percent stated that at least one member of their household had diabetes (3). Forty-six percent of households surveyed reported having at least one family member with high blood pressure (3) – both conditions where dietary modification is critical to improved health outcomes.

While economic uncertainties (unemployment, underemployment, fixed incomes) often drive food insecurity, location and access to food play a major role in the Texas Panhandle. In addition to food scarcity issues, healthier food items are less easily available in our smaller rural communities. In addition, the cost of food (including produce) is higher in rural counties (1). The combination of limited income and low resources further drives individuals to find calorie-dense, cheap prepared foods, with significant negative health impacts.

The lack of fresh produce in the diet of a household experiencing food insecurity shows the disparity of the cost and access. A recent survey, piloted by the High Plains Food Bank, showed that 60 percent of households surveyed only ate leafy green vegetables 1-3 times during a given week (5). Twenty-two percent of those surveyed stated they did not eat any vegetable at any point during the week!

Limited income – even in areas of higher food availability – drives the choices of food for each household. Even for a family that is receiving benefits through the Supplemental Food Assistance Program (SNAP), the monthly allotted amount for the average household typically runs out by the middle of the month (6). When benefits are exhausted, many food choices are driven by cost. With calorie-dense food widely available, many families opt to purchase processed or shelf-stable items – which are cheaper but much less healthy than fresh produce and protein items.

"We have to purchase canned food items (like vegetables), cereal and other snack food items because I cannot afford the produce items when I go to the store," said one Shamrock area resident who was interviewed by High Plains Food Bank. "I am a single grandparent who looks after two grandchildren, and my $245/month in food stamps does not usually last past the first week."

HPFB helps supplement thousands of such households each month. HPFB has begun piloting interventions to help improve access and decrease cost of items such as fresh produce. One third of HPFB's total distribution is fresh produce, and one fifth of HPFB's total is fresh protein. Through five mobile food pantries and a network of partner organizations across 29 counites, HPFB is infusing an average of 200,000 servings

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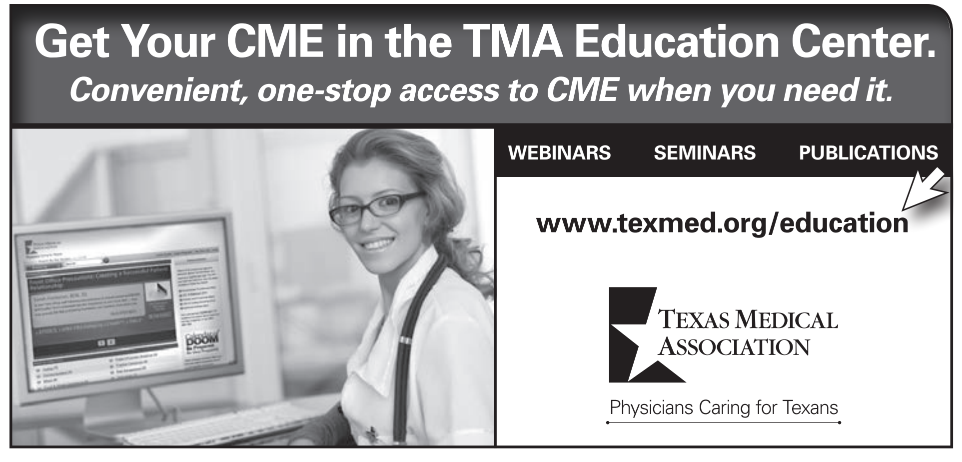

of fresh produce each month. Through a partnership with a produce coop through Feeding Texas, we are helping to bring fresh produce from the Rio Grande valley each month and to deliver it into the hands of food insecure individuals at no cost – saving limited family funds to be used elsewhere. HPFB has updated its entire fleet with newer refrigerated models to help deliver more of these items each day. Funds for a dedicated vehicle for produce distribution are also being developed over the coming months.

HPFB is working on piloting other programs to help with the intersection of food with health. Specifically, we are examining how to inform lower-income individuals about our healthy-food programs at the time of their healthcare visits. This connection is pivotal, as many seeking medical assistance are also struggling to place food on the table. In addition, this allows for access to produce and other food items that are out of reach within a household budget. As mentioned, produce in a healthy diet is important in the management of hypertension, diabetes, and many other health conditions. This avenue allows for a perfect crossmatch between health and nutrition.

In conclusion, there are many factors that are involved in each household's access to food and the decision on what food to purchase. There is a direct correlation between food insecurity – specifically food choices – and health. With inflation and the lingering impacts of COVID-19 in our area, it is estimated that food insecurity will continue to increase. If, however, we improve availability and affordability of health food items – and if we access these people when they come for their healthcare visits – HPFB and similar organizations may finally be able to bend the curve of food availability in a healthier direction.

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Zack Wilson is the Executive Director of the High Plains Food Bank and has been with HPFB for over 17 years. He holds many roles through the Feeding America food bank network working on healthy food distribution, healthy food advocacy and helping those in need through the 29 counties of the Texas Panhandle.

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Immediate and Long-term Effects of Disasters: *The Role of Socioeconomic Factors*

by Schyler Z. Grodman, MD, MS

In February of 2021, Texas hospitals were filled with patients glued to respiratory support, healthcare providers well past the point of exhaustion and running on fumes, and maybe the odd family member or two there to nervously pray and provide emotional (or any) type of support. The healthcare system was stretched to its limits, holding on by its fingertips just to provide care for those acutely in need and fearing the influx of any more patients. Then, a series of winter storms blew through, and sent everything over the edge. The power grid went out, resulting in power outages that impacted the entire state; people lost heat, had no food or water, could not seek healthcare, and in the worst cases could not survive. Among them was an 11-year-old boy who died of hypothermia inside his family's 40-year-old poorly-insulated mobile home, which had lost power.

Disasters can strike anywhere, at any time, and can impact anybody. Catastrophes are indiscriminate in the damage they cause, or lives they ruin. However, the burden of disasters is not borne equally by all who are impacted. Socioeconomic status (SES) has played a role in the impact experienced by populations following disasters. For example, Hurricanes Katrina and Sandy, the 1918 Influenza Pandemic, and COVID have demonstrated inequities in patient access to care in subsequent health care responses to those events.

Living conditions of those in lower SES will impact their outcomes following disasters, since living conditions impact the outcomes of patients following any illness. In a study from the UK looking at the relationship between SES and COVID outcomes, "the results provide strong evidence that social risk factors matter for pandemic influenza outcomes in addition to medical risk factors. We also documented that in the 2009 pandemic, social risk factors independently explained variation in disease outcomes even when medical risk factors were controlled for. This is similar to the findings of a study of COVID-19 hospital deaths demonstrating that medical risk factors did little to explain the higher risks of the deprived and of immigrants in the UK" (1).

Sadly, relationships between SES and patient or population outcomes following acute events are nothing new. As that same UK report stated, "…the similarity of results for the 1918 and 2009 pandemics show the persistence of individual- and ecological-level social risk factors, although the specific mechanisms and types of social vulnerabilities leading to social disparities in pandemic outcomes may differ between 1918 and 2009, or in 2020 during the COVID-19 pandemic" (1). COVID-19, if anything, showed just how little progress has been made in public health responses to pandemics since the 1918 Influenza Outbreak and highlighted the need to further invest in public and global health programs.

The reasons that SES so greatly impacts disaster outcomes and responses are myriad. To begin with, people of lower socioeconomic status enter any disaster at a more vulnerable baseline than those who are more affluent. This is not only true for the individual, but also for entire populations and governments, as "health systems in low-income countries are often under-resourced even prior to a disaster and are quickly stretched beyond capacity in the face of increased injuries and illness," according to the Center for the Study of Traumatic Stress (2). As such, vulnerable populations, like vulnerable patients (the very young, very old, or those with chronic conditions) are at greater risk during acute disasters. Just as a patient with COPD or a weakened immune system might be a greater risk of suffering a negative outcome after contracting COVID, a population with fewer resources, such as the family of the boy who lived in the mobile home, is at risk of greater hardships following an acute disaster than might be an affluent family in a better resourced community.

Prevention of disasters, like prevention of acute illnesses, also varies according to the resources available. Preventative healthcare may be expensive, either in time or resources, for a patient or family near the poverty line, and as such is often given a lesser priority than other necessities such as food or rent. As written in a report from the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR), "poor people, with fewer resources, tend to invest less in preventing and mitigating the adverse effects of natural hazards and environmental changes" (3). As such, they are at greater risk of poor outcomes, like children who are under- or un-vaccinated, or patients who are unable to have a healthy diet. These vulnerabilities are exposed and exacerbated during disasters.

Today, news stories and social media help society to experience the acute impact of a disaster with vivid images of destroyed homes, overcrowded hospitals, and collections of body bags. However, sometimes the impact of a disaster is not fully understood until later, as resources are consumed at greater rates following a disaster than in normal circumstances. "In Sub-Saharan Africa, asset-poor households respond to weather shocks by reducing the quality of the nutrition provided to their children, a behavior which

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has short- and long-term impacts, particularly for children younger than 2. For example, within this group, the stature of children in these households was permanently lowered by 2-3cm." (4). The long-term effects on children born to HIV mothers took time to be fully appreciated. We are still only gaining a sense of the full spectrum of outcomes seen in children with congenitally acquired Zika; only time will tell the impact of congenitally acquired COVID. In each of these examples, those struck the hardest were often those who had the fewest resources, either to address the acute impacts of disease or to address the long-term complications.

