Define Community
The defined primary service area is comprised of over 200,000 people. During the winter months, Yuma County is also home to 80,000 to 100,000 winter visitors. The primary service consists of all Yuma County and two Imperial County zip codes. Approximately 85% of YRMC’s patients reside in San Luis, Somerton, Yuma, and Yuma Foothills. The service area was defined by the Yuma County boundaries. Yuma is essentially a medical island surrounded by a sea of sand. Yuma Regional Medical Center is the medical hub for the network and there were no other hospitals providing care to the service area. Though some patients from neighboring towns in California may seek medical services in Yuma, the single-county service area was recognized as rational by virtue of the Health Professional Shortage Area designation. Furthermore, demographics are available on the county level and sub-county level statistics are much more rare or include a higher margin of error. For that reason, the entire study looked at county level data. Yuma Regional Medical Center’s (YRMC) primary and secondary service area spans more than 100 miles from the farthest points.

Sources:
Population

- For the permanent, year-round population, the distribution had disproportionately more elderly and youth, but was slowly approaching the national trend.

The 2014 American Community Survey 5-year estimate for Yuma County’s population was 201,453, growing at a rate of about 1.3% per year. Sixty percent of Yuma’s residents identify themselves as Hispanic and 34% identify themselves as White, non-Hispanic.

Three years ago the Community Health Needs Assessment (CHNA) quoted 41,000 farm workers from California and roughly 50,000 Mexicans on work visas traveled into Yuma during the winter growing season. One of the main sources for local statistics came from Yuma Stats Inc., which recently suspended their annual statistics service. Consequently, this year’s CHNA looks to the National Center for Farmworker Health’s projection of 38,000 farm workers and 46,008 non-working dependents coming into Yuma County for 2014 or 84,008 total additional population coming into the area to work. That statistic should include both the migrant farm workers and seasonal workers on work visas.

Yuma Stats provided 2013 statistics of 83,000 peak winter residents affectionately known as “Snowbirds”. Since that business has suspended their annual statistical service, it has become complicated to find accurate projections on the population. The statistics from Arizona Department of Health Services (ADHS) do not provide a peak winter resident rate, but does offer an estimate of the annualized weight of an additional 12,600 residents.

Another complication in assessing the additional populations was the doubling in the projected tourist traffic. Using the department of health primary care area statistical profile, Yuma receives 2,350,370 day-tourist visits annually. That number almost doubled from the 2011 projection of 1,362,274 and both projections were taken from the Arizona Department of Health Services – PCA statistical profile. For this report, health outcomes data was based primarily on the 201,453 permanent resident population.

In 2014 the youth population (age 19 and younger) was 10% higher than the state level and 14.4% higher than the national level, still noteworthy, but down from 16% on the national level three years prior. Likewise, the percentage of persons 65 and over was 11.5% higher than the state level and 20.4% higher than the national level. The population of young adults age 20-44 was about 1.2% lower than the state and 2.4% lower than the national level. Adults age 45-64 was 14.8% below the state level and 21.2% below the national level – this was the group that was proportionately missing. In summary, Yuma’s population distribution was weighted more heavily towards the younger and older segments of the population, with proportionally fewer in the middle age ranges. This was noteworthy because the residents between age 20 and 64 typically make up the majority of the workforce that moves the economy forward. However, this trend was decreasing. Over the past three years,
the youth segment dropped 2 points from the national average; the 16% discrepancy decreased to 14.4%. The elderly population was 23% greater than the elderly population proportion on the national level and dropped 3 points to 20%. The population age distribution appears to be normalizing.

**Poverty**
- 20% of the residents live in poverty
- 30% can be categorized as low income
- Poverty stayed the same since last study

Poverty thresholds are calculated annually by the Office of Management and Budget, based in part upon household/family size. For a single person, the 2015 threshold was estimated at $11,770, and for a family of four the figure was $24,250. With one in every five of Yuma’s residents impoverished, or 20.7% below the poverty level, the Department of Health & Human Services confirms Yuma as a high needs area. Poverty rates were higher among minorities. Among Hispanic residents, for example, the poverty rate was estimated at 26.0%.

The Robert Wood Johnson Foundation’s 2015 Social and Economic Factors ranking placed Yuma in the worst third of the counties in the state. Yuma County’s rate of population below the poverty level ranks in the middle of Arizona counties, but in the worst third for the portion below the low income level, commonly calculated as two times the poverty level.

