



YUMA REGIONAL  
MEDICAL CENTER



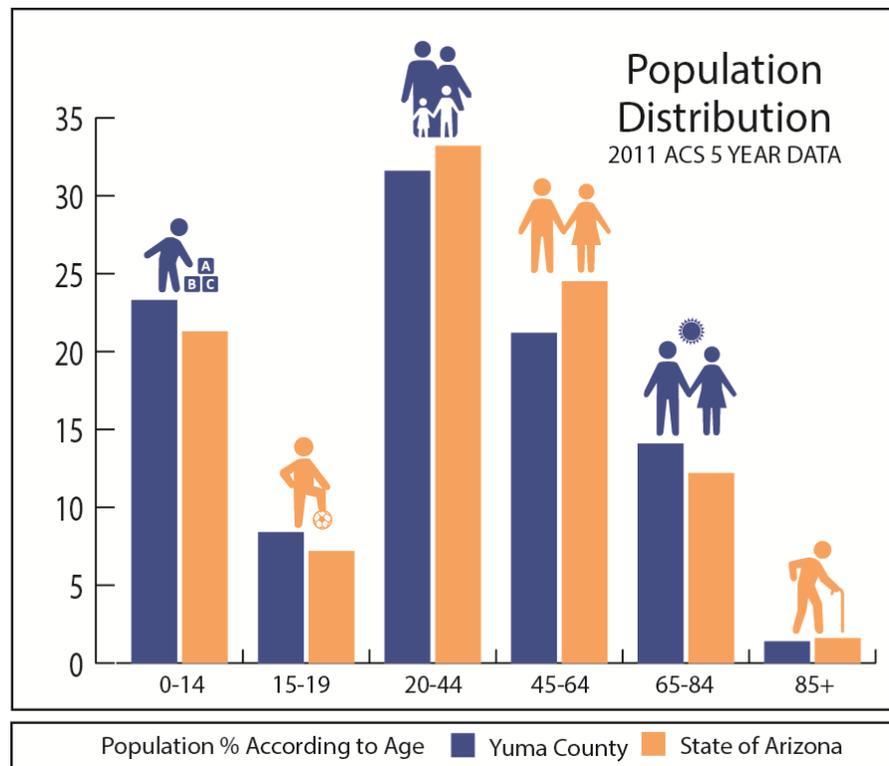
***Yuma County  
Community Health Needs Assessment  
May 9, 2013***

This descriptive analysis of demographic, health statuses and health outcomes data was provided to facilitate development of programs to improve the health of residents in Yuma County, Arizona.

### Population

The 2011 American Community Survey 5-year estimate for Yuma County’s population was 193,995. Fifty-nine percent of Yuma’s residents identify themselves as Hispanic and 36% identify themselves as White, non- Hispanic.

According to the Yuma Department of Health Services – Statistical Profiles around 41,000 farm workers from California and roughly 50,000 Mexicans on work visas travel into Yuma during the winter growing season. The population further increases by an estimated 83,000 peak winter residents affectionately known as "Snowbirds". Yuma also receives 1,300,000 day-tourist visits annually. For this report health outcomes data is based on the 193,995 permanent resident population.



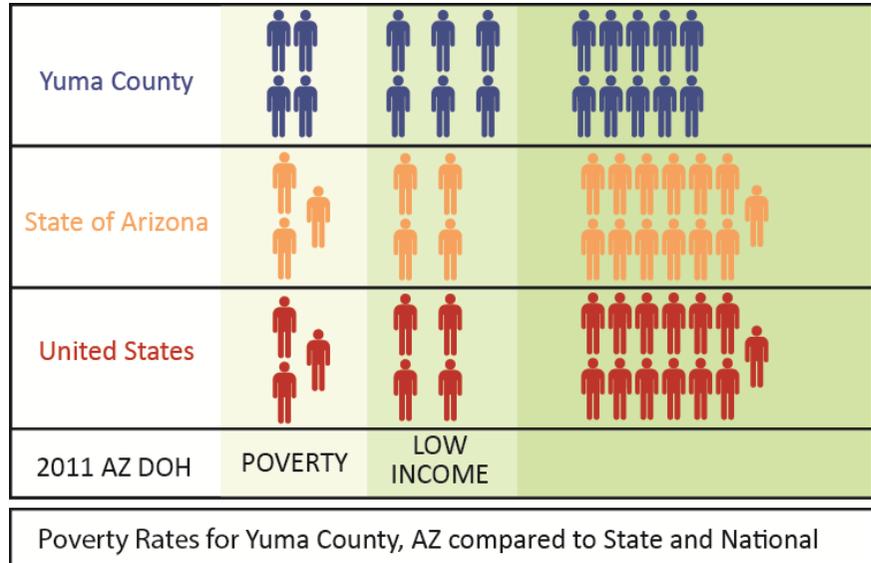
Among permanent residents there was a noteworthy difference in the distribution of the population based on age relative to state and national levels. In 2011 the youth population (age 19 and younger) was 11% higher than the state level and 16% higher than the national level. Likewise, the percentage of persons 64 and over was 17% higher than the state level and 23% higher than the national level. The population of young adults ages 20-44 was about 5% lower than state and nation levels. Adults ages 45-64 was 14% below the state level and 20% below the national level. In sum, Yuma’s population distribution is relatively younger and older, with proportionally fewer in the middle range. This is noteworthy because the residents between age 20 and 64 typically make up the majority of the work force that moves the economy forward.

