

Too Fat, Frail, and Out-of-Breath to Fight

Texas children need regular PE, real walking and biking options, and nutritious meals to maintain healthy weights and build strong bones and lungs.



A Walking-and-Biking-to-School Celebration

Sprains and broken bones outpaced combat injuries in Iraq and Afghanistan

WHO WE ARE



Shown in the photo are (left to right): Major General David M. Edgington, US Air Force (Ret.), Admiral James M. Loy, US Coast Guard (Ret.) and General Richard E. Hawley, US Air Force (Ret.) on the deck of the Battleship Wisconsin, in Norfolk, VA. at a MISSION: READINESS news conference.

MISSION: READINESS is the nonprofit, nonpartisan national security organization of more than 550 retired generals, admirals and other senior retired military leaders who work to ensure continued American security and prosperity into the 21st century by calling for smart investments in the upcoming generation of American children. It operates under the umbrella of the nonprofit Council for a Strong America.

For a full listing of our membership, please see our website at www.missionreadiness.org

ACKNOWLEDGMENTS

“A Walking and Biking to School Celebration” cover photo credit: U.S. Army photo by Bill Bengtson

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Summary

Our nation's military has often played a role in solving problems affecting our greater society. When malnutrition kept many young men from serving during WWII, General Lewis Hershey pushed successfully for the creation of the national school lunch program as a major force for children's health. When the Soviet Union sparked national security concerns by successfully launching Sputnik as the first satellite to circle the earth, military leaders helped inspire improvements in the teaching of mathematics in U.S. schools. Responding to military leaders' concerns about the need to move troops and supplies during an emergency, President Eisenhower—a former Army general—championed the development of the Interstate Highway System. And today, in response to an obesity crisis that disqualifies millions of young adults for military service, retired military leaders once again are leading the charge to ensure that schools are able to serve more nutritious meals to our nation's students.

Today there are new challenges that affect the health of our nation's children and the success of our military:

- Nearly one in three young Americans is too overweight to serve, one of the leading reasons why **73 percent of Texas' young adults cannot serve in the military**;
- **Nearly seven percent of young Texans currently have asthma**, which disqualifies them from serving in the military without a waiver. Obesity and lack of exercise can contribute to asthma and other respiratory problems;
- More than 60 percent of non-deployed active duty service members experience a sprain, stress fracture, or other musculoskeletal injury each year due in part to years of low calcium intake, lack of long-term exercise habits and/or excess weight. The military is spending billions treating these injuries among active duty personnel and veterans.



Photo: U.S. Army

While these challenges have been driven by a variety of factors, there are two key ways to improve both health and military readiness for generations to come.

First, community planners and builders can prioritize the creation of new transportation systems that prioritize sidewalks, trails, separate bike lanes and other longer-term built environment changes to substantially increase walking or biking to and from school and work. Currently, only 13 percent of students nationwide walk or bike to school. These efforts will reinforce regular physical activity as a simple and rewarding way to lead a healthy life, while improving air quality and lung functioning in the process.

Second, schools can help ensure that children get at least one hour of physical activity every day—the amount recommended by experts—which will help young people maintain a healthy weight while building strong muscles, lungs and bones. Unfortunately, **in an average week, more than 60 percent of Texas teens receive no physical education (PE) and only 30 percent get the recommended hour of daily physical activity.**

Finally, we must stay the course on serving healthier school meals. Children consume up to half of their daily

“ A few Texas cities are at the forefront of active transportation efforts nationwide. For example, Austin and San Antonio are ranked among the top 50 cities for biking in the country. ”

calories at school, and healthier meals will not only help prevent weight gain, but also provide the right nutrients that can enhance physical activity and contribute to bone and muscle growth. According to the U.S. Department of Agriculture, **100 percent of Texas’ schools are serving meals that meet updated nutrition standards.**