A closer examination of income and poverty revealed that half of the population (50.4%) commanded incomes below two times the Federal Poverty Level, which means about 30% of the population commands low income (50% below low income level less 20% below poverty level). Considering that public programs phase out shortly after the initial poverty level, the remaining residents faced the predicament of balancing healthcare needs with limited income.

The State of Arizona chose to follow the federal initiative to increase the Medicaid coverage up to 133% as specified by the legal text, though online sources quote implementation affectively applied the coverage to residents who commanded incomes below 138% of the Federal Poverty Level. This has helped to buffer some of the brunt for residents who cannot afford health insurance.
Uninsured and Medicaid Coverage

- Medicaid coverage increased significantly in the last three years
- 38% of Yuma’s residents have Medicaid, up from 25% of the population three years ago
- As of 2014, 17% of youth were uninsured vs. 7% nationally
- 2014 statistics do not reflect the community health partners’ successful effort to boost coverage

Data from the American Community Survey for 2014 identifies rates for the uninsured in Yuma exceeding state and national levels. The overall rate for Yuma was 20.2%, compared to 16.3% for Arizona and 14.2% nationwide. This pattern remains consistent across age groups and was essentially the same as three years ago. Among those under age 18, Yuma’s rate was 16.8%. Figures for Arizona and the nation were lower, at 12.0% and 7.1%, respectively. The adult population not covered by Medicare (18-64) again finds Yuma with the highest rate of uninsured at 27.8%, with Arizona at 21.8% and a national figure of 19.8%.

Uninsured rates for Yuma follow the 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 (17.9%) and the nation as a whole (15.6%). Uninsured rates for women in Yuma, at 18.4%, also exceed the levels for Arizona (14.8%) and those found nationally (12.8%). Overall, uninsured rates for men were higher.

When comparing uninsured rates for White and Hispanic populations the pattern was one in which Whites in Yuma (18.5%) exceed Arizona (14.8%) and the nation (12.6%), whereas Hispanics in Yuma (26.5%) have a similar rate to Arizona (26.4%) and lower than the nation (28.1%) overall. In Yuma, the uninsured rate among Hispanics exceeds that of the White population by nearly 43.2%. Typically, comparing White race and Hispanic ethnicity is equivalent to apples and oranges, but was worth mentioning to understand the pattern of the underlying issues within Yuma.

Information on Medicaid coverage from the Arizona Health Care Cost Containment System (AHCCCS) reveals a pattern in which two age groups were receiving Medicaid assistance at high levels relative to all other age groups. Looking at the most recent cross tabulation available (2011), more than half of the residents under the age of 18 were on Medicaid, or 51.6%. For those in the 24-64 age group the rate was 36.7%. Persons 65 years and over and residents 18-21 were all below 6%.

In total, 37.7% of Yuma’s population was receiving Medicaid benefits in 2014, up from 25% three years ago. This was due to a community wide grass roots collaborative effort among YRMC and community health partners to focus on this need identified in the last CHNA study. The state’s decision to support the national effort to boost coverage was a success and the Medicaid enrollment numbers recognize the impact.
In January 2014 the initiative for enrollment started to make an impact. The uninsured statistic provided by the ACS 2014 5-year data set did not capture the recent success. The 5-year data set is much more solid than the 1-year data set which estimated 13-17% of the population were uninsured in 2014. The release of the ACS 2015 dataset should more accurately capture this impact later this year.

Employment

- Unemployment in Yuma was 50% higher than the national rate
- Unemployment was decreasing from a 2013 high of 25%
- 2016 is expected to approach 20%

Employment rates were improving. Looking at the first half of 2016 (17.6%), relative to the first half of 2015 (20.9%), unemployment rates have dropped 15%. Last year the average unemployment rate was 21.7%, with a high during the summer of 26.2% and a low of 17.6%. In 2007, before the crash of 2008, the average unemployment was 14.0%, with a high of 20.3% and a low of 8.9%. In 2009, unemployment jumped to an average of 22.9%, which grew to 25.0% in 2010, then dipped before hitting another high of 25.4% in 2013. It was encouraging to see the rate decreasing since then and to anticipate a rate closer to 20% for 2016.