## Poverty

Poverty thresholds are calculated annually by the Office of Management and Budget based in part upon household/family size. For a single person, the 2012 threshold was estimated at \$11,170, for a family of four the figure was \$23,050. With one in every five of Yuma's residents impoverished, or 20.8% below the poverty level, the Department of Health & Human Services confirms Yuma as a high needs area. The Robert Wood Johnson Foundation's 2013 poverty ranking placed Yuma in the highest third of the counties in the state. Poverty rates are higher among minorities. Among Hispanic residents, for example the poverty rate was estimated at 27%.

Poverty Level & Family Size	
Family Size	Income
1	\$11,170
2	\$15,130
3	\$19,090
4	\$23,050
5	\$27,010
6	\$30,970
7	\$34,930
8	\$38,890

Based on 2012 HHS Poverty Guidelines

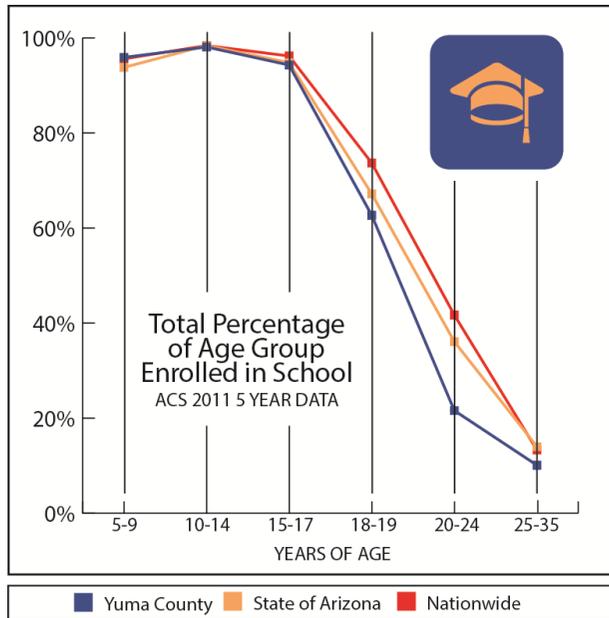


A closer examination of income and poverty revealed that half of the population could be considered low income, with 49% living below two times the federal poverty level. Considering that public programs phase out shortly after the poverty line, the remaining residents faced the predicament of balancing healthcare needs with limited income.

## Employment

The Robert Wood Johnson Foundation ranked Yuma County as having the highest unemployment rate in the state since 2010, reaching a peak unemployment rate of 11.7%. That rate was 133% of the State and 136% the national rate. Among Hispanic residents, Yuma County unemployment rates are projected at 14.2%.

Unemployment was highest among those with less than a high school diploma at 20.2%, which exceeds rates statewide (13.7%) and nationally (13.3%). Unemployment rates for those at higher educational levels are similar to state and national levels. The way the data was collected for the American Community Survey would attempt to collect a yearly average unemployment rate, reducing factors like the growing season. However unemployment rates may experience significant seasonal fluctuation for the less educated residents, due to the growing season and tourist season.



### Education

More than half of Yuma County's residents (54.2%) have a high school education or less. This represents a considerable gap when contrasted with Maricopa's rate of 37.6% (Phoenix) and Pima County's rate at 36.4% (Tucson). Educational enrollment for Yuma's residents is relatively consistent with state and national levels until ages 18-19, when rates decline markedly through the traditional college age range.

### Pregnancy and Birth

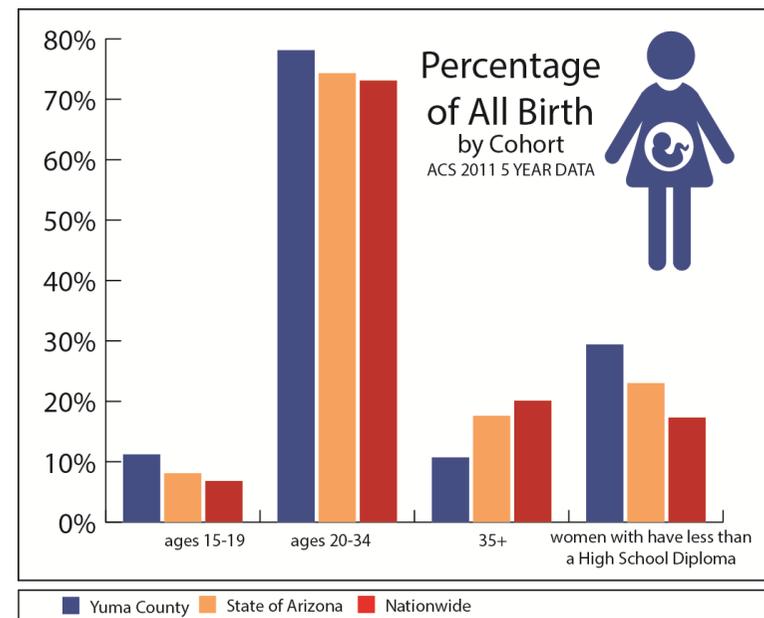
According to American Community Survey 5-year data set, the birthrate for women between the ages of 15 and 50 was 73 per 1000 women per year, a rate nearly 20% higher than the state level and 30% higher than the national level. This elevated birth rate was sustained through age 35, when it drops below the national level. Contributing to the high birthrate is the percentage of pregnancies yielding births, which was 5% higher in Yuma than it was statewide.