The good news is that **Texas has started making important changes to encourage physical activity.** Austin and San Antonio are both ranked among the top 50 cities for biking nationwide, and Austin is making additional strides by constructing paths to connect areas of the city and building upon already existing biking and pedestrian bridges. Recent evidence from elsewhere shows success is possible. Childhood obesity rates have declined by more than 30 percent among students in Wisconsin’s Chetek-Weyerhaeuser school district following a number of changes to help students become healthier, including expanding opportunities for physical activity

throughout the school day. In the most polluted parts of Los Angeles, the number of teens with under-developed lungs has been cut in half following efforts to reduce air pollution. In Portland, Oregon and across Northern Europe, ongoing commitments to “active transportation” efforts have led to many thousands more children and adults walking or biking to and from school and work each day.

With all of this in mind, the retired admirals and generals of MISSION: READINESS are leading the way to making PE a key part of every student’s day and supporting Safe Routes to School projects in Texas and across the country. Collectively, these efforts will put more students on track for a healthy future and help those who choose that path the opportunity to serve their country in the military. When military leaders have called for important changes, Americans have listened and acted. It is time for Texas to answer the call.

Texas, We Have a Problem

Impacts on the Military

A growing number of military recruits and service members are not only too overweight, but also too frail to fight. Many others have respiratory problems that prevent them from serving. While some physical deficiencies can be addressed once individuals enter the military, long-term military readiness is at risk unless a large-scale change in physical activity and nutrition takes place in America.

Unhealthy weights

Nearly one in three young Americans is now too heavy to serve in the armed forces, a main reason why 73 percent of Texas young adults cannot serve.¹ At the same time, physical inactivity is a problem even among those whose weight does not disqualify them from serving; according to one study, one out of every seven male Army recruits reported that they had not exercised or played any sports in a typical week prior to joining.²

Among active duty forces, obesity has risen by 61 percent since 2002. The military pays more than \$1.5 billion in annual obesity-related health care spending and costs to replace unfit personnel.

Respiratory problems

Asthma is a smaller but growing problem for recruiters, rendering approximately seven percent of young Texans ineligible for military service.³ In addition, approximately 600 newly enlisted recruits are discharged each year because of asthma and approximately four percent of soldiers currently have asthma.⁴

NEW CHALLENGES ARE PUTTING OUR NATIONAL SECURITY AT-RISK

Unhealthy Weights



Nearly 1 in 3 young Americans is too overweight to serve in the military.

Weak Lungs



1 in 10 young Americans has asthma, disqualifying them from serving without a waiver.

Weak Bones

6 in 10 service members experience a sprain, stress fracture or similar injury each year.



WE NEED TO REVERSE THESE AND OTHER DANGEROUS TRENDS



Most children aren't getting the exercise or nutrients needed to build strong bones.



48% down to 13%



6% up to 18%

In less than 2 generations, a quarter as many children walk or bike to school and childhood obesity tripled.

Respiratory problems are rising among children.

Reducing air pollution in parts of LA helped halve the number of teens with lungs functioning under 80% of expected capacity.*

Lung Function Capacity



80% vs. 100%

*Maximal forced expiratory volume in 1 second.

While allergens, air pollution and smoking are known to increase the risk of asthma and other respiratory problems, research shows that obesity and a lack of physical fitness are also risk factors.⁵ For example, one Journal of the American Medical Association study examining a military population found that being overweight or obese was a major risk factor for asthma.⁶

Broken bones and sprains

The military is also facing an unprecedented problem with sprains, stress fractures and other orthopedic problems (also known as musculoskeletal injuries). Those injuries are now recognized as “the biggest medical threat to readiness” among service members.⁷ Musculoskeletal injuries increase during wartime as a result of heavier packs and greater stressors, but research shows that poor nutrition, lack of exercise and obesity are contributing factors as well.⁸