Furthermore, disasters can drive families or individuals into poverty. "After intense shocks, poor households may be forced to make choices with detrimental long-term effects, such as withdrawing a child from school or reducing health care expenses. For the people experiencing large losses, the possible long-term effects, such as a reduction in food intake, health effects and disability, and exclusion from job markets, can push households into poverty traps. In addition, there is evidence that children in utero and young children are the most vulnerable to natural disasters and suffer the most long-lasting negative effects, contributing to the intergenerational transmission of poverty" (4). So, not only are those in poverty or with fewer resources at greater risk following disaster, but disasters themselves can impose poverty or resource depletion onto otherwise unaffected parties.

The force of disasters which drive persons or populations into lower SES pushes those entities off a cliff which is hard to climb again. There is a vicious cycle between poverty and disaster losses: "poverty is a major driver of people's vulnerability to natural disasters, which in turn increase poverty in a measurable and significant way" (4).

When a patient is sick, they seek out help from the healthcare system, most commonly in an acute setting, such as an Emergency Room or an Urgent Care Center. Likewise, populations seek help from entities following disasters, such as FEMA in the United States. However, the ability for these larger organizations to respond nimbly and quickly enough oftentimes stretches those organizations beyond their designed purpose:

"After a shock, when income and wealth are reduced and people's health is affected, broad safety net programs may automatically scale up if they are designed to respond to changes in household situations. In the United States, post-disaster support through non-disaster programs is more than five times larger than the dedicated transfers that follow federal disaster declarations…. But there are obvious limits to what non-disaster programs can achieve in the aftermath of a disaster. First, budgetary constraints of the design of the programs can make it impossible for transfers to increase enough or to increase fast enough. This is particularly true in developing countries with liquidity constraints, where the ability to scale up is limited in the absence of a dedicated financial mechanism. Second, the coverage of social protection programs is limited in developing countries, and these programs are therefore not always able to support the affected population…. Access to post-disaster assistance in India (after the 2004 tsunami) was biased away from the most disadvantaged and poorest castes….For example, some programs are tied to formal employment, whereas most poor people work in the informal economy" (4).

As is illustrated, often there are limits in the ability for large organizations to quickly respond to the acute needs of their reliant populations, which usually means that those in lower SES receive assistance last, while they may in fact be in greatest need of such assistance.

Just as acute illnesses and traumas can send patients into shock, disasters can do the same to entire populations, as well as their healthcare systems. During such times, a population, and its healthcare system, much like a patient, scrambles to hold everything together--to maintain order. Following a disaster, whatever resources are available are brought to bear; the quality of, and speed with which those resources are utilized, determine the success of that response. The more resources available, the better the response, and greater the benefit to that population.

When disasters strike, regardless of SES or other variables, the response to those affected must be comprehensive, swift, and, above all else, fair. Healthcare providers, public health institutions, and state and federal governments cannot abandon the care and needs of their dependent population. We must invest time, resources, and compassion into both the acute care and the post-disaster response to persons or populations of lower SES.

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The Problem of Homelessness

by Jason Riddlespurger

Solving homelessness is such a monumental task that it can be likened to pie in the sky goals such as curing cancer, ending world hunger, or creating world peace. The problem is vast and growing at such an alarming rate that it has taken on an epic degree of exasperation for those who study and work to alleviate this social problem. There are over half a million individuals experiencing homelessness every night in the United States. The national rate of homelessness is approximately 175 per 100,000; in the state of Texas the rate is 93 per 100,000. The City of Amarillo has an unusually high rate of approximately 270 per 100,000 (8). Historically, Amarillo is the only place in the Texas Panhandle where a person experiencing homelessness can have his or her basic needs met.

For many decades, food, water, and emergency shelter have been readily available to meet the needs of the homeless in this community. Over the past several years, the number of unsheltered homeless has grown to the point that Amarillo has been unable to provide an adequate number of beds to meet the need. To compound the issue, individuals living on the streets are not receiving proper medical or mental health care. They are more concerned with their immediate needs like food, shelter, and access to restrooms.

Medical consequences of homelessness

The lack of housing is unhealthy, traumatizing, and significantly shortens an individual's life expectancy. The average age of death of homeless individuals is about 50 years of age, compared to the non-homeless who can expect to live to age 77 (3). Homeless people suffer the same illnesses experienced by people with homes, but at rates of three to six times higher (9). The crowded, poorly-ventilated living conditions found in many shelters promote the spread of communicable diseases. This includes potentially lethal infections such as HIV/AIDS, tuberculosis, and influenza, as well as cancer, heart disease, diabetes, and hypertension. Homeless persons die from illnesses that could be treated or prevented.

Research shows that risk of death on the streets is only moderately affected by substance abuse or mental illness, which must also be understood as health problems. Physical health conditions such as heart disease or cancer are more likely to lead to an early death for homeless persons. The difficulty getting rest, obtaining medications, eating well, and staying clean and warm prolong and exacerbate illnesses, sometimes to the point where they become life-threatening.

Homelessness in Amarillo: numbers, shelters, transitional facilities

The Amarillo Continuum of Care (CoC) is a collaboration of homeless service providers in the city of Amarillo. The CoC works together to implement a "community plan to organize and deliver housing and services to meet the specific needs of people who are homeless as they move to stable housing and maximize self-sufficiency." (8). The Amarillo CoC conducts a bi-annual Point in Time count to determine the number of individuals experiencing homelessness in the city of Amarillo during a 24-hour snapshot. Volunteers conduct interviews with the homeless population to gather data including race, gender, ethnicity, length of time in homelessness, veteran status, substance abuse, chronic health, mental health, disability, HIV/AIDS, and whether the person is fleeing domestic violence. The collection of this information is mandated by the United States Department of Housing and Urban Development (HUD). Our local community uses this data to determine if programs and resources are effective in meeting the needs of citizens experiencing homelessness. The latest Point in Time count took place in January 2022. The total number of individuals experiencing homelessness in Amarillo was 539, with 368 being unsheltered. 171 were staying in shelters including the Downtown Women's Center (59), Faith City Mission (46), Martha's Home (21), Another Chance House (20), Family Support Services Emergency Safe House (18), and the Salvation Army (7).

Two of these programs are classified as emergency shelters: Faith City Mission and the Salvation Army. According to HUD, an emergency shelter is a facility in which the primary purpose is to provide a temporary shelter for the homeless and where occupants are not required to sign a lease or occupancy agreement. Over the course of many decades, Amarillo has been blessed to have Faith City and Salvation Army to assist with the homeless who needed a safe place to sleep. Faith City has the capacity for approximately 50 men in their homeless dorm. Currently, they do not have space for women. Faith City routinely fills their beds and are pushed to maximum capacity during cold weather events. Salvation Army has the capacity to shelter over 200 men, women and families in their facility. The local facility has been under new leadership for the last two years, and they have gone to a more stringent, rules-based program. Rather than providing a low barrier shelter, the expectation is for homeless individuals to participate in programs aimed at ending their homelessness in a very short time. The

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participants must submit to alcohol testing prior to entry, participate in case management, and have a plan to be employed within a short time or they are excluded from the facility. Unfortunately, this strategy has led to the vast majority being left out and sleeping on the streets. According to the Homeless Management Information System (an information technology system used to collect homeless client-level data in the city), Salvation Army is now averaging between 10-20 occupants per night. Neither facility allows animals in their shelter, creating yet another barrier. Many homeless individuals have a pet that provides them unconditional love and comfort. Given the choice of surrendering the pet or sleeping on the streets, oftentimes they choose their pet.

Transitional housing provides short-term, affordable housing for individuals and families who are moving away from homelessness. Transitional housing programs provide intensive case management to assist clients overcome barriers such as drug or alcohol addiction, reentry to the workforce or fleeing domestic violence. The clients admitted to these programs are interviewed and vetted by the agencies to determine their appropriateness and likelihood for success.

The current transitional supportive housing agencies in Amarillo include the Downtown Women's Center, Martha's Home, and Another Chance House. These non-profit organizations have been around for many years and have assisted hundreds of participants. However, these agencies are limited in the number of individuals who can qualify or meet program expectations due to standards and policies within the specific agencies. With a homeless population over 500, Amarillo has a need for more inclusive programs.

Texas House Bill 1925: "outlawing" homelessness

Texas House Bill 1925 was signed by Governor Greg Abbott and went into effect on September 1, 2021. Texas Penal Code 48.05 explains that "a person commits an offense if the person intentionally or knowingly camps in a public place without the effective consent of the officer or agency having the legal duty or authority to manage the public place. The actor's intent or knowledge may be established through evidence of activities associated with a living accommodation that are conducted in a public place, including: cooking, making a fire, storing personal belongings for an extended period, digging, or sleeping." Violation of this new law is a Class C misdemeanor punishable by a fine up to $500. Cities are not allowed to ignore the law and may face state penalties such as the withholding of grant funding.

With little warning, the Texas Legislature has effectively made it illegal to be an unsheltered homeless person in the state. Many individuals experiencing homelessness have been unable to navigate the myriad barriers they face in their hope to find shelter. Emergency shelters are full or enforce stringent rules that leave people on the outside looking in. Many homeless people are struggling with mental illness (often unmedicated) and are left to fend for themselves. This has led to hundreds being jailed for minor misdemeanor offenses, filling up Texas jails.