It is worth mentioning a few details on the statistical sources listed above. The standard sources come from the Bureau of Labor Statistics (BoLS) and American Community Survey (ACS). The BoLS has company payroll numbers and unemployment statistics on those employed (75,835) and actively seeking employment (21,629). This source states 97,464 residents as of June 2016 make up the labor force in Yuma. This rate provides a solid number on total residents trying to participate in the workforce, although unemployed people who do not seek benefits through the unemployment office, who decide to job-hunt on their own, were not included in this number. Therefore, the 21.7% unemployment statistic from last year was underinflated. The rate was actually higher.
The ACS uses surveys of the population every year to ask if people were employed and then projects employment numbers. Like the BoLS, ACS poses a similar 2014 unemployment projection of 20,547. The difference comes in with the denominator. They use total residents ages 16 and over, so residents age 100 were still part of the labor force. This population of 153,379 can mark the theoretical total labor force available, but for all intents and purposes, the labor department probably has the more dependable statistic. Still, ACS can be used for relative comparisons. Looking at ACS statistics, they do chart 12.7% unemployment for Yuma, 9.2% for the state, and 8.5% for the nation which recognizes proportionately that Yuma’s rate was about one-and-a-half times (149.4%) the national rate. Hispanics in Yuma have a slightly higher rate of 15.4% unemployment.

Crime
- Crime was roughly the same as national trends

Statistics from the FBI Uniform Crime Reports confirmed 2014 crime rates were roughly the same. They break crime into two main categories: violent crime and property crime. Violent crime had 2014 rates of 372.3 per 100,000 residents in Yuma County and 375.7 per 100,000 in the nation. Property crime quoted 2,558.2 per 100,000, comparable to a national rate of 2,596.1 per 100,000.

In reference to violent crime, Yuma County was significantly below the national and state average for murder and non-negligent manslaughter, forced rape, and robbery. Aggravated assault did see a 13.7% rise from the 2011 rate and was the only category that was above the state and national averages, but 2011 had uncommonly low reported rates.

Property crime had below average larceny and motor vehicle theft rates. Burglary was notably above state and national averages. A closer look showed burglary rates of 737.4 per 100,000 in 2011 rose to 768.2 in 2014 – a 4.2% increase. The reason it was flagged was due to a significant improvement nationally. The national rate dropped 22.8% from 702.2 to 542.5 over the same time frame.

Education
- Education level went up significantly
- In the past 3 years, 8% more of the population distribution has greater than high school education

More than half of Yuma County’s residents (53.6%) had a high school education or less. This represents a considerable gap when contrasted with Pima County’s rate at 42.7% (Tucson). Educational enrollment for Yuma’s residents was relatively consistent with state and national levels until ages 18-19, when rates decline markedly through the traditional college age range.
It was worth noting that among adults age 18 and over, the population segment with less than high school educational attainment decreased from 24.5% of the adult population down to 20.9%. This was not just a success attributed to improved high school graduation rates because the population segment with only a high school diploma decreased from 37.5% to 32.7%. Essentially 4% of the total population was shaved off each category, amounting to 8.4% more of the total population of adults that had more than high school education. This occurred just in the last three years.

**Pregnancy and Birth**
- The teen pregnancy rate in 2014 was half what it was in 2011
- In 2014 the teen pregnancy rate was 26% higher than the national rate
- In 2011 the teen pregnancy rate was 80% higher than the national rate
- Birth rates have dropped across the board

According to the American Community Survey 5-year data set, the 2014 birthrate for women between the ages of 15 and 50 was 60 per 1000 women per year, a rate nearly 7% higher than the state level and 11% higher than the national level. This rate was significantly down from three years ago when the birth rate in Yuma was 20% higher than the state and 30% higher than the national rate. This elevated birth rate was sustained through age 35, when it drops below the national level. Contributing to the high birthrate was the percentage of pregnancies yielding births, which was 12% higher in Yuma than it was statewide.

Of all births in the county, 7.4% were by teenagers (15-19 years of age). This was significantly lower than three years ago, when teens accounted for 11.2% of all births. The rate for this age group dropped from 48 in 2011 to 26.5 births per 1000 in 2014 – nearly half the teen pregnancy rate three years prior (45% decrease). The 2014 rate was about 23% higher than the state rate and almost 25.6% higher than the national rate, significantly down from exceeding the state rate by 40% and national rate by 80% in 2011.

A similar trend exists for the 20 to 34 age cohort, where 111.5 per 1000 gave birth. This rate exceeds the state level by 13.6% and the national level by nearly 17.7%. In 2011, this same rate was 30% higher than the state and 40% higher than the national rate.