More than 60 percent of non-deployed active duty service members experience a musculoskeletal injury each year for an annual total of more than 740,000 musculoskeletal injuries. These injuries are the leading reason why 30 percent of the Army’s reserve population is non-deployable.⁹ They are also the leading health-related reason for discharge from service. Discharges for these injuries have increased five-fold among males and nine-fold among females over the last three decades.¹⁰

There are more than two million medical encounters among service members for musculoskeletal injuries every year — greater than for any other condition.¹¹ There were 72 percent more medical evacuations from Afghanistan and Iraq to Germany for stress fractures, serious sprains and other musculoskeletal injuries among those deployed than for combat wounds.¹² The military pays at least \$5 billion a year in medical care costs and for the salaries of service members who are on limited duty or non-deployable because of injuries — the majority musculoskeletal.¹³ U.S. Department of Veterans Affairs (VA) payments to individuals partially or fully disabled by musculoskeletal injuries also topped \$5 billion per year even before the



Photo: Creative Commons from Yngve Roennike

Increasing walking and biking can reduce air pollution near schools.

Afghanistan and Iraq wars.¹⁴ Since 2000, the average disability payment to veterans has increased by 60 percent.¹⁵

Declining activity and weaker bones among children

It is well-known that America is facing an obesity epidemic. A growing body of research is shedding light on one of the primary contributors to the epidemic: physical inactivity.

In less than two generations, physical activity time among adults in the U.S. has declined 32 percent and is on track to drop 46 percent by 2030.¹⁶ Three-quarters of children receive less than an hour of physical activity daily.¹⁷ The proportion of children who walk or bike to school dropped dramatically over the past four decades: from 48 percent in 1969 to 13 percent in 2009.¹⁸ Meanwhile, children’s diets are increasingly made up of more empty calories and fewer nutrients. For instance, in 1977, children received 13 percent of their total daily calories from milk and eight percent from sugary drinks. In 2001, by contrast, children received 17 percent of their daily calories from sugary drinks and only eight percent from milk.¹⁹

As a result of these trends, compared to recent generations, **children at age 10 are not only 12 pounds heavier, but many also have weaker bones.**²⁰ More than one-quarter of adult bone mass is formed between the ages of nine and 15, and research on

child development shows that if children miss this key window for bone growth, they can have problems the rest of their lives.²¹ Yet an increasing number of children are not getting the adequate physical activity, calcium and vitamin D that healthy musculoskeletal development requires:

- Between the ages of nine and 15, the time that children spend engaged in moderate and vigorous physical activity drops by 75 percent. By tenth grade, 70 percent of American students are not getting the recommended hour of moderate to vigorous exercise daily.²²
- Eighty-five percent of adolescent girls and 77 percent of adolescent boys ages nine to 13 are not getting an adequate amount of calcium, and nearly half of girls and boys ages nine to 13 are not getting the vitamin D needed to build strong bones.²³

As a result of these deficiencies, there is evidence that many children have weaker bones than previous generations. A long-term study in Rochester, Minnesota, published in the *Journal of the American Medical Association*, found that forearm fractures increased by 32 percent among boys and 56 percent among girls from 1970 to 2000, likely in part because of rising obesity rates and less-developed skeletal systems.²⁴ It is also possible that many children are suffering from weaker muscles and tendons due to lack of exercise; the CDC began collecting data on children’s muscle strength in 2012, and research examining longitudinal trends should become available in future years.²⁵

Respiratory problems often develop in childhood

In just over three decades, the proportion of the U.S. population with asthma has tripled—from around three percent in 1980 to nine percent in 2013.²⁶ Approximately seven percent of 18- to 24-year-olds in Texas and 10 percent nationwide have asthma.²⁷ Meanwhile, CDC data show that the proportion of Americans ages 12 to 15 with adequate levels of cardiorespiratory fitness dropped by 20 percent

Particulate Air Pollution in Major Cities

The average daily density of fine particulate matter in micrograms per cubic meter (PM2.5). Less than 12.4 PM2.5 is considered good by U.S. standards.

