Background

- **Demographics**
  - South Tucson is located in Pima County, Arizona with a population of 5,652 people in an area of 1.2 square miles (United States Census Bureau, 2017)
  - 78% of the population of South Tucson is Hispanic or Latino compared to the 42.9% in Tucson (United States Census Bureau, 2017)

- **Rural classification**
  - Rural urban continuum code of Pima County: Metro Code 2 (USDA, 2016a)
  - Urban influence code of Pima County: Small Code 2 (USDA, 2016b)

Methods

- The community health needs assessment was conducted via multiple research modalities
  - A windshield survey of South Tucson
  - Key informant interviews with community members
  - Online research to ascertain community demographics and resource

Results

- **Values and Beliefs**
  - South Tucsonans tend to have bigger families and larger household size (Pima County Health Department, 2011)
  - Numerous churches and faith-based organizations noted during windshield survey
  - Sense of community discussed during key informant interviews

- **Languages**
  - 60.1% of South Tucson speaks a language other than English at home (United States Census Bureau, 2017)

- **Economy**
  - Median household income is $21,160 compared to $39,617 in Tucson (United States Census Bureau, 2017)
  - 46.2% of South Tucson residents are in poverty compared to 24.1% of Tucson (United States Census Bureau, 2017)

- **Politics**
  - South Tucson is considered a city and therefore has its own city council with a mayor (South Tucson, 2019a)

- **Transportation**
  - Three full Sun Tran routes through South Tucson (Sun Tran, 2019)
  - Variety of bike paths witnessed during windshield survey

- **Safety**
  - South Tucson Police Department serves and protects South Tucson (South Tucson, 2019b)
  - In 2015, there were 837 incidents of larceny and theft and 905 incidents of property crime in South Tucson (City Rating, 2019)

Conclusions

- **Strengths**
  - Strong sense of community in South Tucson acts as a protective factor for residents
  - High number of faith-based organizations and support
  - Access to numerous transportation methods

- **Limitations**
  - The poverty level in South Tucson limits resources available to residents
  - High crime rates
  - Increase in high school graduation rates which limits potential job opportunities

- **Recommendations**
  - Empower community through programs at community level to improve health outcomes through education
  - Increase after school programs to dissuade youth from engaging in risk-taking behaviors and promote retention in schools
  - Improve access to Federally Qualified Health Centers (FQHCs) with integrated health care

References

- 59.6% of South Tucson are high school graduates compared to 84.8% of the Tucson population (United States Census Bureau, 2017)
- 4.2% of South Tucson have Bachelor’s degrees or higher compared to 26.6% of the Tucson population (United States Census Bureau, 2017)
- Four schools within South Tucson (Pima County Health Department, 2011)
- 21.4% of South Tucson residents are without health insurance (United States Census Bureau, 2017)
- South Tucson Prevention Coalition – prevent youth substance use (Pima County Health Department, 2011)
- Closest hospital is Banner UMC-South 2.5 miles southeast of South Tucson (Pima County Health Department, 2011)

Education

- 59.6% of South Tucson are high school graduates compared to 84.8% of the Tucson population (United States Census Bureau, 2017)
- 4.2% of South Tucson have Bachelor’s degrees or higher compared to 26.6% of the Tucson population (United States Census Bureau, 2017)
- Four schools within South Tucson (Pima County Health Department, 2011)
- Education
  - 59.6% of South Tucson are high school graduates compared to 84.8% of the Tucson population (United States Census Bureau, 2017)
  - 4.2% of South Tucson have Bachelor’s degrees or higher compared to 26.6% of the Tucson population (United States Census Bureau, 2017)
  - Four schools within South Tucson (Pima County Health Department, 2011)
  - Health Care Resources
    - 24.1% of South Tucson residents are without health insurance (United States Census Bureau, 2017)
    - South Tucson Prevention Coalition – prevent youth substance use (Pima County Health Department, 2011)
    - Closest hospital is Banner UMC-South 2.5 miles southeast of South Tucson (Pima County Health Department, 2011)
Community Health Assessment of Apache Junction, AZ
Chelsea Apperson MS, RN, PMHNP-DNP Student

Background and Introduction

Objective: To identify and evaluate the community strengths and health needs of Apache Junction (AJ), AZ

Geography & History
AJ is located within both Maricopa & Pinal counties, with the majority of residents in Pinal County. Meridian Rd. serves as the dividing line between counties. The city was incorporated in 1978 and is located near the base of the Superstition Mountains and Tonto National Forest.