Of all births in the county, 11.2% are by teenagers (15-19 years of age). The rate for this age group was 48 births per 1000, about 40% higher than the state rate and almost 80% higher than the national rate. The pregnancy rate for all females 19 and younger dropped 20%, from 38 per 1000 in 2006 to 30 per 1000 in 2011.

A similar trend exists for the 20 to 34 age cohort, where 142 per 1000 gave birth. This rate exceeds the state level by 30% and the national level by nearly 40%.

The birthrate among women living below the poverty level was 115 per 1000, a rate 17% higher than the state level and almost 30% above the national rate. The impoverished population segment is not only disproportionately larger in Yuma County than state and national levels, but those residents are bearing notably more children.

Regarding education, almost a third of all births, or 29.4% are to women with less than a high school diploma, notably higher than the state average of 23% and national average of 17.3%. A third of all births or 31.6% are born to foreign-born women. Half of all births or 50.1% are to women in the labor force, of which 37.8% are unmarried.



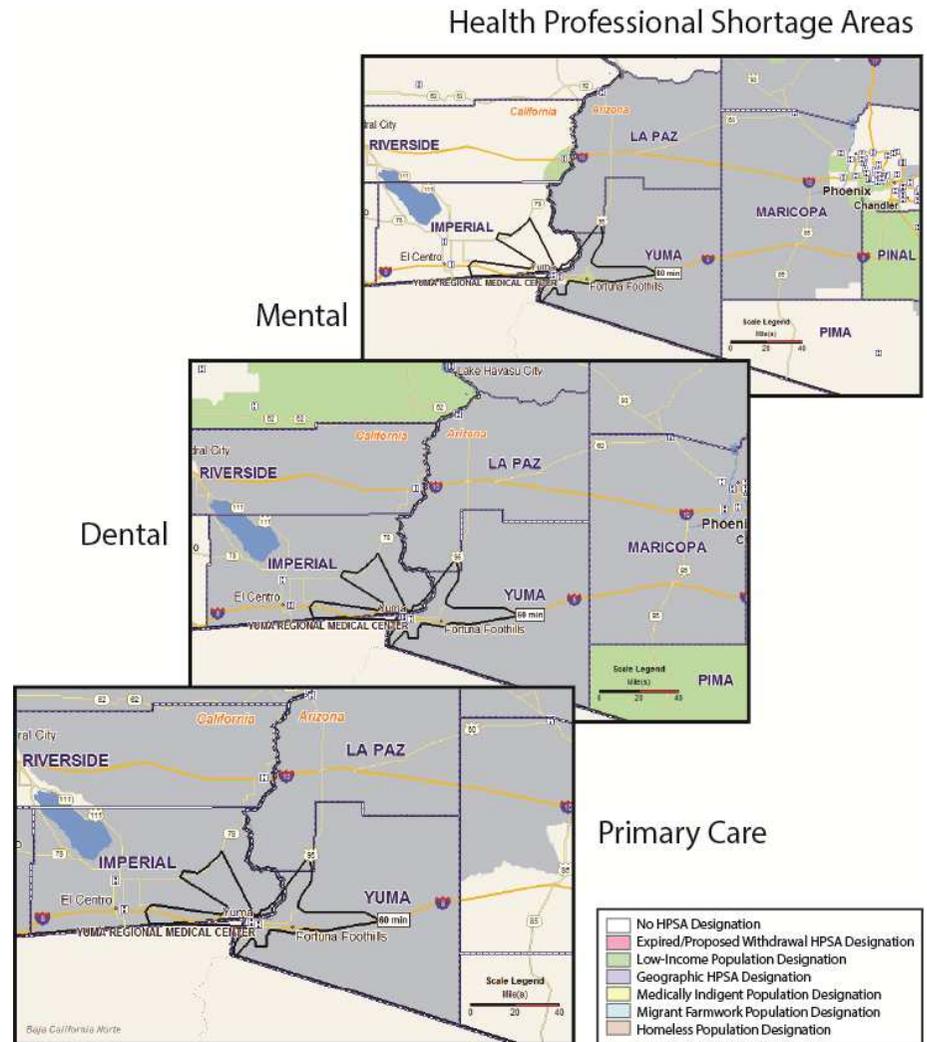
## Health Profession Shortage Areas

Studies were conducted over the past three years assessing the supply of primary, dental, and mental health care services throughout Yuma County. Shortages were found in all three disciplines. Federal designations were put in place recognizing the shortages of providers to the general population throughout the region.