Orleans Parish (New Orleans)	12.1
Dallas County (Dallas)	9.9
Maricopa County (Phoenix)	9.9
Bernalillo County (Albuquerque)	9.5
Travis County (Austin)	8.8
Los Angeles County	8.1

Source: Robert Wood Johnson Foundation 2015 County Health Rankings, 2011 data.

between 2000 and 2012.²⁸

There is no single cause of asthma or other respiratory problems, but physical inactivity and pollution contribute to these issues.²⁹ Lung development is nearly complete by the age of 18 and, therefore, “children with lung deficits are likely to have diminished lung function for the rest of their lives.”³⁰ Research shows that children exposed to nitrogen dioxide and fine particulate matter—both prevalent in traffic pollution—experience an increase in daily symptoms of troubled breathing as well as a substantial decrease in lung function and growth.³¹ Another study found that children with elongated exposure to these pollutants throughout the first eight years of life have an increased risk of developing asthma.³² Compared to other major cities around the country, Dallas and Austin have lower average particulate air pollution.

There is promising evidence that reducing air pollution can strengthen children’s lungs. According to a recent study, neighborhoods in Los Angeles that experienced meaningful decreases in air pollution over 13 years also saw the percent of children with smaller lungs and lower lung functioning cut in half over the same time period. Specifically, teens with lung function below 80 percent of expected lung function capacity—a cutoff used to indicate concern—fell from eight percent to four percent.³³

Three Solutions to Strengthen the Next Generation



Photo: Minnesota Department of Health and the Minneapolis Health Department

A Walking School Bus, where a group of children walks to school with one or more adults.



Photo: Billie Ward

One of downtown Austin's 40 bicycle sharing stations.

1 Build physical activity back into communities

Research shows that simply walking or biking to and from school can supply children with 16 additional minutes of moderate or vigorous physical activity per day, just over one-quarter of the daily amount recommended by experts.³⁶ In Texas, 70 percent of adolescents report that they were not physically active for at least 60 minutes per day.³⁷

Within the past decade, approximately 440 *Safe Routes to School* projects in Texas have helped increase the number of children who walk and bike to and from school by improving sidewalks, bicycle paths,

intersections, traffic signals and other infrastructure, as well as by enlisting parents to participate.³⁸ Still, these projects have only reached a small proportion of Texas' more than 8,000 public schools.³⁹

Austin's *Safe Routes to School* project, for example, provided safety education to students and stationed 230 crossing guards around 90 elementary schools.⁴⁰ One participating school found that more than 550 additional students chose to walk or bike to school after the improvements.⁴¹ Similarly, an elementary school in El Paso saw more children walking to school following a *Safe Routes to School* project that created signage around a busy intersection.⁴²

Some Texas cities are making other important

progress. In Austin, the Urban Trails program has funded a number of new greenways and trails, including a new trail that will connect the Oak Hill and Barton Creek areas of the city.⁴³ Similarly, the City of San Antonio's Bicycle and Pedestrian Program has increased the number of bicycle facilities and provided "educational, encouragement, and enforcement programs that support bicycling in San Antonio."⁴⁴ This has contributed to Austin and San Antonio being ranked among the top 50 cities for biking in the county.⁴⁵ However, there is still work to be done; only 2.2 percent of adults in San Antonio, 2.1 percent in Dallas and 3.9 percent in Austin actively commute to work.⁴⁶

2 Build physical activity into the school day

Physical education (PE) is an important source of physical activity for children. Yet PE is now absent from many schools and limited in others. More than 60 percent of adolescents in Texas report receiving no PE in an average week, which helps to explain why only 30 percent of high school students in the state get the recommended hour of daily physical activity.⁴⁷