The birthrate among women living below the poverty level was 92.2 per 1000, a rate 11.4% higher than the state level and almost 14.7% above the national rate. The impoverished population segment was not only disproportionately larger in Yuma County than state and national levels, but those residents were bearing notably more children. Knowing the financial burden that children can bring, it may be encouraging to know this rate was also down from 2011 when it exceeded the state level by 17% and the national level by 30%.
Regarding education, almost 30% of all births in 2011 were to women with less than a high school diploma, but in 2014 the percentage has dropped to 17.3%, notably in between the state average of 18.5% and national average of 15.2%. Almost a third of all births were born to foreign-born women in 2011, but the rate dropped to 26.1% of births in 2014. Nearly half of all births or 44.5% were to women in the labor force (age 16-50). Among women age 15-50, 32.8% of the births were to unmarried women.

Yuma Regional Medical Center Hospital Data

- 15% of procedures were attributed to diabetes in 2012

The payor mix could be summarized as: 40.0% private insurances and 57.3% public insurances, which shows the large impact from government funding sources. Arizona State took part in the national initiative to increase Medicaid coverage which led to an anticipation of increased Medicaid revenue. Arizona Medicaid: AHCCCS accounted for 14% of revenue in 2015, down from 15.5% three years prior. The impact is anticipated to become visible in the 2016 numbers.

The level of charity care, marked at 9.3% of all hospital efforts, was a compilation of traditional charity care, unpaid costs of public programs, sponsored community events, and other various efforts to support healthy living in Yuma.

The highest admissions for the emergency department treated for stomach and intestinal pain, contusions and abrasions, upper respiratory infections, and chest pain – essentially expected conditions.

Excluding births, 2012 inpatient and outpatient procedures, shown in the graphic to the right, 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!

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 were predominantly elderly. With that in mind, these key categories were further researched when looking at major causes of illness and death.
Health Profession Shortage Areas

- Health professional shortages are persisting for primary care, dental, and mental health

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 worst third of the state for access to care, yet quality of care ranked in the best third of the state in 2010. In 2016, the same ranking was given. Yuma was ranked in the worst third for clinic access and best third for health outcomes. Regardless of how well Yuma Regional Medical Center’s network performs, the reality is, more providers were required to meet the need of the seasonally fluctuating 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 were 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 was 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 in 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 2015 charity care, unpaid costs, and sponsored community programs, 9.3% of all hospital efforts were a gift to the community.
Life Expectancy and Mortality

- In Yuma County, almost half of all deaths come from, #1 heart, #2 cancer
- Yuma was rated in the best third of counties in the state for heart, cancer, and accidental mortality
- The middle third for chronic lower respiratory disease
- The worst third for diabetes

Life expectancy went up one year nationally since 2013. A well-known national pattern was that, on average, female life expectancy (82 years old) exceeds that of men (77 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 was estimated to be 79.2 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 was 77.6 for Whites and 78.5 for Hispanics. Female life expectancy among Whites was 82.6 and 84.4 for Hispanics. The CIA Factbook – 2015 does not offer updated county rates since then.

The state department of health ranked Yuma fifth out of 15 for mortality measures in 2015 (ranked in the best third of the state). Looking at Arizona Department of Health Services data on mortality rates over the period of 2000-2010, Yuma 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 2011, 2013, and 2015. 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 race and cohort: children (1-14), adolescents (15-19), young adult (20-44), middle aged adult (45-64) and elderly (65+).

Concerning rare causes of death, 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 best third of the counties for the years of 2013 and 2015, whereas it had ranked in the middle of the pack for 2007, 2009, and 2011. The Healthy People 2020 goal was 100.8 deaths per 100,000 residents. Yuma currently has a rate of 176.8 per 100,000 residents.

**Mortality Continued.**

Regarding cancer rates, the overall ranking for malignant neoplasms was in the best third for 2011, 2013, and 2015. The main subcategories have similarly positive rankings. Less common types of cancer had poor rankings, such as Non-Hodgkin’s Lymphoma which rose 128% due to 7 deaths 3 years ago rising to 16. However, incidence rates were small enough that the rate should be considered lightly. Similarly, pancreatic cancer rose 50% (14 deaths to 21), and breast cancer 46% (13 deaths to 19). Again, these were relatively few deaths for a distinct pattern. The number of cancer deaths grew from 267 in 2012 to 295 in 2015, which was a 10.5% increase, while the population grew 3.8%. Mortality rates are counted by place of residence, so whether a local patient seeks treatment in Phoenix or Yuma, their passing is tracked in the mortality rates in their county of residence. The fact that overall ranking for deaths from cancer stayed encouragingly high above the state average showed the center’s ramp-up phase was a success. The improvement in care should continue to become more visible in the statistics over the next few years.