The lack of emergency shelter has left the homeless of Amarillo searching for places to sleep. As previously stated, the 2022 Homeless Point in Time count revealed that Amarillo has over 360 unsheltered homeless individuals living on the streets, in tents, in vehicles, or other places not meant for human habitation. During the cold winter months, homeless individuals are scrambling for coats, blankets, tents, and any other type of assistance to survive the harsh weather. The Amarillo Fire Marshal's office has reported hundreds of fires that are determined to have been started by homeless people trying to stay warm. This includes fires in trashcans, firepits, open fields, and even inside abandoned properties. Several tragedies have occurred over the years from homeless individuals dying from fires in abandoned houses or from smoke inhalation.

Without viable shelter solutions, the homeless are left to fend for themselves to survive. Many cities, including Amarillo, have seen a rise in the number of tent cities that surface on public and private property. The colorful tents, tarps, and blankets can quickly multiply in number. What starts as a few residents can quickly grow if property owners or law enforcement do not move fast to disseminate the offenders. The homeless individuals are moving from place to place as they are pushed from one location to another.

Over the past few years, Amarillo has seen a couple of "tent cities" surface on private property. Homeless advocates have worked with property owners to allow them safe space to operate. Unfortunately, none of these encampments survived the test of time due to a lack of funding, infrastructure, and staffing support. The camps were managed by the homeless residents themselves and problems surfaced. The camps were in poor locations with tall, dry weeds and grass making them very dangerous and susceptible to fire. One camp was in a flood plain making it dangerous during rains and storms. Without professional staff and security, the campsites experience fights, assaults, sex trafficking, and drug- and alcohol-related problems.

For the past year, the city of Amarillo has had no sanctioned campsites. With a growing number of unsheltered homeless, the city now has hundreds of people searching for shelter every night. When new campsites get too large or problems are observed, complaints are levied to the police department. Unfortunately, the enactment of this new law prohibiting public camping has created a new challenge for law enforcement and the criminal justice system. Police officers respond to complaints and learn that the homeless do not have the same options they had in years past. Officers are expected to enforce the law, but they lack resources to compassionately help the homeless in their desire for shelter. This has resulted in a delicate tightrope for our police to navigate.

Officers are not actively seeking out the homeless who are breaking the anti-camping law. They know that it is cruel to enforce a law against people who have no other options. To appease citizens calling with complaints, officers are forced to remove the homeless from the place in question and advise them of the "options" consisting of Faith City Mission and Salvation Army. Despite the fact that they know these are not viable resources for most, they are at least trying. In essence, officers are telling the homeless that they must leave the location they are staying because it is illegal, and they are at risk of being arrested. When the homeless ask what they are supposed to do, officers must respond that they don't know what they can do, but they need to leave this particular area due to the complaint and their duty to enforce the law. The homeless people then leave the area and move to the next space, where the cycle continues.

Potential solutions: Housing First, tiny villages

In late 2018, the city of Amarillo piloted a project called Coming Home, based on Dr. Sam Tsemberis' Housing First model. The idea behind this model is that homeless individuals first need shelter to meet their basic needs. Those who participate in the Coming Home program, or any Housing First program, are not required to be sober or meet a litany of requirements. At Coming Home, clients are required to participate in weekly meetings with their case manager to help alleviate the barriers they are having to maintain housing. Clients in the program are also assisted with obtaining necessary documents (such as state IDs, birth certificates, and social security cards), to get into permanent housing and to apply for jobs. Case managers also help clients get established with a primary care physician and a mental health team so their medical and mental health needs can be met. Clients are in control and are encouraged to be self-sufficient as they develop goals with their case manager. Peer support specialists are also part of the Coming Home team. They help clients work toward goals and offer them weekly activities such as art therapy or recovery groups. Peer Support Specialists play a vital role as a mentor to provide a listening ear as they work through challenges together.

Over the course of its first three years, the Coming Home program has enjoyed a success rate of over 85% in the goal to help the chronically homeless off the streets. Success for the program is measured by the clients who remain in housing and have not returned to homelessness. The 2019 Point in Time count indicated that Amarillo had 774 homeless individuals; of these, 34% were classified as chronically homeless. According to HUD, chronically homeless is defined as a person who has experienced homelessness for a year or longer, or who has experienced at least four episodes of homelessness in the last three years and has a disability. A family with an adult member who meets this description would also be considered chronically homeless. At 34%, Amarillo's chronic homelessness rate was much higher than that national average of 27%. During the first three years, the Coming Home program specifically targeted those who met the definition of chronically homeless, resulting in a significant decline from 34% to 7% (5). Since 2019, the total number of homeless individuals in Amarillo has decreased from 774 to 539. Clearly, this program and the Housing First model are successful and working well in the Amarillo community.

Unfortunately, the need far outweighs the resources. Like many communities across the country, Amarillo has a shortage of affordable housing. This leaves hundreds of homeless individuals waiting for the next available space in the Coming Home program. The gap that has been identified is a lack of low-barrier transitional supportive housing programs that can shelter a large number of homeless individuals. With over 360 unsheltered homeless individuals in the community, it

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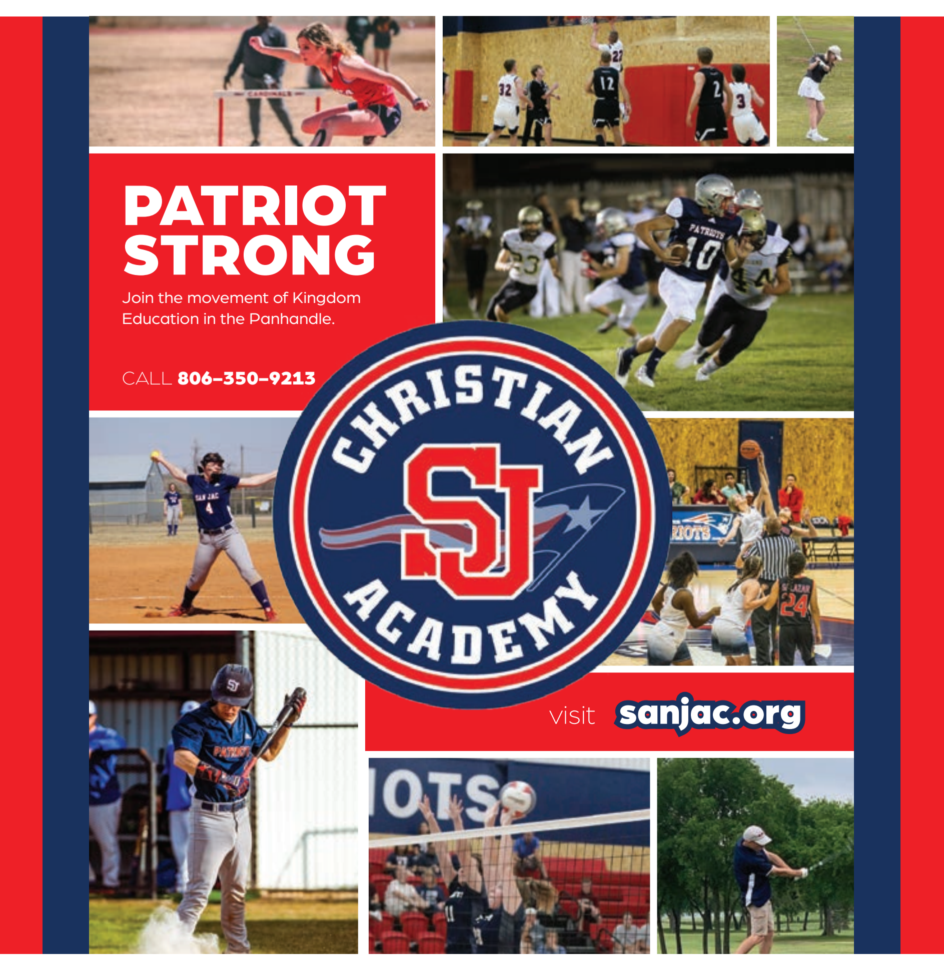

is difficult for outreach workers to engage this population. Ideally, the community needs a central homeless community program that provides low-barrier temporary transitional shelter with onsite supportive services, like those provided by the Coming Home program.

Our City of Amarillo leadership has located a successful program model that would meet the needs of the city. The Hope of the Valley Rescue Mission, located in the North Hills California area, is a large organization with over a decade of experience working to prevent, reduce and eliminate poverty, hunger, and homelessness. Amarillo leaders have forged relationships with the leaders of this organization to learn from their experience and expertise. Hope of the Valley has successfully implemented a tiny home village plan to address the astounding number of homeless individuals in the state of California. This village has a secure community area surrounded by fencing and monitored by security staff. Each tiny house provides comfort, safety, security, and dignity. The homes are equipped with windows, a lockable door, fold-down beds, air conditioning, heaters, and electrical outlets. The footprint of the community includes communal bathrooms, showers, laundry facilities and picnic tables. Case managers, employment specialists, janitorial services, and general support staff are available on-site as well. Depending on the number of tiny homes, this community plan is able to help a large number of homeless individuals who are currently living on the streets. Unlike traditional shelter or affordable housing projects, tiny homes take a short time to build and assemble, at just a fraction of the cost. The tiny homes used by Hope of the Valley are a prefabricated product made by a company called Pallet. Pallet shelters are a fiberglass-reinforced plastic with a foam insulating core for the panels and aluminum framing. They are designed to be a fast solution to the crisis of homelessness. The Pallet shelter can be assembled in under an hour and can be moved with ease (6). The parts and panels are easily cleaned and replaced if damage occurs. With a plan such as this one, a large number of people can be helped and sheltered safely with necessary staff and specialists needed. The support staff will work with the clients to connect them with medical and mental health services. Perhaps the person is ready to take the next step by enrolling in a sobriety program or re-entering the workforce. By and large, the support staff will be working to help these individuals move into permanent housing. The city of Amarillo Community Development Department serves as the Public Housing Authority and has available housing vouchers to assist the homeless. The tiny home structures are a temporary shelter to bridge the gap from homelessness to permanent housing. By having these individuals in a centralized location where trained staff can engage and help them navigate the pitfalls, it is the goal of this project to help move people from homelessness to permanent housing and stability.