Increasing physical activity during the school day can improve students' health, fitness and even their academic performance. Studies have found that PE curricula that emphasize total participation and health and nutrition education, such as the *SPARK* and *CATCH* programs, can substantially increase children's physical fitness and endurance.⁴⁸ Other rigorous studies have found that increasing physical activity during the school day can improve bone growth in prepubescent children.⁴⁹ Meanwhile, a randomized trial of another program, *Physical Activity Across the Curriculum*, found that incorporating more physical activity into the school day improved test scores among students at participating schools compared to those in the control group.⁵⁰

The connection between physical activity and brain functioning helps to explain this boost in test scores. Research shows that physical activity increases neural activity and affects areas of the brain that are associated with learning in children.⁵¹ For example, one randomized study of an afterschool program

Walking and Biking Can Be Serious Transportation

In Dallas, only two percent of adults actively commute to work by walking or biking. But in an average week, about 30 percent of Germans, including all age classes and rural as well as urban residents, rely on their bicycle as a means of transportation.



Bicycles parked outside a new soccer stadium in Paderborn, Germany.

that provided children with 70 minutes of physical activity per day for nine months found significant improvements in working memory (important for learning, reasoning and comprehension) among participants compared to children in the control group.⁵²

3 Do not retreat on healthier school meals

As a result of updated national nutrition standards for school meals that went into effect in 2012, 100 percent of schools in Texas are now serving healthier meals that have more fruits, vegetables, whole grains and lean proteins.⁵⁴ Schools struggling to meet the updated standards have received support from the U.S. Department of Agriculture (USDA), which has awarded more than \$185 million in grants to fund new school kitchen equipment nationwide since 2009, including \$4.5 million in Texas, and continues to provide training to school nutrition professionals to help schools serve healthy meals for students. The Department also announced the nationwide expansion of its *Team Up for School Nutrition Success* program, which allows the



Active Physical Education can reduce weight gain while building strong bones and lungs.

schools still working to meet the standards to pair up and learn best practices from schools that are already successfully serving healthier meals. USDA has also provided appropriate flexibility on issues such as transitioning to whole grain products.⁵⁵

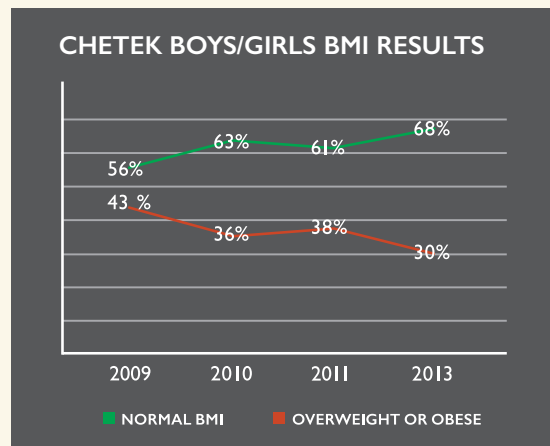
It is important to keep making progress on healthier meals because children consume up to half of their daily calories at school, and healthier meals will not only help prevent weight gain, but also provide the right nutrients that can enhance physical activity and healthier bone and muscle growth.⁵⁶

Conclusion

Throughout America's history, when military leaders have said it is time for a major change, the country has stepped forward to take action. Too many children are overweight and have weak bones or underdeveloped lungs. Prioritizing changes in schools and communities that promote physical education and activity are the right steps for Texas' future. National security is at stake. It is time to act.

Accomplishing Real Change

Student obesity rates in the Chetek-Weyerhaeuser School District in Wisconsin are declining faster than almost any other location nationwide. In just four years, from 2009 to 2013, the percent of students who were overweight or obese dropped from 43 percent to 30 percent. The lower obesity rates have coincided with dramatic improvements in physical activity and meals served in district schools. For example, the district purchased exercise equipment such as a climbing wall, skates, snowshoes, kayaks, cross-country skis, mountain bikes, treadmills and elliptical and weight lifting machines. They also updated school meals standards to include more fruits and vegetables, whole grains and low-fat milk and enhanced health and nutrition education during classes.⁵³