Demographics
Population estimate: 40,538; Size: 34.99 miles² (US Census Bureau, 2017)

Methods
The community health assessment was performed during February 2019. Information and data was obtained by means of:
- Windshield surveys
- Interviews with community members and healthcare professionals
- Online assessment and data collection from (a) governmental websites (b) AJ City website

Results

Community Core
- Old, established neighborhoods; the majority are gated RV and mobile home communities, with some older apartments and subdivisions
- All surrounded by a desert landscape, with minimal green areas

Values & Beliefs
- Diverse (heterogenous) places of worship including the Church of Jesus Christ of Latter-day Saints, 7th day Adventist Church, Gospel Tabernacle, Evangelical Lutheran church, Pentecost International Worship Center, and the Vedic Cultural Center with prayer temple
- "Old timer key informant: "This community values supporting others in times of need."

Government & Economy
- Arizona 16th District: Senator Farnsworth (R), Representatives Townsend (R) & Fillmore (R)
- School nurse key informant: "This is a poor community. Budget deficits have left me with minimal resources to refer students out for preventative care."
- AJ HS registrar key informant: "Competitive pay for teachers is a challenge, and we are losing students and teachers to charters."

Education
- Preschool/daycares offering programs for special needs, 1 K-8th grade behavioral school, 2 elementary schools, 2 junior high schools, 2 high schools, 1 community college
- AJ Unified District dropout rate: 31.4% (CMS, 2015-2016)
  - AJ High School (AJHS) registrar key informant: "Competitive pay for teachers is a challenge, and we are losing students and teachers to charter schools."

Health Promotion (in addition to health professional access)
- Multigenerational/Senior Center
- Flat Iron Park
- Boys and Girls Club

Health Promotion (cont.)

Strengths, Limitations, & Recommendations

Strengths
- Diverse health professional access and health promotion opportunities that address the multidimensional needs across the healthcare continuum
- Natural amenities provide wellness opportunities at minimal cost
- Strong community support and pride

Limitations
- Polysubstance use
- Public Transportation barriers
- Budget deficits impact preventative care

Recommendations
- Expand and enhance detox and addiction treatment centers through evidence-based practice guidelines
- Develop and maintain public transit routes that reach remote areas of AJ
- Develop and expand telemedicine referral programs to include school district preventative care needs

Results (cont.)

Safety
- Majority of violent crimes: 75 sex-offense charges (APD, 2018-2019)
  - AJHS student key informant: "I feel safe here."
  - Old timer key informant: "The majority of crimes are related to substance use problems."

Transportation
- Bike lanes, multi-use paths, recreational trails, U.S. Bicycle Route 90
- Uber, Lyft, taxis
- Greyhound bus stop on S. Ironwood Rd.
- Stage Coach shuttle to Phoenix Sky Harbor

References

- [AJ City website]
- [Water Resource Management Plan]
- [Existing Community Health Plan]
Wickenburg: A Rural Community in Maricopa and Yavapai Counties

Andia Alexis Boci, BSN, RN, DNP PMHNP Student

History & Demographics

- Founded in 1863 by goldminers, ranchers and Henry Wickenburg (Town of Wickenburg, n. d.)
- Located on the northern edge of the Sonoran desert abounding in stois saguaros and shadow mountains (Town of Wickenburg, n. d.)
- Trademarks of Wickenburg in the 18th century: Hispanic culture, trade, farming, ranching and goldmining (Town of Wickenburg, n. d.)
- Currently known as the “Dude Ranch Capital of the World” and “Team Roping Capital of the Southwest” (Town of Wickenburg, n. d.)
- Classified as a rural community due to open countryside and having a population density less than 500 people per square mile (US Census Bureau, n. d.)
- Population: 7,409 residents (US Census Bureau, n. d.)
- 84.3% of the population are Caucasian, 12% Hispanic or Latino, 2.7% American Indian or Alaska Native, Asian 0.2% and Black or African American 0.1% (US Census Bureau, n. d.)
- 53.2% are female and 7.1% are foreign-born persons (US Census Bureau, n. d.)
- 37.4% are over 65 years old and 17% of its population is under 18 years old (US Census Bureau, n. d.)
- 24.3% have a bachelor’s degree or higher (US Census Bureau, n. d.)