Clearly, Amarillo has identified a great need for a solution to help those experiencing unsheltered homelessness. With a coordinated approach, Amarillo can implement a synchronized plan to help many of these individuals. Creation of a community incorporating temporary transitional shelter is the logical step. The shelter would be staffed with appropriate professionals ready to assist those experiencing homelessness. These individuals will be provided safety, security, and dignity in the form of a shelter space. Case managers and housing specialists will work with the individuals to engage them with rapid re-housing, peer support, employment, as well as many other resources in the community. A centralized location is the key component to a positive outcome. Police, homeless outreach, and the community will have a known place where those experiencing homelessness can get the help and the support they need. The blueprint for addressing the cruelty of unsheltered homelessness is to provide supportive housing. With compassion and kindness leading the way, Amarillo can follow this design and make a difference in the lives of those who are often forgotten and marginalized.

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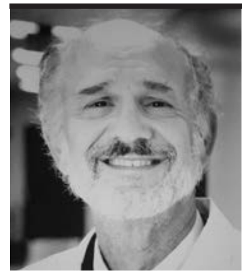
Jason Riddlespurger is the Director of Community Development for the City of Amarillo. Jason was promoted to this position after serving 24 years at the Amarillo Police Department. As a decorated Police Sergeant, Jason brings a unique perspective gained from his experience working as a patrolman, school resource officer, detective, patrol supervisor and coordinator of the crisis intervention team and homeless outreach. In the summer of 2020, Jason retired his police commission and answered the call to lead the Community Development Department where he can make an even larger impact on his goal to make Amarillo a better place for all people.



Social Determinants of Health: *Rural Health*

by Steve Urban, MD and Dave Clark

A major effort in health care research in general, and public health research in particular, over the past 10-20 years has focused on Social Determinants of Health (SDOH) – those factors in the social and political environment that affect health on a population-wide level. In the past, social factors have been undervalued as we have studied how genetic, biochemical, and immunological factors affect disease. And these basic science advances have been astounding. But when we compare the population-wide health status of the United States (the country where much of this science has been done) with that of other developed nations, we find that our scientific breakthroughs have not translated into overall health of the population. For instance, among 11 developed countries, the U.S. has by far the lowest life expectancy (78.6 years vs 81.1 in Germany, the second worst) and the highest death rate from a myriad of causes, including drug overdoses. Our infant mortality rate is worse than Cuba's and on par with that of Serbia and Belarus. Why? It turns out that what holds us back are the Social Determinants of Health – disparities in income distribution, access (e.g., lack of insurance), attitudes (e.g. racism), education, and institutions that prevent a substantial number of U.S. residents from benefiting from the advances of medical science.

Other articles in this issue will discuss the various aspects of SDOH (such as racial inequalities, access to prenatal care, availability of mental health care, etc.), but we are going to focus on one that you might not have thought about – the health disparities associated with living in a rural community. We will review the scope of the problem and the factors that lead to poorer health metrics among rural residents. Then, we'll review aspects of the crisis that are particularly pertinent to Texas and the Texas Panhandle – especially the loss of rural providers and hospitals. Finally, we'll suggest some potential ways to deliver better health care to our rural patients.

Is rural life bad for your health?

When you think of country living, you may think of clear water, clean air, clean living, and – longevity. But that is not the case nowadays (if it ever was). Take a look at figure 1 – you'll see that the age-adjusted death rate is 20% higher among rural residents, and the gap has been widening over the past 20 years (1). Life expectancy of rural residents is 76.7 years, while that of metropolitan residents is 81.1 years.

When we look at specific causes of death, we find that the mortality rates of ALL TEN leading causes of death in the U.S. are higher in rural communities (figure 2). Subgroup analysis confirms the bad news; for instance, the rate of lung cancer deaths is substantially higher (82/100,000 country dwellers vs 63/100,000 in urban areas) (2). The prevalence of high blood pressure is greater (40% in rural vs 29.4% for urban populations) – the same for diabetes, COPD, and many others. Maternal-fetal outcomes, which are often used in assessing the health status of nations, are significantly worse in rural areas. Infant mortality is rural areas in 20% higher (6.67 per 1000 live births, as compared to 5.43 in metropolitan centers), and maternal mortality in childbirth is almost twice as high (23.8/100,000 as compared to the urban rate of 14.6/100,000). There is some evidence that adverse pregnancy outcomes – especially out-of-hospital and premature births – are higher in communities that have recently lost their rural hospitals (we will talk about the loss of rural hospitals later in this paper) (3).

In addition, so-called diseases of despair – suicide, drug and alcohol overdose, and alcoholic liver disease – are all more prevalent and more frequently fatal in rural settings. Suicide rates are higher (18.9/100,000 rural residents vs 13.2 urban). Deaths from drug overdose have risen fourfold in the past 15 years – and overdoses from prescription opioids sevenfold – in rural areas. The old picture of the Harlem crack house has been replaced by the meth lab in an abandoned barn. The death toll of relatively young

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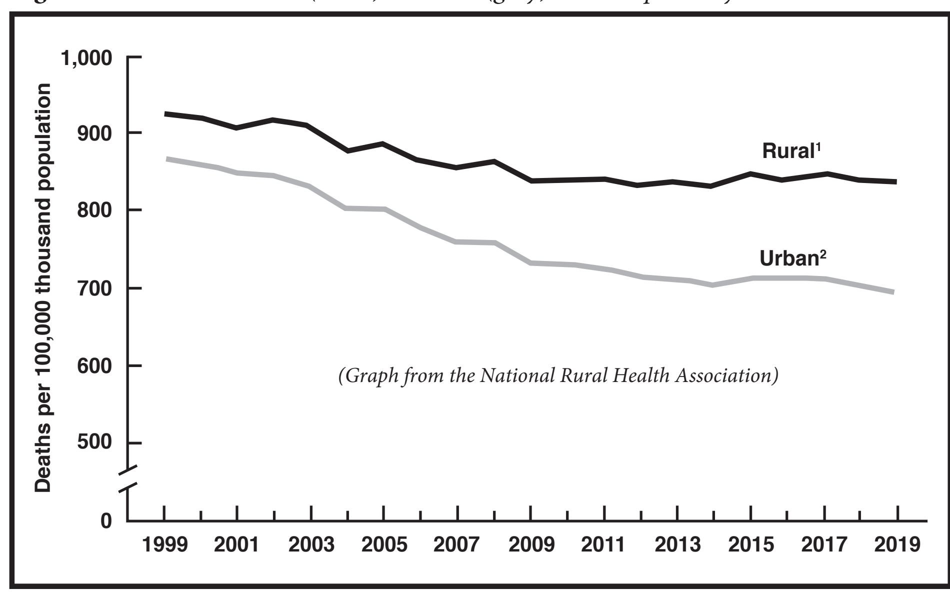
Figure 1. *Death rates: rural (black) vs urban (gray) over the past 20 years*