Appendix

Texas Data by County on Physical Activity and Obesity

County	Adult obesity rate (%)	Adults who report getting no physical activity (%)	Population without adequate access to locations for physical activity (%)	County	Adult obesity rate (%)	Adults who report getting no physical activity (%)	Population without adequate access to locations for physical activity (%)	County	Adult obesity rate (%)	Adults who report getting no physical activity (%)	Population without adequate access to locations for physical activity (%)
Statewide	29	23	16	Coke	31	31	67	Frio	30	25	85
Anderson	36	29	68	Coleman	29	29	60	Gaines	32	23	60
Andrews	30	27	8	Collin	26	19	5	Galveston	29	27	12
Angelina	30	29	30	Collingsworth	31	28	18	Garza	31	26	87
Aransas	28	28	10	Colorado	30	29	52	Gillespie	31	29	26
Archer	30	27	75	Comal	29	25	15	Glasscock	29	26	
Armstrong	28	27	98	Comanche	29	29	78	Goliad	30	29	42
Atascosa	29	26	57	Concho	31	27	95	Gonzales	33	29	61
Austin	28	27	41	Cooke	31	26	43	Gray	28	31	16
Bailey	29	27	20	Coryell	31	25	27	Grayson	28	27	27
Bandera	29	29	37	Cottle	30	29	16	Gregg	34	28	29
Bastrop	31	29	43	Crane	29	25	14	Grimes	35	28	57
Baylor	28	25		Crockett	30	27	83	Guadalupe	32	21	17
Bee	30	23	33	Crosby	29	29	44	Hale	29	30	31
Bell	30	23	13	Culberson	29	26	7	Hall	30	28	60
Bexar	30	21	4	Dallam	31	26	36	Hamilton	32	31	92
Blanco	30	24	51	Dallas	29	24	3	Hansford	29	26	13
Borden	29	26		Dawson	31	26	39	Hardeman	30	28	32
Bosque	29	28	77	Deaf Smith	32	27	20	Hardin	34	34	26
Bowie	34	30	51	Delta	29	32	33	Harris	28	21	4
Brazoria	30	24	22	Denton	27	21	4	Harrison	32	30	44
Brazos	28	21	11	DeWitt	29	29	24	Hartley	30	26	84
Brewster	27	24	39	Dickens	29	29	65	Haskell	30	28	80
Briscoe	29	27	32	Dimmit	31	26	37	Hays	27	21	7
Brooks	29	28	58	Donley	30	27	82	Hemphill	31	28	16
Brown	31	29	39	Duval	30	27	82	Henderson	27	30	38
Burleson	30	31	57	Eastland	32	31	55	Hidalgo	34	22	40
Burnet	29	28	22	Ector	32	30	29	Hill	33	26	46
Caldwell	31	25	51	Edwards	29	29	97	Hockley	29	28	35
Calhoun	30	25	52	Ellis	28	22	23	Hood	26	25	24
Callahan	29	28	66	El Paso	25	23	19	Hopkins	31	28	59
Cameron	28	22	23	Erath	30	24	31	Houston	32	32	51
Camp	33	28	52	Falls	32	29	68	Howard	31	28	22
Carson	29	30	28	Fannin	32	28	38	Hudspeth	29	27	100
Cass	29	29	56	Fayette	29	32	54	Hunt	30	29	41
Castro	30	26	60	Fisher	30	30	53	Hutchinson	33	29	18
Chambers	31	28	34	Floyd	29	29	49	Irion	29	28	55
Cherokee	32	31	51	Foard	29	28	59	Jack	29	26	46
Childress	30	28	27	Fort Bend	25	22	6	Jackson	31	24	49
Clay	30	33	62	Franklin	29	27	58	Jasper	31	31	42
Cochran	30	29	52	Freestone	31	26	77	Jeff Davis	26	23	43