Chronic lower respiratory diseases had a positive progression ranking Yuma County as having average rates - the worst third of the counties in 2011 with 106 deaths, the middle third in 2013 with 108 deaths, and the middle third in 2015 with 101 deaths. Based on 2009 data, 98% of the deaths due to chronic lower respiratory disease happened to elderly residents. In 2015, 89% of the deaths were attributable to the elderly due to a spike of 11 deaths under the age of 65.

Diabetes accounted for 6.2% of all deaths in 2015, or 89 people, essentially the same as the 2011 rate. This lowered from 108 deaths in 2013 but was still twice the rate in 2007 and 2009. In 2015, approximately 73% of diabetes related deaths were among elderly residents, which was a 9-percentage point difference from 82% in 2013. This was an increase in diabetes related deaths to middle aged residents.

The Healthy People 2020 target for diabetes related deaths was 66.6 per 100,000 residents. Yuma’s rate was 41.4 per 100,000 in 2015, which meant Yuma County met the benchmark. However, this rate was among the worst third of Arizona counties. This was possibly explained by the expectation that rates will continue to rise nationally in the future and Healthy People 2020 prescribes some sort of ceiling for which to aim. Even though Yuma County still met the benchmark, diabetes cannot be overlooked as a, if not the, significant concern facing Yuma County because of the drastic increase in rates. Diabetes essentially doubled in the last decade! Therefore, a specific section to discuss this concern is included later in the report.

Total accidents accounted for 4.7% of all deaths in 2015, ranking Yuma in the best third of all counties in 2015 and prior years.
Pneumonia was the cause for 2.5% of deaths in 2015. Yuma was ranked in the middle third of all Arizona counties for 2011 and 2015 with 39 and 35 deaths respectively, then ranked in the worst third of all counties in 2013 with 44 deaths, due to a small spike in deaths. For 2011 and 2013, 90% of these deaths were attributed to elderly, but in 2015, deaths dropped to 80% suggesting improved care for elderly with pneumonia. No Healthy People 2020 target was established for the general population. According to United Healthcare Statistics, these mortality issues of diabetes, accidents, and pneumonia were preventable and thus, the costs were as well. For that reason, it was encouraging that Yuma either met the Health People 2020 goals or led the state where there were no prescribed Healthy People benchmarks.

**Morbidity**

- Dengue fever from mosquitos and Pulmonary Tuberculosis were the morbidities that received the worst rankings
- These conditions along with STDs were addressed

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. Using Arizona Department of Health Services, sixty-three causes of morbidity were studied based on county rates for 2014. These statistics were looked at two different ways. The first way was to look at the most frequent causes of diseases in the county and see where

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<th>Arizona County Ranking for Morbidity 2014 - Top 1-5 Morbidities</th>
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<td><strong>Sexually Transmitted - Chlamydia</strong></td>
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*Estimated rates based on assumption of 3 cases since AZ Vital Statistics 2015 uses cell suppression for county with less than 6 cases to protect privacy.*
Yuma County ranked on the top ten issues. The second was to look at the full gamut and see where Yuma particularly underperformed. Both results highlighted a few community struggles and showed the excellent quality of health care provided by the medical network.

The ten most prevalent morbidities in Yuma County, in order by rate per 100,000 population are: Chlamydia, Gonorrhea, Dengue, Methicillin Resistant S. Aureus, Syphilis, Valley Fever, Salmonellosis, Campylobacteriosis, Tuberculosis, and Shigellosis, respectively. Of those top 10 morbidities, Yuma was ranked in the worst third of the counties in the state for Dengues, and Tuberculosis. Shigellosis, Chlamydia, Gonorrhea, Syphilis, Methicillin Resistant S. Aureus were ranked in the middle of the state. The rest were ranked in the best third of the state.

Most of the categories where Yuma ranked poorly were for rare conditions – a few diagnoses in the county were compared to other counties that had no instances. The rates for issues such as malaria ranked Yuma in the worst third of the state, but there were so few instances, the state would not even release the count, so as to protect the privacy of the few patients. Of the 63 morbidities that were tracked, Yuma rated in the worst third of the state in only two categories. When considering rates, Dengue had about 32.1 per 100,000. Tuberculosis had 8.5 instances per 100,000, of which 8 per 100,000 were Pulmonary TB. The rest were so few, it was hard to recognize them as issues to be addressed.

Dengue fever is a mosquito-borne tropical disease caused by the dengue virus (World Health Organization). This may include a high fever, headache, vomiting, muscle and joint pains, and a characteristic skin rash. Recovery generally takes less than two to seven days. In a small proportion of cases, the disease develops into the life-threatening dengue hemorrhagic fever.