The Robert Wood Johnson Foundation unfavorably ranked Yuma in the highest third of the state for access to care, and yet quality of care ranked in the best third of the state in 2010. Regardless of how well Yuma Regional Medical Center's network performs, the reality is, more providers are required to meet the need of the population.

Yuma Regional Medical Center and their affiliated providers constitute the sole medical network for the general population. This medical network does not receive supplementation from neighboring service areas due to excessive driving distance to major cities and close proximity to the Mexico Border.

In the midst of the recruiting issues are the needs for above normal capacity levels to accommodate the seasonal influx of tourists, snowbirds, migrant workers, and Mexicans on work visas. In the winter months, Yuma County can double in population. Though the employment of mobile and temporary medical services is on the rise, the capitalization of facilities to accommodate the seasonal populations would see reduced utilization during the off-season. Recruiting providers willing to locate to Yuma seasonally is costly, whether those additional providers are temporary placements through staffing agencies or year round workers facing seasonal highs and lows. Furthermore, the high poverty in the county further complicates the ability to develop more services. In the case of Yuma Regional Medical Center's 2012 charity care, unpaid costs, and sponsored community programs, 13.1% of all hospital efforts were a gift to the community.



## Hospital Data

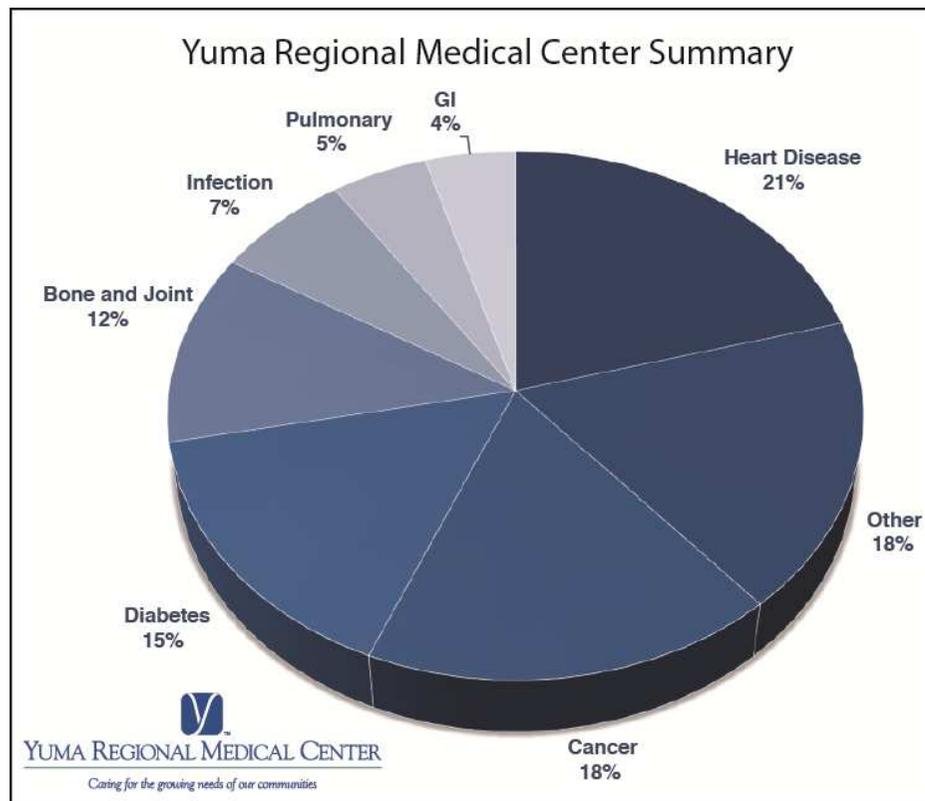
The highest admissions for the emergency department treated for stomach pain, urinary tract infections, headaches, upper respiratory infections, backaches, earaches, head injuries, and sore throats – essentially expected conditions.

Excluding births, 2012 inpatient and outpatient procedures were heavily focused on heart disease, cancer, and diabetes. Infections, pulmonary (lung), and gastro-intestinal (stomach and bowel) procedures accounted for sizeable hospital volume. There were also a significant number of joint replacements. Of the top thirty diagnosis, 5,181 cases, or 21% of hospital volume, was attributed to heart and the vascular disease. Various forms of cancer accounted for 18% of the total volume. Diabetes accounted for 15% of volume.