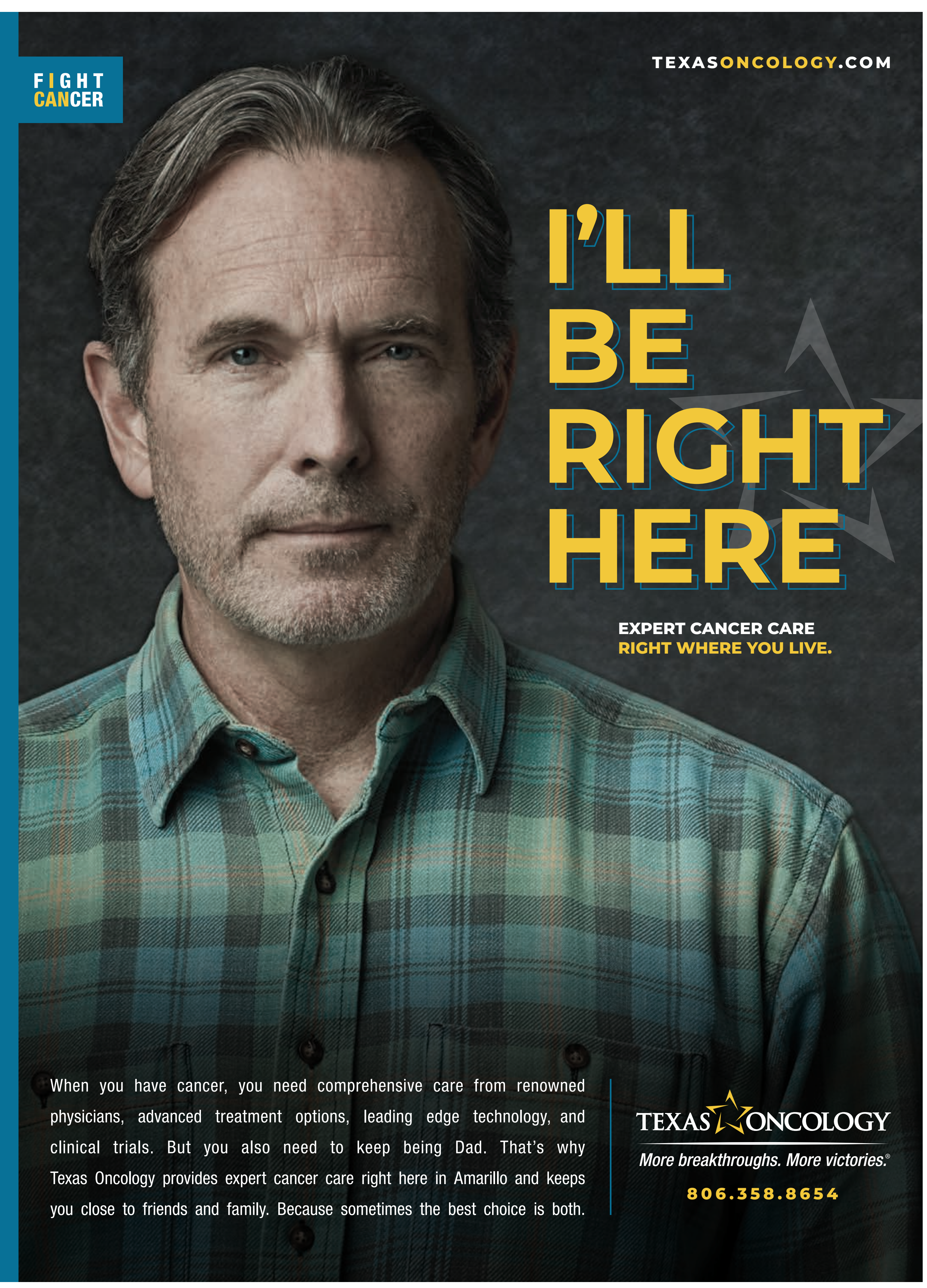


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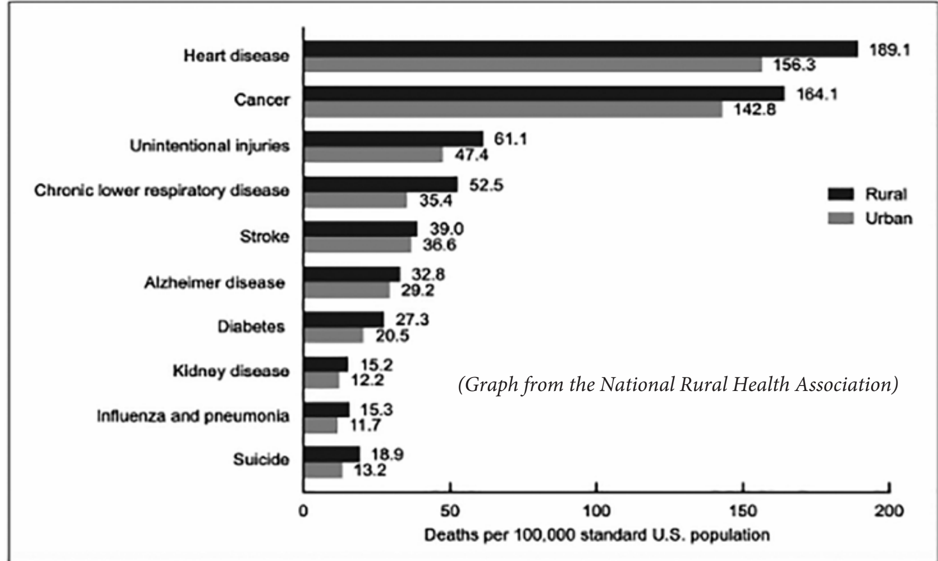
Figure 2: *Rural vs urban mortality rates of the 10 leading causes of death*



(Graph from the National Rural Health Association)

residents has devastated many rural communities in recent years – even more so during and after the COVID pandemic.

Why the disparity in health status for rural residents?

The literature addressing the reasons for such disparities is complex and difficult to summarize, but we will try. First of all, health behaviors differ between rural and urban residents. Country-dwellers are more likely to smoke (27.3% vs 17.7% in city dwellers). Fewer rural residents get the prescribed amount of physical exercise (19.6% rural vs 25.3% urban). Studies have shown that rural residents have less access to (and ability to pay for) nutritionally complete food. Rural residents eat more highly-processed fast food and have a much higher rate of obesity. The incidences of both depression and anxiety are higher in country-dwellers.

In addition, social and economic factors are at work. Educational attainment is less in rural populations, with 20 % of rural residents not having acquired a high school diploma or GED (vs. 15.9 % of city-dwellers). Personal income is lower in rural areas (average family income in rural Texas is $45,120, compared to the average in all Texans of $55,1289), and more rural residents fall below the poverty line – 17.1% vs 13.3% of urban residents. Many farm workers are first-generation Americans; due to poverty and the complexity of the health care system, their uninsured rate is considerably higher – especially in states, like Texas, that have not expanded Medicaid coverage. Rural residents are less likely to have employer-funded health care, and undocumented farm workers usually have access only to emergency room care in a crisis.

Finally, there are other factors related to access besides ability to pay. Much talked-about is the shortage or rural health providers – not just doctors, but community health workers and physician extenders as well. For example, 75% of Texas counties are classified as Health Profession Shortage areas. 64 of the 254 Texas counties are without a hospital. Transportation is a problem when patients can be an hour or more from emergency level care and even further from high-level facilities. You can well imagine that, for a victim of a serious farm accident or oil field trauma – situations where minutes can make the difference between life and death – mortality rates would be higher in remote rural areas, and evidence bears this out. Quality differences in care delivered at rural hospitals has been investigated, but this continues to be an area of controversy. It would certainly make sense, though, that being hours away from high-level specialty care (e.g., well-staffed ICUs for acute respiratory failure, dialysis for severe hyperkalemia) could not be good thing.

We are going to use rural vs urban outcomes in the COVID pandemic as a way to illustrate the complexity of rural/urban disparities in care. Needless to say, the pandemic is the worst public health disaster of the last 100 years, with OVER A MILLION fatalities in the U.S. alone. By now, you will not be surprised to learn that the mortality rate from COVID was higher in rural areas, and remains so to this day (see graph below). The overall mortality rate from COVID in rural areas has been 382/100,000 vs 288/100.000 in metropolitan areas. Again, the question is: why? For one, the increased rates of obesity, hypertension and COPD in rural

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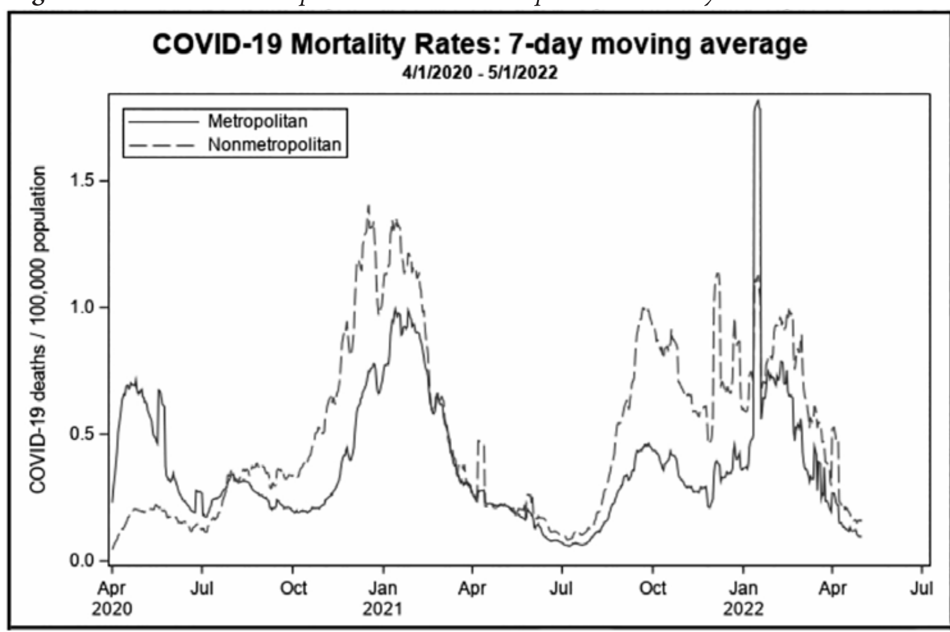
Figure 3: *COVID-19 Metropolitan and Nonmetropolitan Mortality Rates*



areas – all risk factors for poor outcome in COVID – surely play a role. Limited access to healthcare (poverty, uninsured status, immigration status) plays a role as well. Most small-town hospitals do not have an ICU staffed by certified intensivists, and some patients may have resisted transfer to facilities that were hours away. Finally, a huge factor has been a difference in vaccination rate (as of November 2021, only 67% of rural residents vs 79% of city-dwellers had received at least one shot), which probably relates to social and political differences (skepticism of science, resistance to public health mandates, among others). As you can see, multiple factors – related to underlying health, financial and coverage disparities, education and attitudes – likely conspired to worsen the outcomes of rural COVID patients.