**Morbidity Continued**

Pulmonary tuberculosis accounted for 17 of the 18 cases in Yuma in 2014. The County rate of 8.5 tuberculosis cases per 100,000 was notably higher than the state rate of 2.9 and the Healthy People 2020 target of 1.0 case per 100,000. This rate placed Yuma among the worst third of all Arizona counties even though it was still a small number of cases.

The Yuma County Public Health Services District 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 mosquito born Dengue virus is curable with medication readily available at Yuma Regional Medical Center. The major issues have been addressed.

Considering that list of 63 tracked morbidities, Yuma ranked in the middle third of Arizona counties for chlamydia, gonorrhea, methicillin resistant staphylococcus aureus (invasive), syphilis, and shigellosis.

Methicillin resistant staphylococcus aureus (MRSA) are staph infections that were not solved by the standard medical treatment. They are a bacterium responsible for several difficult-to-treat infections in humans and resistant to penicillin or normal antibiotic treatments. MRSA can show itself as small red bumps that resemble pimples, spider bites, or boils; they may be accompanied by fever and occasionally rashes.
Shigellosis, also known as bacillary dysentery, was a minor issue with 15 cases cited in 2014. This triggered rates that ranked in the middle third of Arizona counties. Analysis of age groups revealed this to be an issue principally for children up to age 9.

That leaves the discussion on morbidities to cover the national epidemic of sexually transmitted diseases.

The moderate rankings of Yuma County regarding sexually transmitted diseases led to a review of national data from the Center for Disease Control and Prevention - STD surveillance 2014 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 2014 with 471.7 cases per 100,000 population in the state. The national rate was 456.1 per 100,000 in 2014.

In Yuma County, chlamydia accounted for 86% of all cases of STDs in 2014. The Yuma County rate decreased 5% from 475.1 in 2011 to 452.7 per 100,000 in 2014. In Arizona, the majority of cases happen between age 14 and 29. The rate of chlamydia in Yuma County was 4% lower than the state rate. Similar to national trends, Yuma County females generated three times the number of reports as males. This was partially due to the nature of self-reporting amongst males contrasted with automatic screening standards in feminine checkups. On a national level, the Center for Disease Control and Prevention (CDC) special focus profiles: STDs in racial and ethnic minorities found 2014 rates for chlamydia for Hispanics were 380.6 per 100,000 population. Hispanics have a national rate two times that of Whites.

Gonorrhea accounted for 11.4% of STD cases in Yuma County in 2014. Healthy People 2020 has goal of 50.8 cases per 100,000 population. Yuma County had a 2014 rate of 60 cases per 100,000 population, up from the 40.4 cases per 100,000 in 2011 and 33.7 in 2010 – concerning in that rates doubled in four years. As of 2014, Yuma was missing the Healthy People 2020 benchmark. 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. The rate was slightly higher in females on state and county levels. On a national level, the CDC special focus profiles found 2014 rates for gonorrhea for Hispanics were 74.2 per 100,000; nearly two times that of Whites.
Syphilis (Total) had a rate of 14.3 cases per 100,000, accounting for 2.7% of STD cases in Yuma County in 2014. This rate ranked in the middle third of Arizona counties in 2014, 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. The counties with Tucson (27.6 per 100,000) and Phoenix (24.4 per 100,000) pull the average rate up to 21.5 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 fell to 0.0 in 2014; similar to the 8.5 State and 6.3 National rates for 2014.

Yuma’s rates of new HIV cases were significantly lower than the state rate. 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. A similar rate occurred between 2010 and 2014, when the average rate of new HIV diagnoses was 5.59 per 100,000 population, whereas the state reported 10.18 per 100,000 population.

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 pose a target for the general population. Total cases amounted to approximately 56 in 2010. ADHS no longer provides genital herpes statistics in the annual surveillance report. Data collection is no longer solid as with the surveillance. Now statistics depend on non-compulsory reporting.

Regarding statistics on HPV, datasets and benchmarks for the Human Papilloma Virus reported 28.1% of females aged 13-15 years had received at least 3 doses of the vaccine in 2012 and 6.9% of males age 13-15 nationwide. Healthy People 2020 target has set a goal of 80% vaccination for HPV for the general population.

It appears Yuma County was doing well in almost every category, however, gonorrhea saw a significant spike in rates. 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.