**Yuma Regional Medical Center  
Top Diagnosis**

Category	Total
Heart Disease	5,181
Other	4,469
Cancer	4,408
Diabetes	3,892
Bone and Joint	2,909
Infection	1,723
Pulmonary	1,229
GI	1,151
<b>Total</b>	<b>24,962</b>

  
**YUMA REGIONAL MEDICAL CENTER**  
*Caring for the growing needs of our communities*



Before drawing any conclusions from the hospital data, consideration must be given to the previous discovery that Yuma County has a disproportionately larger year round retirement population, plus 83,000 winter residents that are predominantly elderly. With that in mind, these key categories were further researched when looking at major causes of illness and death.

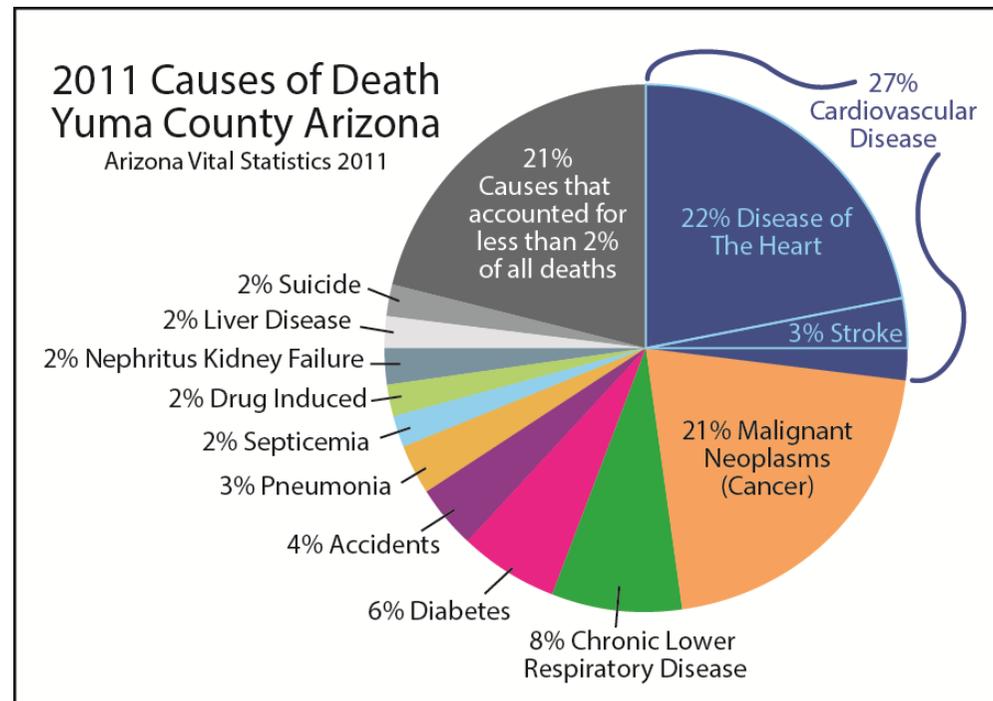
## Life Expectancy and Mortality

A well-known national pattern is that, on average, female life expectancy (81 years old) exceeds that of men (76 years old). This pattern holds true for Yuma County and the State of Arizona. Life expectancy in Yuma County for a person born in 2011 is estimated to be 79.2 and for males and 84.0 for females. Life expectancy estimates for Arizona statewide reveals similar variation by sex, and includes cross-classification by ethnic/racial background. Among males, life expectancy is 77.6 for Whites and 78.5 for Hispanics. Female life expectancy among Whites is 82.6 and 84.4 for Hispanics (source: CIA Factbook – 2011).

The Robert Wood Johnson Foundation ranked Yuma second in the state in Morbidity and Mortality measures in 2013. Looking at Arizona Department of Health Services data on mortality rates over the period of 2000-2010, Yuma has held an average of approximately 75-85% of the death rate at state and national levels. As a platform for analysis, the top 100 causes of death in the state were reviewed for the years 2007, 2009, and 2011. It was determined that Yuma was in the best third or middle third of the Arizona counties for most of the major causes of death. Each of the 100 leading causes of death in the state were ranked on a county basis and then Yuma was flagged for any instances where the county ranking unfavorably fell in the highest third of all county rates in the state. Rates were then analyzed by cohort: children (1-14), adolescents (15-19), young adult (20-44), middle aged adult (45-64) and elderly (65+).

Many causes of mortality had smaller number of deaths. In the case of rare causes, each additional person that died from the cause had the potential to greatly affect the rate. For example, multiple homicides can happen at one point in time, greatly affecting the homicide rate for smaller communities. To account for the volatility in the rankings of rare causes of mortality, rates were lightly considered for any cause with less than 20 deaths annually and for less than 10 deaths by age group.

Reflecting on the major causes of death previously noted, Yuma County either outperformed the rest of the state or demonstrated rates closer to the state average. Diseases of the heart ranked in the middle third of the counties for the years of 2007, 2009, and 2011. The Healthy People 2020 goal is 100.8 deaths per 100,000 residents. Yuma is closing in on that goal with a rate of 107.5 per 100,000 residents.