An important issue in rural access – hospital closures

Public policymakers have displayed a love-hate relationship with rural care for a century or more. In the early 1900s, concerns about infectious diseases such as tuberculosis and food and water quality led to the establishment of county public health authorities throughout the nation. Interestingly, even in the horrific influenza outbreak of 1918, there was considerable bitching and moaning about public health measures such as mask-wearing and quarantines. Public support for rural health care picked up in 1946 with the Hill-Burton Act, which provided funding for over 10,000 construction projects, almost half of which were rural hospitals. The passage of Medicare in 1965 helped decrease the number of unfunded patients at the hospital door and led some improvement in the fiscal status of rural hospitals. By the late 1990's, however, it was clear that new financial pressures (including disparities in Medicare funding) were responsible for the closure of many rural hospitals. As a result of legislation in 1997, funding for Critical Access Hospitals – usually rural hospitals with <25 beds – was strengthened. Provisions of the Balanced Budget Act increased Medicare payment rates to these hospitals and established funding for Rural Health Clinics in undersupplied areas. These measures seemed to stem the tide of hospital closures for a time.

Unfortunately, new financial pressures have again jeopardized rural hospitals. The Center for Healthcare Quality has recently estimated that 40% of rural hospitals – and 55% of rural Texas hospitals – are at either high or immediate risk of closure. Reasons for this again are complex but include funding inequities in Medicare (e.g., cutting $50 million in Medicare payments to small hospitals in 2013), the fact that it is relatively more expensive to keep small inpatient services and EDs open, and increasing levels of uncompensated care. The latter problem again is especially severe in states (like Texas) that have not expanded access to federal funds for Medicaid. Operating costs (including renovation costs and information systems to keep up with new documentation requirements) are higher on a per-patient basis in smaller, older rural facilities. In addition, small rural facilities don't have the bargaining power in purchasing that large urban healthcare systems do.

Recruiting doctors and other providers has been an ongoing problem as well (4). Interestingly, physician compensation is not the problem; primary care doctors in small towns actually make slightly more money than their urban counterparts. Lifestyle issues (for the spouse as well as the physician) appear to be more important – the same factors that pull small town residents to cities in other professions. Specialists in particular are often interdependent; one of the factors discouraging surgeons from rural practice is the need to have qualified anesthesiology services. Medical schools have attempted to select for factors – primarily, growing up in rural areas and intending to practice family medicine – that are associated with ending up in small communities, with limited success. Doctors don't tend to practice where they go to medical school but where they complete their residencies, and most Graduate Medical Funding (i.e., funding for residencies) goes to large urban hospitals. The Council on Graduate Medical Education is trying to encourage rural-track residencies (5), but these too have met with limited success. Only about 4% of residents end up practicing in rural areas, and the results from schools of osteopathic medicine are about the same as allopathic schools. As a result, much primary care in small communities is delivered by physician extenders such as advanced nurse practitioners and paraprofessionals.

The net effect is that rural hospitals are again in financial peril. Many hospitals, under financial pressure (including liability concerns in some states), are decreasing important service lines. For instance, 70 out of 163 rural hospitals in Texas are no longer offering obstetric care. Not only do hospital closures worsen problems such as ED access, primary care and OB services (2) – but a hospital closure is a devastating blow to the civic pride and the economy of small towns. The average rural hospital accounts for 15-20% of the jobs in a small community and, on average, contributes $22 million (including federal and state dollars from Medicare and Medicaid) to the local economy.

The situation in the Panhandle

As in other parts of the country, the sustainability of rural hospitals in the Texas Panhandle has undergone boom-and-bust cycles. In the 40s through the 60s, many communities had small private hospitals – in the 1950s, for instance, Perryton had 2 small doctor-owned proprietary hospitals. Gradually, inpatient care was consolidated into local tax-supported hospital districts, so that now 70% of small-town hospitals are supported at least in part by local public funds.

In the 1980s and 1990, cooperation and collaboration among rural hospitals and the large Amarillo hospitals flourished. Northwest Texas hospital took the lead in providing a coordinated system for EMT and ambulance service to Panhandle towns, while High Plains Baptist and St. Anthony's (later to merge as BSA) set up Rural Health Centers and assisted small hospitals with infrastructure (e.g., computers) and hospital operations (e.g., certification). With economic changes – in part related to the privatization of both hospital systems – such regional support and cooperation has dwindled, leading to the "every man for himself" system that currently obtains.

The past decades have seen hospital closures in several Panhandle communities (Clarendon, Canyon, Memphis), with many others in precarious financial condition. As a result, there are no medical

facilities in 3 Panhandle counties, and 8 others have clinics without ERs or inpatient facilities. Many of our hospitals are among the 55% of rural Texas hospitals under financial stress, and almost all are dependent on taxpayer support to keep their doors open. (See Table 1)

Potential Solutions

If rural healthcare posed easy problems to solve, the numerous agencies involved – from federal and state to interest groups such as the National Rural Health Association (NRHA) – would have figured it out by now. The issue of rural health stands at the confluence of many different streams – government involvement vs laissez faire, federal vs local control, urban vs rural priorities. Rural healthcare advocates have proposed many ideas, including the following:

(1). Payment reform. Recognizing the intrinsic costs of running small but vital facilities, governments should increase funding to well-functioning small hospitals. Particularly important would be expansion of Medicaid in states (like Texas) that have turned down federal dollars – to the detriment of their poorer patients. Applications for federal grants and documentation of value-based care measures should be made less onerous. (2). Structural changes should support ER and chronic care management efforts. NHRA recommendations in particular focus on these core rural facilities. (3). Access to behavioral health (including alcohol and substance use counsellors) should be improved, partly by enhancing access to and funding for telemedicine – but this depends in turn on broadband access, which is often substandard in remote communities. (4). Workforce reform, including prioritizing applicants from rural backgrounds and encouraging family medicine residencies to include rural and obstetric tracks, is still worth pursuing, as core services such as chronic care, trauma care, and OB services will still need physician leadership.

Although there has been a gradual move from rural areas to metropolitan areas in the US, 20% of our population still resides on farms or in towns of <25,000 population. Rural residents value their rural jobs and lifestyle but would prefer not to sacrifice their health in the process. The disparities in health status of the rural population are striking and general – not involving just one or two conditions such as accidental injury but extending across the entire spectrum of disease. And it appears that social and structural factors – from life-style issues such as smoking and substance use to systems issues like transportation and financial hurdles – are the predominant causes of this disparity. And these factors, not being innate to rural residents themselves, are potentially remediable. Whether through educational and public health measures (targeted screening, smoking cessation), financial reform (Medicaid expansion) or structural improvements (broadband access), the health disparities associated rural life are problems that, with attention and planning, can be solved.

Table One: *Panhandle Counties and their Healthcare Facilities*

Hospital and ED	Rural Health Clinic	No Health Facility
Potter/Randall	Armstrong (Claude)	Hartley (Hartley)
Castro (Dimmitt)	Briscoe (Silverton)	Oldham (Vega)
Childress (Childress)	Carson (Panhandle)	Roberts (Miami)
Collingsworth (Wellington)	Donley (Clarendon)	
Dallam (Dalhart)	Hall (Memphis)	
Deaf Smith (Hereford)	Lipscomb (Lipscomb)	
Gray (Pampa)	Parmer (Bovina)	
Hansford (Spearman)	Sherman (Stratford)	
Hemphill (Canadian)		
Hutchinson (Borger)		
Moore (Dumas)		
Ochiltree (Perryton)		
Swisher (Tulia)		
Wheeler (Wheeler)		

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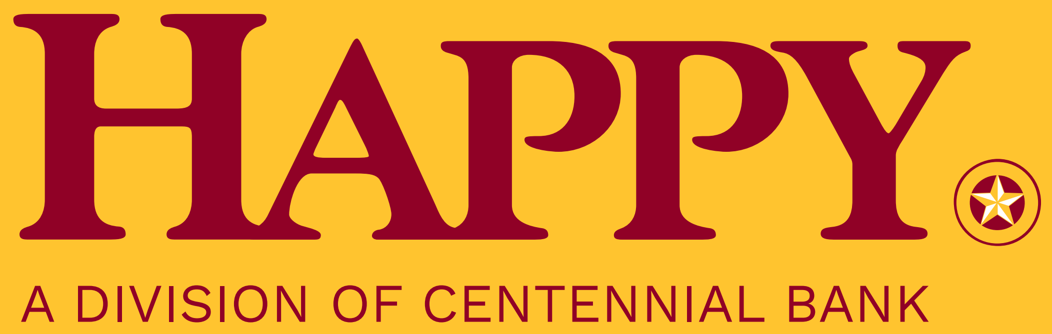
If you would like a full bibliography for the sources of all the statistics quoted in this paper, please contact Steve Urban at steven.urban@ttuhsc.edu.

Dr. Steve Urban grew up in Perryton and practiced internal medicine in Amarillo for 40 years – first as a private practitioner and then as a practitioner/medical educator at TTUSOM. In 2015 he was named the first Distinguished University Professor on the Amarillo campus, and in 2019 he was elected to Mastership in the American College of Physicians. He is now Emeritus Professor of Internal Medicine at TTUHSC.

Dave Clark is a graduate of Ottawa University with a degree in Healthcare Administration. His healthcare career spans 50 years of clinical and management experience in the private sector, tertiary, and high-risk rural hospitals. In addition, Dave is an international author, speaker, and champion of training government leaders, faith communities, and the general public regarding successful fathering.



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The Need for Affordable Child Care in the Health of the Family

by Ilean Pamela McCarty, LCSW and Skye McLaurin-Jiang, MD, MPH

Complex situations abound in today's society, and they attack the reasonable person's level of comprehension. One such complex situation arises from the correlation between affordable childcare and family health. A detriment to the social determinant of health occurs when one realizes the cost of daycare increases with the amount of children born. This implies a socioeconomic element to the growth of a family. People of means can absorb the cost of more children whereas people who lack the financial means cannot afford a large family. Another area of concern arises from the lack of affordable childcare which creates a devastating impact on a family's financial status and may greatly affect the social determinant of a family's overall mental health. A final assault upon the social determinant of health arises when a middle-class family realizes that it may be more cost effective for one parent to quit their job and stay home with their children rather than to continue to pay for childcare.