That said, the significant health concerns that were the most evident for Yuma were diabetes and obesity.
Key Health Concerns for Yuma County

- Obesity and diabetes were two principal issues needing further attention
- 1/3 of Yuma County was obese, a quick rise from 1/4 of the residents in 10 years
- BRFSS (Behavioral Risk Factor Surveillance System) estimates 12.6% of Yuma had diabetes in 2013

According to the CDC’s Behavioral Risk Factor Surveillance System (BRFSS), survey data uncovered 28.9% of Arizona was considered obese in 2014 (note: all obesity numbers are age-adjusted to help comparisons between geographies, e.g. Yuma vs. AZ). This increased from 24.7% of the total population to 28.9% in the mere span of three years. One-third (34.2%) of the residents between the ages of 45-64 were obese. Rates of obesity among Hispanics were also elevated accounting for 34.0% of the population segment, compared to obesity rates of 26.4% among the White residents.

The most recent statistic available for Yuma County was a 2012 age-adjusted obesity rate of 33.6%: one-third of the population was considered obese. That statistic was up from 24.7% of the population ten years ago – a 40% rate increase. The 2020 age-adjusted target for Arizona was 30.6% of the population. Yuma is shooting away from this target.

Americas Wellness Statistics state that 70% of overweight adults will develop preventable yet chronic illnesses such as heart disease, cancer, asthma, diabetes, etc.

Diabetes is a disease in which the body does not produce or properly use insulin, a hormone that tells your body’s cells to pull the energy from your bloodstream into the cells for use. The levels of sugar can become so elevated in the bloodstream that they reach toxic levels while energy levels inside the cells plummet. As a result, Diabetes is the main cause of kidney failure, limb amputation, and new-onset blindness in American adults.

The major types of diabetes are Type 1, Type 2, and Gestational diabetes. The last category refers to diabetes experienced during pregnancy and is excluded from the statistics below. Type 1 diabetes, previously called Juvenile-onset diabetes, accounts for about 5% of all diabetes cases and refers to people born with an inability to create enough insulin, or a resistance to its effects. The vast majority of diabetes is categorized as Type 2 which is often ushered in by lifestyle, and particularly, obesity. Most can rectify the condition with healthy lifestyle: maintaining a healthy weight, moderate sized healthy meals, and regular exercise.
In essence, diabetes doubled in the last decade. Arizona Diagnosed Diabetes Prevalence data tracked Yuma County’s age-adjusted rate for diagnosed diabetes in adults from 6.0% in 2004, growing every year, to the most recently quoted county rate of 11.7% in 2013. The Arizona rate grew from 6.4% to 9.7% over that same time period. Diabetes in Yuma grew at twice the speed of the state. Unadjusted 2013 rates increase the estimate, stating 12.6% of Yuma had diabetes.

Regarding obesity and diabetes: what happens when your body hits a natural limit on the amount of energy it can store? When you do not use energy, it naturally gets stored for later use in fat cells. And when your storage is full, your body can make an incredible number of new storage compartments. One theory is, everything has its limitations – eventually your body’s natural systems begin to struggle with the caloric energy overload. One of those struggles seems to be the onset of Type 2 Diabetes. Type 2 Diabetes has a number of causal factors. It is not true to say all patients who have Type 2 are obese. However, it is fair to generalize that most morbidly obese patients have Type 2 diabetes, logically due to the strain on their body to pull excess energy from meals into storage that is already full and has reached a natural limit. There is a close linkage here.

There is no single or simple solution to the obesity epidemic. Ultimately, it requires an American cultural change. Our society has enjoyed the benefits of technology, entertainment, and affordable calorically rich foods at restaurants and at home to the point that it has cultivated our culture on a macro-level. As a society, our life style is largely sedentary and our food selections expertly combine the satisfying ingredients of salt, fat, and sugar in large portion sizes. The slope of the up-hill battle varies in degrees depending on climate, ethnic sub-culture, and poverty level, but almost every community finds this a losing battle.

No one can single-handedly remove food options and force people to assume a proper exercise regimen. It is a complex problem and there has to be a multifaceted approach to eventually create a framework that supports and encourages residents to live healthy balanced lives. The Centers for Disease Control and Prevention recommends policy makers, state and local organizations, business and community leaders, school, childcare, healthcare professionals, and individuals work together to create an environment that supports healthy lifestyles. This problem is too large for one stakeholder to solve, yet YRMC can be one of the catalysts to motivate the population towards balanced and healthy lifestyles. Together this community can begin to educate and motivate the residents of Yuma County in the practices of healthy eating and exercise, reducing the rates of diabetes and obesity. These are the main health issues facing the community and clearly a key problem to grow a healthier Yuma County.
Summary - Suggested Topics for Discussion

This CHNA is a focused tool to learn where we are, what we have done well, and what areas need additional focus to grow a healthier Yuma County.