Regarding cancer rates, the overall ranking for malignant neoplasms was in the best third of the Arizona counties for two of the three years and in the middle of the ranking in 2009. The main subcategories have similarly positive rankings. Less common types of cancer, such as skin-related had poor rankings but incidence rates small enough that the rate is not deemed statistically reliable.

Chronic lower respiratory disease had an interesting progression ranking Yuma County favorably in the best third of the counties in 2007, with 60 deaths, the middle third in 2009 with 90 deaths, and the highest third in 2011 with 106 deaths. Seeing the notable increase in the death rate over the five-year period these rates were compared across cohorts to identify which age groups struggled with the issue. Based on 2009 data, 98% of the deaths due to chronic lower respiratory disease happened to elderly residents.

Diabetes accounted for 6% of all deaths in 2011, or 79 people. This jumped from 42 deaths in both 2007 and 2009. The Healthy People 2020 target for diabetes related deaths is 65.8 per 100,000 residents. Yuma's rate was 39 per 100,000 in 2011, which meant Yuma County met the benchmark. However, this rate was among the highest third of Arizona counties.

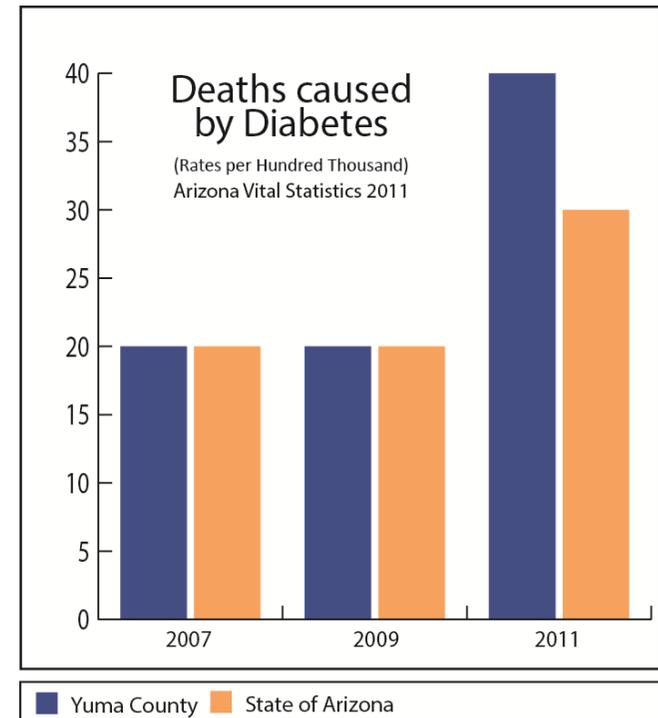
In 2007, approximately 70% of diabetes related deaths were among elderly residents, with a 10 percentage point increase for 2009 to 80%. The rest of the deaths happened primarily to middle aged residents. According to CDC 2009 data, Yuma County's rate for diagnosed diabetes in adults was 8.7%, rising along with the nation.

Total accidents accounted for 4% of all deaths in 2011, ranking Yuma in the best third of all counties for all three years.

Pneumonia was the cause for 3% of deaths in 2011. This ranked Yuma in the middle third of counties for 2007 and 2009, with 28 and 42 deaths, respectively. In 2011, 39 deaths placed Yuma's pneumonia mortality rate in the highest third of the state. Almost 90% of the deaths in both 2007 and 2009 happened to elderly residents. No Healthy People 2020 target was established for the general population. According to United Healthcare Statistics, these mortality issues of diabetes, accidents, and pneumonia are preventable and thus, the costs are as well.

According to the CDC, one quarter or 24.7% of Arizona was considered obese, in 2011. The age groups 45-54 and 55-64 have the highest levels of obesity with rates of 29.2% and 29.5%, respectively. Rates of obesity among Hispanics were also elevated accounting for 33.7% of the population segment, compared to obesity rates of 20.6% among the White residents. In 2009, Yuma County had an obesity rate of 30.2%. The 2020 target for Arizona was 30% of the population. Americas Wellness Statistics state that 70% of overweight adults will develop preventable yet chronic illnesses such as heart disease, cancer, asthma, diabetes, etc.

When addressing mortality, common concerns are HIV, drugs, binge drinking, and firearms. All of those issues of death had rates predominantly in the best third of Arizona counties.