Source: County Health Rankings & Roadmaps, Robert Wood Johnson Foundation

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Jefferson	35	29	34	Mills	29	26	77	Sherman	30	28	20
Jim Hogg	30	27	13	Mitchell	28	25	55	Smith	27	26	29
Jim Wells	30	26	52	Montague	27	26	44	Somervell	28	27	22
Johnson	33	27	30	Montgomery	28	20	12	Starr	31	24	71
Jones	30	29	77	Moore	30	27	34	Stephens	30	26	41
Karnes	28	26	38	Morris	34	32	58	Sterling	31	27	17
Kaufman	33	30	33	Motley	28	29	100	Stonewall	29	29	47
Kendall	26	21	21	Nacogdoches	30	26	34	Sutton	30	25	15
Kenedy	30	27	100	Navarro	34	30	45	Swisher	29	30	47
Kent	30	29		Newton	31	30	85	Tarrant	29	24	3
Kerr	26	26	17	Nolan	30	30	17	Taylor	28	25	13
Kimble	29	26	40	Nueces	31	24	8	Terrell	28	30	
King	29	28		Ochiltree	31	26	20	Terry	34	28	31
Kinney	30	29	69	Oldham	31	26	76	Throckmorton	29	28	
Kleberg	31	27	29	Orange	32	30	30	Titus	30	25	41
Knox	29	27	66	Palo Pinto	29	28	50	Tom Green	28	28	27
Lamar	31	32	34	Panola	32	30	73	Travis	21	16	3
Lamb	30	27	37	Parker	34	28	33	Trinity	32	31	29
Lampasas	29	28	26	Parmer	31	26	28	Tyler	31	30	60
La Salle	30	25	100	Pecos	30	28	53	Upshur	33	33	70
Lavaca	32	27	38	Polk	34	30	32	Upton	31	28	34
Lee	32	29	61	Potter	33	31	19	Uvalde	30	28	42
Leon	30	31	90	Presidio	25	29	66	Val Verde	28	26	15
Liberty	32	26	47	Rains	29	27	49	Van Zandt	34	36	70
Limestone	32	30	57	Randall	26	21	12	Victoria	33	25	26
Lipscomb	31	26	53	Reagan	30	27	7	Walker	30	27	22
Live Oak	30	31	57	Real	28	28	68	Waller	31	26	82
Llano	26	29	23	Red River	32	32	65	Ward	30	27	36
Loving	30	25		Reeves	30	28	29	Washington	28	26	27
Lubbock	28	25	8	Refugio	30	29	24	Webb	31	27	19
Lynn	30	29	81	Roberts	29	27	42	Wharton	31	30	40
McCulloch	30	29	58	Robertson	32	27	57	Wheeler	29	29	24
McLennan	29	26	27	Rockwall	26	28	8	Wichita	32	29	16
McMullen	31	30	77	Runnels	30	27	74	Wilbarger	29	28	41
Madison	31	27	62	Rusk	37	27	59	Willacy	30	27	70
Marion	34	33	65	Sabine	31	29	18	Williamson	28	18	6
Martin	30	27	62	San Augustine	30	28	19	Wilson	28	27	41
Mason	28	28	31	San Jacinto	30	32	27	Winkler	31	25	4
Matagorda	31	26	29	San Patricio	29	25	32	Wise	30	26	51
Maverick	30	29	26	San Saba	30	28	95	Wood	30	28	55
Medina	29	25	43	Schleicher	30	27	82	Yoakum	30	28	37
Menard	29	28	61	Scurry	29	33	32	Young	27	29	18
Midland	28	27	19	Shackelford	33	28	19	Zapata	31	28	55
Milam	32	27	56	Shelby	33	28	61	Zavala	28	28	38

Source: County Health Rankings & Roadmaps, Robert Wood Johnson Foundation

Endnotes

1 2013 Qualified Military Available (QMA), acquired through personal communication between Mission: Readiness and the Accession Policy and Joint Advertising, Market Research and Studies teams at the Department of Defense in July 2014.

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