Socioeconomic element to the growth of families

To understand the complexities of the socioeconomic elements to the growth of families and the closely associated childcare costs I imagine Heather. Heather conceived her first child with her boyfriend Bob at a young age. Bob accepted his responsibility for his child and moved in with Heather, and her loving parents. The grandparents' absorbed the cost of the birth of the first child and volunteered to take care of her while Heather and Bob attended school. Bob immediately began to show signs of mental health difficulties due to the feeling of being emasculated as he moved into another family's home. These feelings of insufficiency and the inability to provide for his own family forced him to make the difficult decision to drop out of high school. Being a high school dropout limited the jobs that would be available to him. After extensive searching he took a minimum wage job at a local fast-food restaurant with the intention of moving his young family as quickly as he could.

Bob knew nothing about the employer shared responsibility payment requirement imposed by the affordable care act and its impact on his family.[1] He did not understand that the government mandated that companies must provide health insurance to all full-time employees. In turn a large portion of companies took advantage of this verbiage and began to employ individuals on a part time basis. This meant that the restaurant that Bob worked for would not pay for his insurance if Bob did not accrue more than 37 hours in a work week. The restaurant very deliberately made sure that Bob did not pass this threshold, and therefore ensured he would be classified as only a part time employee. Part time employees could opt to get the health insurance, but it would be at an inflated price that meant that he would be working only for the insurance and little else. Upon taking this job Bob decided that his family did not need health care coverage.

After working at this job for some time the couple made the decision to move their family into an apartment. Shortly after this Heather discovered the conception of their second child. While her parents gladly took care of her first child, she knew that two children, one of which would be an infant would be too much to ask of them at their advanced age. At the same time Heather began her final year of high school. Before the arrival of their second child the couple began researching daycare solutions.

Their new household consisted of a mother, a father, a toddler, and one newborn infant, upon its arrival, that would survive on Bob's part time minimum wage check, which averaged around $1,256 a month, while she finished school. They discovered a relatively affordable childcare center that would accept their daughter at the price of $600.00 a month. With just the cost of their first child the couple stared at the reality that they dedicated half of their monthly income to childcare.

They did not know that organizations like the Economic Policy Institute stated that while the average monthly daycare cost for their four-year-old arrived at about $600.00 the price for an infant was almost $200.00 higher.[2] This information identified that the couple would pay nearly $14,000 a month, which would take up the entirety of Bob's paycheck and leave the couple short about $150.00. To find help Heather applied for childcare assistance with the Workforce Solutions Panhandle which helps low-income families with childcare assistance. In addition to the childcare assistance with the Workforce Solutions Panhandle the couple would qualify for public assistance with their low income and could find additional assistance in the head start program. Head start enrolls more parents into its program which helps with the education of children from birth until they turn five years old.[3] These programs are intended to assist families that lack the financial means to pay for childcare.[4] Families entering these programs must meet federal, state, and local guidelines. In Amarillo these guidelines require the couple to have at least 50 hours combined work and school, they must meet income guidelines, have primary custody of the child, live in the Panhandle area, and cannot owe recoupment anywhere in the state.[5] Unfortunately, in our modern society, the more governmental agencies that review a potential recipient family, the higher the likelihood that that family will be rejected, and this program only aids one in seven applicants due to available funds.[6]

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The effects on a family's financial status and mental health

Another area of concern comes with the lack of affordable childcare which creates a devastating impact on a family's financial status and may greatly affect the social determinant of a family's overall mental health. As shown in the above case study, if parents are not able to work, in this case Heather, they are not able to provide private/group health care coverage for their family. Sometimes even if they do work, much like the case of Bob, the health care premiums can be so high that the parents do not have the financial means to pay them. When scenarios like this arise programs like Medicaid come into play and provide healthcare to low-income children.

This search for both childcare and health care creates a vicious cycle of stress on parents not battling with low income like Heather and Bob. Middle income families feel this same vicious cycle of stress as they attempt to balance bills, food, lodging, and childcare. Keep in mind that these families make too much money to be eligible for Medicaid and likely receive some type of health coverage from their employer. The higher income makes them ineligible for the childcare assistance provided by the Workforce Solutions Panhandle or even the head start program. In many scenarios the middle-income families fight a more difficult battle than the young couple because for the parents to have gotten a middle-income job they probably incurred some type of student loan debt, mortgage, car loan, or any combination of the three. This means that the stress level of the middle-income family remains at a higher level because of the multiple directions of assault they feel from organizations they owe money to.

In many instances middle income families inflict more financial wounds on themselves by utilizing small loans to get things like furniture, and maybe remodel portions of their house so that it is livable. This means that the festering wound to their financial status increases in size by these additional bills that they have acquired. To help alleviate the pressure of these bills they begin to use several credit cards to pay for everyday items and help cover things like doctors' appointments, car maintenance, and even trips that are needed to destress. But with each charge to their credit card their financial strain grows and along with it more stress is placed on the mental health of the parents. Even without the implications of childcare costs, middle income families can be stretched extremely thin.

As stated previously the average cost of a non-infant child arrives around $600.00 per month, per child. It appears that these middle-income families should easily achieve this meager amount on their respective incomes. Yet this facade quickly falls when their massive debt rises to its ugly head. These overstressed parents begin to look for ways to alleviate the pain of their constantly growing debt which in turn puts even more stress on their fragile mental health. The parents begin to search for additional jobs to add income to the household. These new jobs add even more stress but have the potential to keep this nearly drowning couple above water financially. That and the whispered prayer that no changes occur that will affect their childcare, like a simple increase in childcare price or God forbid an unforeseen pregnancy could push a middle-income family over the financial edge and have disastrous effects on the parent's mental health.

Decision to stay at home

A final assault upon the social determinant of health arises when a middle-class family realizes that it may be more cost effective for one parent to quit their job and stay home with their children rather than to continue to pay for childcare.

If the doom or gloom scenario plays out at the end or the previous section happens, it may mean that it makes more financial sense for one of the parents to stay at home and care for the children rather than work eighty hours in a two week pay cycle to break even paying for childcare. If the two parents in the family come to this conclusion, then their dual income would become singular. This could cause the middle-class family to live under the poverty level. These parents will pay the same $14,000 a month price tag placed on the head of Heather and Bob. If this occurs the parents will probably reevaluate their situation and if one of the parents, make less than or close to that $14,000 then likely the decision will be made for that parent to stay home with the children instead of paying that massive amount of money. This would in turn place even more stress on the middle-income family's income, simply because they will not be making the same amount of money. In addition, it will likely create animosity within the couple because one of the parents would give up their career just so that the children can be cared for.

Some may believe that staying at home may be beneficial to the child as the child may become more academically sound and learn more under the direction of a parent than they would in a daycare. The downside of this extra parental attention became more and more apparent during the pandemic, children that are not exposed to daycare tend to have problems socially interacting with people.

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Cardiac Thrombus: *Rare Finding in a Pediatric Patient with T cell Leukemia and Review of VTE Treatment and Prophylaxis in Pediatric Cancer Patients*

by Danilo Noboa, MD; Roa Bashtawi, MD; Cristina Natha, MS3; Samer Zaid-Kaylani, MD; Smita Bhaskaran, MD

Introduction

Blood clots, including pulmonary embolism and deep venous thrombosis, are being diagnosed with increasing frequency in pediatric cancer patients. Occasionally, venous clots will present atypically, for instance, with propagation of the clot up the inferior vena cava and into the right side of the heart. We present one such case and use it as a springboard to review the diagnosis, management and prophylaxis of venous thromboembolism in the pediatric cancer population.

The reported incidence of symptomatic venous thromboembolism in children with cancer ranges between 2.1% to 16%, while the incidence of asymptomatic events is approximately 40%. The etiology of venous thromboembolism in pediatric patients with cancer is multifactorial. Hypercoagulable factors in malignancy include the ability of tumor cells to secrete inflammatory cytokines and procoagulant/fibrinolytic substances, as well as the physical interaction between the tumor cells and vascular cells. The hyperinflammatory state and hemodynamic compromise (stasis) in cancer patients also contribute to thrombus formation. In addition, treatment-related factors, such as surgery, chemotherapy, and central venous catheters, can significantly increase the risk of thromboembolic events. Outcomes for pediatric cancer patients with venous thromboembolism may be suboptimal; therefore, it is crucial to emphasize the development of recommendations related to thromboprophylaxis and venous thromboembolism management in this population.

Case Presentation

A 14-year old male under treatment for T-cell acute myelolymphoid leukemia presented to the hospital with a fever of 102.7F, headache, and intermittent midsternal chest pain. The patient was empirically started on cefepime. Due to a history of previous fungal infection, voriconazole was also added to the antimicrobial regime. A complete blood count revealed pancytopenia. Ongoing fevers led to an extensive work up including imaging and blood work. Computed Tomography of the chest revealed small bilateral lower lobe infiltrates and atelectasis, as well as small bilateral posterior pleural effusions. Serum fungitell assay showed elevated level at 138 pg/ml (N= <60 pg/ml).