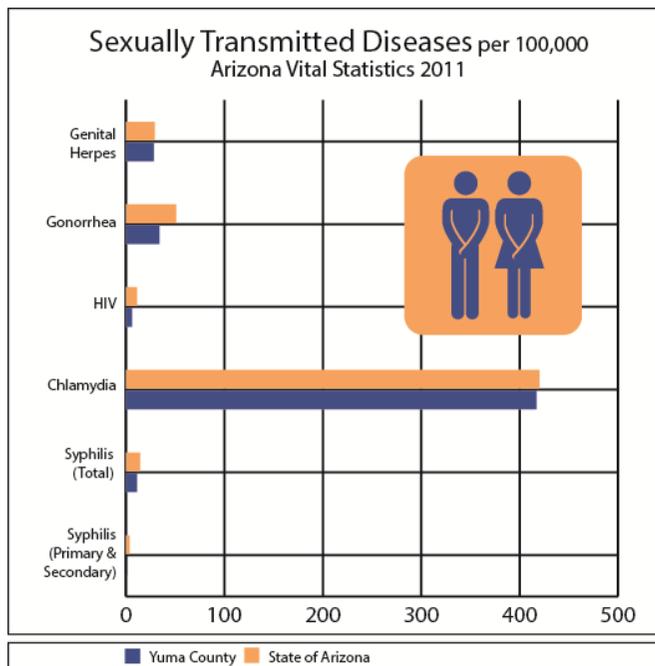
## Morbidity

Using Arizona Department of Health Services, sixty-three causes of morbidity were studied based on county rates for 2010. Morbidity rates that ranked unfavorably in the highest third of Arizona counties were: shigellosis, tuberculosis, chlamydia, gonorrhea, syphilis, and genital herpes.

Shigellosis, also known as bacillary dysentery, had notably poor rankings. The 27 cases sited in 2010 triggered rates that ranked in the highest third of Arizona counties. Analysis of age groups revealed this to be an issue principally for children up to age 9.

Pulmonary tuberculosis accounted for 21 of the 23 cases of tuberculosis in Yuma in 2010. This rate placed Yuma among the highest third of all Arizona counties. The County rate of 11.7 cases per 100,000 is notably higher than the state rate of 4.4 and the Healthy People 2020 target of 1.0 case per 100,000.

The Yuma County Public Health Services District has already addressed this issue with a tuberculosis program for those already infected with the disease. These service modalities include testing and treating individuals with active or latent tuberculosis and providing public education.



The poor rankings regarding sexually transmitted diseases led to a review of national data from Center for Disease Control and Prevention - STD surveillance 2011 and state data from Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services, Office of HIV, HEP C, STD Services. In the state and nation, Chlamydia was the predominant sexually transmitted disease in 2011 with 457.6 cases per 100,000 population.

In Yuma County, chlamydia accounted for 85% of all cases of STDs in 2010. The Yuma County rate increased from 416.9 in 2010 to 475.1 per 100,000 in 2011. In Arizona, about one-third of 2011 cases, or 31% occurred to residents under the age of 20. In both 2010 and 2011, 85% of cases occurred to residents under the age of 30. Over the period of 2006-2011, Arizona's rates were found to be three times higher for females. This pattern was confirmed in Yuma for 2011 where three-fourths of the cases were found among women. This is partially due to the nature of self-reporting amongst males contrasted with automatic screening standards in feminine checkups. On a national level, the CDC special focus profiles: STDs in racial and ethnic minorities found 2011 rates for chlamydia for Hispanics were 383.6 per 100,000 population. Hispanics have a national rate two times that of Whites.

## Morbidity Continued

Gonorrhea accounted for 6.9% of STD cases in Yuma County in 2010. According to 2010 and 2011 data, about 25% of cases occurred in residents under the age of 20, and 75% in residents under the age of 30. Healthy People 2020 has goal of 50.8 cases per 100,000 population. Yuma County had a 2010 rate of 33.7 cases per 100,000 population and 2011 rates increased to 40.4 - still met the benchmark, but increasing. The rate was slightly higher in females on state and county levels. On a national level, the CDC special focus profiles found 2011 rates for gonorrhea for Hispanics were 53.8 per 100,000; two times that of Whites.

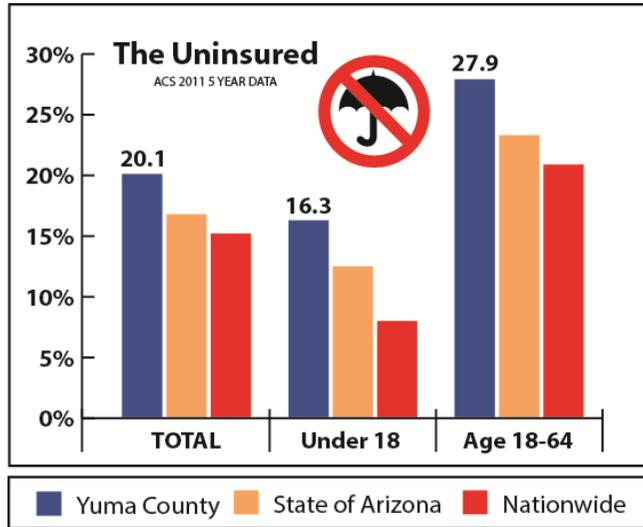
Genital Herpes accounted for 5.8% of STD cases in Yuma County in 2010 with a rate of 28.6 per 100,000 population. This rate was essentially the same as the State rate of 29.0 per 100,000. Healthy People 2020 does not have a target for the general population. Total cases amount to approximately 56 in 2010.