In summary, the study found Yuma County, Arizona had a population of about 200,000 that nearly doubled in the winter months as a farming capital and seasonal retirement destination.

The expectation was to find poor health associated with high poverty (20% of population), lack of health insurance (20% uninsured in 2014), large minority populations (60% Hispanic majority), lower education (54% Pop. had high school or less), and high unemployment (22% in 2015). However, the residents outperform the state on most significant health outcomes: overall death rate, cancer, heart disease, accidents, etc.

Through the previous CHNA and the planning of initiatives to address unmet needs, YRMC recognized patients were leaving the community for cancer treatment. The opening of a cancer center one-and-a-half years ago brought cancer care closer to home. Mortality rates are counted by place or residence, so whether a resident of Yuma seeks treatment in Phoenix or Yuma, their passing is tracked in Yuma County’s mortality rates. The opening of a new cancer center continues to strengthen the battle against cancer. It may be worth examining whether non-Yuma residents who come to the cancer center for treatment contribute significantly to the cancer mortality rate.

Additionally, the 2013 CHNA recognized predominant issues with: (1) obesity; (2) diabetes; (3) high teen birth rate; (4) lack of health insurance; (5) a shortage of providers; (6) Tuberculosis and; (7) STDs. As a result, the 2013 Community Health Improvement Plan (CHIP) addressed four key areas: (were already addressed, but were presented as topics for discussion and subsequently addressed. This CHNA further confirmed the previously mentioned issues and provided visibility on some of the success from initiatives in the past three years.

7. STDs: a national epidemic and the most prevalent morbidities in the county raises the topic to the level of discussion. Thanks to the efforts of the community health partners, rates are below the state averages in every category. Gonorrhea saw a spike in rates, doubling since 2010, but still well below the state average. Yuma is managing these morbidities well.

6. Tuberculosis: Yuma had the second highest rate of tuberculosis in the state and therefore was triggered for discussion. There are already services addressing this, it amounts to less than 20 cases a year, and most of the counties in the state had so few instances, the statistical provider suppressed the data to protect patient privacy. Still it was one of the top 10 morbidities the county faced and the poor ranking made it worth mentioning. The same follows for other morbidities such as mosquito carried dengue fever, which medical services are fully equipped to address.

5. Shortage of providers: Yuma County ranked in the third of the state with the most limited access to care, yet quality of care ranked in the best third of the state. Even though the quality is high, the reality is, more providers are required to meet the need of the population. In light of the seasonal fluctuation in demand for healthcare, planning efforts should include consideration for additional winter capacity of primary care, dental, and mental services.

4. High unemployment and affording health insurance: both concerning and connected, they influence decisions involving healthy lifestyle and postponing the search for medical care. Unemployment peeked after 2008, and then again in 2013, and was naturally decreasing towards 20% for 2016. In 2015, rates swayed with the crops, marking a low of 17.6% and high of 26.1%.
Arizona Medicaid (AHCCCS) Population data showed coverage jumped from 25% of the population in 2011, to 38% in 2014. This was due to a community wide grass roots collaborative effort among YRMC and community health partners to focus on this need identified in the last CHNA study. The state’s decision to support the national effort to boost coverage, followed by an aggressive local collaborative on enrollment outreach shows high impact, with Yuma County recognized as one of the highest enrollment areas in the Country. The release of the ACS 2015 dataset should more accurately capture this impact later this year with an unemployment level closer to 15% of the population.

3. Teen pregnancy: continues as issue in 2014 (26% higher than national rate), however it should be recognized that rates were half what they were three years prior. Similarly, births to women with less than high school education dropped from 30% of all births, to 17% of all births in 2014.

1&2. Obesity and Diabetes: obesity rates over the last 10 years have increased significantly from 24.7% to an alarming rate of 33.6% in the most recent statistic. In parallel, the diabetes rate in Yuma County has doubled in the last decade. These epidemics are linked in that a significant impact on managing obesity will reduce Type 2 diabetes in the process. address the obesity and diabetes. This appears to be Yuma County’s greatest opportunity for improved health.

Thoughts: Given the encouraging statistical results of this study, the key to growing a healthier Yuma County comes down to collaborative efforts, across the community, to instill a cultural change that leads the residents towards a healthier lifestyle.

The visioning process for instigating a cultural change should consider the fact that the climate’s level of sun and heat work directly against initiatives for outdoor exercise and recreation. It should also attempt to commercialize on the fact that Yuma is well positioned with one significant advantage – as a world’s leader in produce / leafy greens.