Initial echocardiogram showed a possible sessile mass in the inferior right atrial wall near the eustachian valve, as well as a mild pericardial effusion. Repeat echocardiogram revealed a 2.2 x 2.5 cm mass attached to the eustachian valve and possibly the pulmonary valve. The mass appeared to be mobile and raised concerns for intracardiac thrombus or possible fungus ball; hence, antifungal therapy was escalated to include amphotericin B, and the patient was transferred to a tertiary center with cardiothoracic interventional availability.

During the patient's hospital course, the mass dispersed into a shower of pulmonary emboli, thereby confirming the diagnosis of intracardiac thrombus. Low molecular weight heparin was initiated with complete resolution of the mass within 6 months. The patient received thromboprophylaxis for a total of 19 months until the port was removed and then was transitioned to aspirin 81mg PO daily for another 6 weeks.

Discussion

In the pediatric cancer patient, venous thromboembolism is a common complication; active malignancy in children is associated with a 2-16 % incidence of symptomatic venous thromboembolism and 40 % incidence of asymptomatic venous thromboembolism. The presentation, however, will vary based on the location of the clot. In our case, the clot was located in the right side of the heart, making the diagnosis more challenging. Typical symptoms of thrombosis, such as edema, pain with movement and skin changes, may not be present in all patients with acute venous thrombosis; therefore, clinicians will need to have a high index of suspicion, especially in high-risk patients.

The prevention and treatment of venous thromboembolism in cancer patient has always been a subject of great controversy. The main questions posed include who should be anticoagulated and for how long. Another important issue is balancing benefit vs. risk of bleeding, especially during periods of thrombocytopenia.

Current recommendations do not favor routine primary thromboprophylaxis in pediatric cancer patients without history of venous thromboembolism. Risk assessment for active venous thromboembolism in pediatric cancer patients, however, should include:

1. Patient-specific risk factors:
   - -Age >10
   - -Personal history of venous thromboembolism
   - -Obesity
   - -Family history of venous thromboembolism
   - -Known inherited thrombophilia

2. Disease-related risk factors:

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-Acute lymphocytic leukemia and sarcomas
-Intrathoracic/metastatic cancers with high tumor burden

3. Treatment-related risk factors:
   -Presence of a central venous catheter
   -Certain chemotherapeutic agents like: asparaginase, steroids, bevacizumab
   -Recent surgery/hospitalization

In regard to the duration of therapy, American Society of Hematology guidelines suggest using anticoagulation for less than or equal to three months (rather than anticoagulation for more than three months) in patients with provoked venous thromboembolism. In cases in which the inciting factor is resolved, treatment for more than three months is unjustified. For patients who have persistence of the causative risk factor, longer anticoagulation can be considered.

Direct oral anticoagulants (DOACs) are emerging as a promising new therapy in pediatrics. As their name implies, DOAC administration is oral, as opposed to the subcutaneous low molecular weight heparin commonly used in children. These oral medications also have more predictable pharmacokinetics. In addition, the therapeutic window is wider, with fewer drug-drug interactions, no food interactions, possibly no laboratory monitoring requirements, and adult data showing similar efficacy and decreased bleeding compared to vitamin K antagonists.

Table 1 presents different types of direct oral anticoagulants and the significant differences between these medications.

In order to use direct oral anticoagulants, patient stratification is important. A good candidate will have the following characteristics;

1. Patient should be able to take pills.
2. Weight should be between 40 to 100 kg.
3. Patient should be stable with low bleeding risk.

Poor candidates for the use of DOACs would include:

1. Patients with severe liver or renal failure.
2. Patients with uncontrolled hypertension.
3. Patients with mechanical heart valve or antiphospholipid syndrome.
4. Risk of concomitant medication interaction.
5. Patients who struggle with medication compliance.
6. Patients with insurance or financial barriers.
7. Patients less than two years of age.

Studies have shown that even pediatric patients who are adult-size often need much higher doses of dabigatran than the standard adult dose. We do not yet have published information regarding pediatric doses for agents like apixaban and edoxaban.

It is also important to clarify that, even though we have reversing agents such as idarucizumab for dabigatran and recombinant factor Xa for rivaroxaban and apixaban, the American Society of Pediatric Hematology/Oncology recommends caution in their use due to limited pediatric data. Although DOACs might be an encouraging advancement in the management of thrombosis in the pediatric population, we currently still need more safety data to recommend general use of these therapies in the pediatric oncology population.

Table 1	Target	Adult dosing	Clearance	Initial treatment
Dabigatran	Thrombin	BID	Kidney	Parenteral x 5-10 days
Apixaban	Factor Xa	BID	Liver/Kidney	High -dose BID x 7 days
Edoxaban	Factor Xa	QD	Kidney/Liver	Parenteral x 5-10 days
Rivaroxaban	Factor Xa	QD	Kidney	High -dose BID x 21 days

Conclusion

The management of venous thromboembolism in the pediatric cancer patient should be a multifactorial decision. Given the risks of anticoagulation, each case should be carefully evaluated, and the risks and benefits of therapy should be judiciously assessed while choosing the appropriate anticoagulation.

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I am overcome and grateful to the compassionate people of Amarillo who came to help organize, pack and ship over 100 boxes of medical supplies for the people of Ukraine.

The boxes are being shipped to hospitals and clinics in Kyiv and Dnipro, Ukraine. The group was composed of physicians, nurses, psychologists, medical students and volunteers.

The donations were made by Northwest Texas Hospital, physicians in private practice, members of the Potter-Randall Medical Society, and also people from the Amarillo community.

Not only were much needed medical supplies donated but also money to defray the cost of shipping materials and postal charges.

Special appreciation is sent to Kind House Ukrainian bakery who made a generous donation to this humanitarian endeavor and who has for years reached out and helped the people and especially the children of Ukraine. God bless you!

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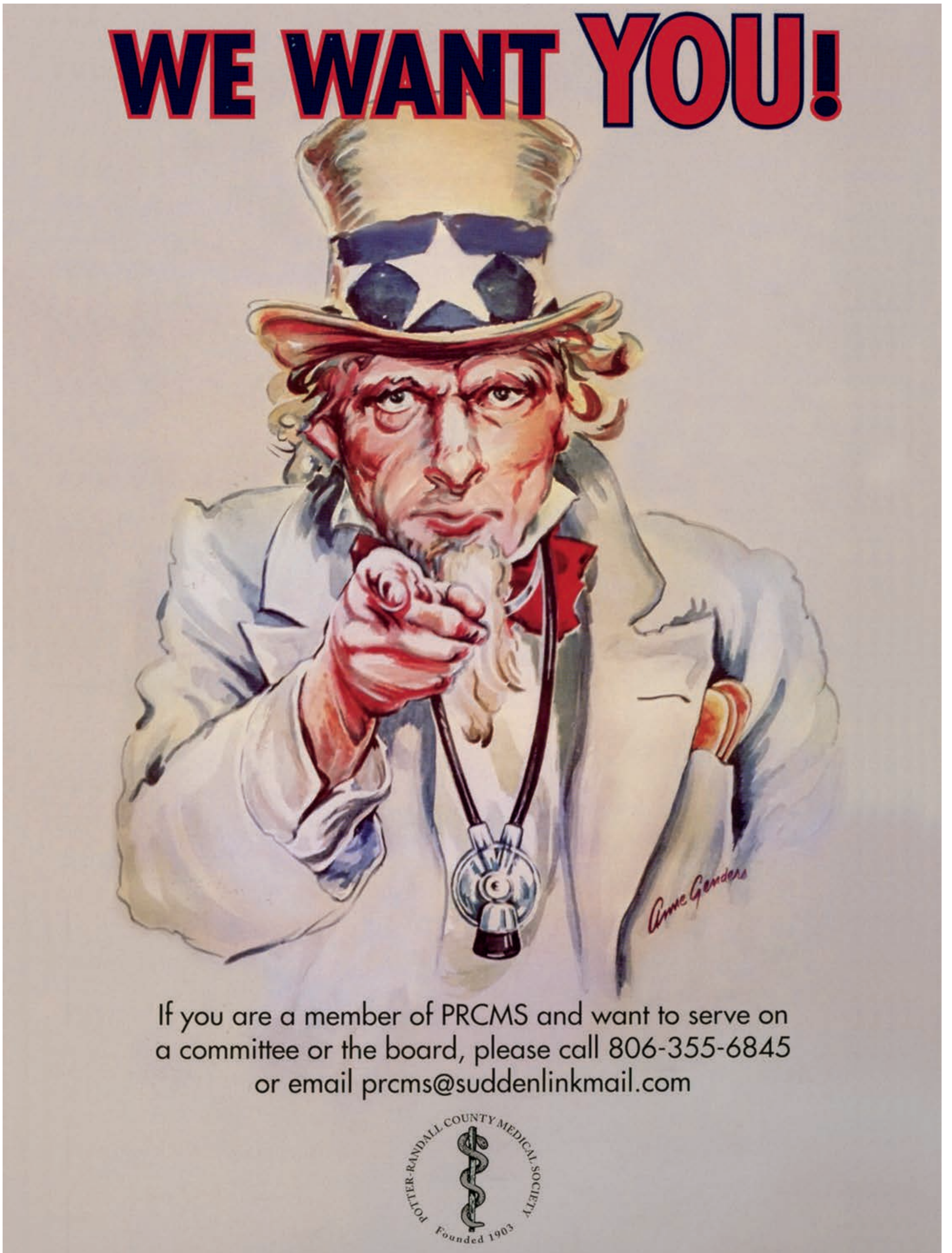
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