The rate for syphilis was 11.2 cases per 100,000, accounting for 2% of STD cases in Yuma County in 2010. This rate ranked in the highest third of Arizona counties in 2010, but still below the state average. Higher rates of syphilis in the state were located in counties with major cities, whereas the rural areas had low rates. Though Yuma was ranked poorly among the fifteen counties, the counties with Tucson (16.7 per 100,000) and Phoenix (16.4 per 100,000) pull the average rate up to 14.1 for the state.

Looking at a subset of total syphilis, “primary and secondary syphilis” had a county rate in the best third of Arizona Counties. Healthy People 2020 has a target for primary and secondary syphilis of 1.3 new cases per 100,000 population. Yuma County’s rate of 0.5 cases per 100,000 rose to 4.6 in 2011; similar to the 3.6 State and 4.3 National rates for 2011. The small number of cases had significant swing on the rate. In 2011, 6% of state issues happened to residents under age 20 and 41-49% to residents under age 30. In Arizona, 73% of cases were to residents under age 40 and men had rates 16 times higher than women. The poor ranking would come from the remaining component of total syphilis cases. Men accounted for twice as many cases as women in Yuma County for 2011.

Looking at data from 2006 through 2010, HIV had case rates of 11.0 per 100,000 in the state and 6.6 in Yuma County. No Healthy People 2020 target has been set for the general population. Regarding statistics on HPV, datasets and benchmarks for the Human Papilloma Virus are still under development.

The Yuma County Public Health Services District provides an STD program intended to reduce the incidence of STDs as well as provide diagnosis, treatment, and follow-up support. A nominal fee for services is required, but waived in instances of inability to pay.



### The Uninsured and Medicaid Coverage

Data from the American Community Survey for 2011 identifies rates for the uninsured in Yuma exceeding state and national levels. The overall rate for Yuma is 20.1%, compared to 16.8% for Arizona and 15.2% nationwide. This pattern remains consistent across age groups. Among those under age 18 Yuma's rate is 16.3%. Figures for Arizona and nationally are lower at 12.5% and 8%, respectively. The adult population (18-64) again sees Yuma with the highest rate at 27.9%, with Arizona at 22.3% and a national figure of 20.9%.

Uninsured rates for Yuma follow state and national trends with rates for men exceeding those of women. In Yuma County men have an uninsured rate of 22.1%, exceeding both Arizona (18.5%) and the nation as a whole (15.2%). Uninsured rates for women in Yuma, at 18.2% also exceed the levels for Arizona (15.1%) and those found nationally (13.4%). Overall, uninsured rates for men are higher.

When comparing uninsured rates for White and Hispanic populations the pattern is one in which Whites in Yuma (19.5%) exceed Arizona (15.5%) and the nation (13.4), whereas Hispanics in Yuma (26.3%) have a lower rate relative to Arizona (27.3) and the nation (30.6) overall. For Yuma the uninsured rate among Hispanics exceeds that of the White population by nearly 6%.

Information on Medicaid coverage from the Arizona Health Care Cost Containment System (AHCCCS) reveals a pattern in which two age groups are receiving Medicaid assistance at high levels relative to all other age groups. More than half of the residents under the age of 18 are on Medicaid, or 51.6%. For those in the 24-64 age group the rate is 36.7%. For persons 65 years and over and those 18-21 are all below 6%. In total, 25% of Yuma's population is receiving Medicaid benefits.

### Health Care Payor Mix and Charity Care – Yuma Regional Medical Center

The payor mix including non-paid Charity Care is distributed as followed on types: Public Insurances 65.3%, Private Insurances 15.8%, Charity Care 13.1%, and Self Pay 5.8% which shows a large impact from public funding sources. Among the public insurances, Medicaid accounts for 15.5% of all hospital revenue and Medicare for 45%, with remaining funding coming military and workers compensation. The level of charity care, marked at 13.1% of all hospital efforts, is a compilation of traditional charity care, unpaid costs of public programs, sponsored community events, and other various efforts to support healthy living in Yuma.

### **Suggested Topics for Discussion**

Though Yuma County has health factors that suggest that the residents would not fare well, residents outperform the rest of the state on most significant health outcomes.

The expectation was to find poor health associated with high poverty, large minority populations, lower education, and a commerce base of predominantly manual labor. However, the residents outperform the state in overall death rate, cancer, heart disease, stroke, accidents, etc.

The community's predominant issues are the national epidemics of obesity and diabetes, rates which are typically higher among impoverished populations and Hispanics. Beyond those epidemics, area-specific issues of high teen birth rates, and lack of health insurance were also concerning.

Yuma County ranked in the third of the state with the most limited access to care, and yet quality of care ranked in the best third of the state. Regardless of how well Yuma Regional Medical Center's network serves the community, the reality is, more providers are required to meet the need of the population. In light of the shortages of healthcare providers and the seasonal fluctuation in demand for healthcare, planning efforts should include consideration for (seasonal) capacity of primary care, dental, and mental services.