Health Promotion & Disease Prevention

- Wickenburg Community Hospital and Medical Center is the only hospital located in Wickenburg (CHNA, 2016)
- 19 bed acute care unit and several medical, surgical services (CHNA, 2016)
- Hospital is understaffed (CHNA, 2016; DataUSA, n. d.)
- Lacks specialty providers in psychiatric, mental health & other specialties (CHNA, 2016; DataUSA, n. d.)
- No long-term care facility located in Wickenburg (DataUSA, n. d.)
- No hospice or any other delivery system for end-of-life care (DataUSA, n. d.)
- No integrative therapies offered as outpatient services (CHNA, 2016; DataUSA, n. d.)

Economy, Politics & Government

- Key markets and economy include: Equestrian, rodeo & roping, education, arts & recreation services, service industry, light manufacturing, finance, insurance and real estate (DataUSA, n. d.)
- The economy employs 2,525 people and the median household income is $40,653 (DataUSA, 2016)
- 13.5% of the Wickenburg population live below poverty line (US Census Bureau, n. d.)

Strengths

1. Acute care & EMS services available facilities
2. Excellent trauma and addiction center
3. Primary care services available (CHNA, 2016)

Limitations

1. Lacks long-term care facilities
2. No integrative care services
3. Limited access to specialty (CHNA, 2016)

REFERENCES AVAILABLE UPON REQUEST
In Apache Junction, the leading causes of death are, by age group:

- **Infant: Edwards’ syndrome and Patau’s syndrome**
- **Child (1-14): Exposure to uncontrolled fire in building or structure**
- **Adolescent (15-19): Intentional self-harm by other and unspecified firearm**
- **Young Adult (20-44): Motor or nonmotor vehicle accident**
- **Mid Age (45-64): Chronic ischemic heart disease**
- **Elderly (65-84): Chronic obstructive pulmonary disease**
- **Aged (85+): Chronic ischemic heart disease**

The mortality rate for premature births was 58 percent.

The Arizona Department of Health Services Data (ADHS) report stated that in 2015, 16.2% of the population under 65 were individuals with a disability.

### Purpose and Methods

A community health needs assessment (CHNA) was conducted in Apache Junction to understand gaps in services provided to the community, analyze data sources at the state and local level, and obtain input from key leaders in the community.

Data collection was conducted by the Greater Valley Area Health Education (GVAHEC) Scholars in support of the Empowerment System, so a soup kitchen owner, and community advocates for homeless and senior populations.

A windshield survey of the community was also conducted, in which the physical environment, assets, amenities, transportation, safety, sanitation, and other community factors were visually examined by the research team.

Secondary data was collected from a variety of sources, including Arizona Health Matters, the Arizona Department of Health Services, the US Bureau of Labor Statistics, the City of Apache Junction website, the Apache Junction Water District, the Pima County Air Quality Control District, the US Census Bureau, and the Superstition Mountain – Lost Dutchman Museum.

### Demographics

- **The Apache Junction Primary Care Area (PCA)** has a population of 51,571 per 2017 Arizona Department of Health Services Data (ADHS).
- **The education and racial/ethnic demographics** are shown in the charts below. Gender demographics are 48.8% male and 51.2% female.

### Physical Environment

- **Apache Junction is nestled at the base of the Superstition Mountains approximately 35 miles east of Phoenix in Pinal County with a Sonoran desert landscape.**
- **Air quality in Apache Junction is generally good,** with average measures of particulate below the national standards, which translates to cleaner air and easier breathing efforts for constituents with lung disease.
- **In Apache Junction, the mean household income is $43,508.** The median household income is $36,771, and the average income of individuals is $20,966. 2017 ADHS data shows 18.8% of the population lived below 100% of the Federal Poverty Line (FPL) and 40.6% lived below 200% of the FPL. By comparison, the national poverty rate in 2017 was 12.3% (USCB).
- **Job growth has increased by 3.2% in December 2018 over the job year in Apache Junction, which has been predicted to grow at 38.2% over the next ten years compared to the predicted US average of 38% (Sterling’s Best Places, 2018).**
- **A number of events and festivals** are served to local and national tourists from across the country.
- **Elevated poverty and unemployment, coupled with high morbidity and mortality rates, and a wide variation of economy, housing and income within Apache Junction.**

### Health status data for the community

- **Per CARES, the mortality rate in Pinal County was 15.3 percent per 100,000 while the U.S. general population was 13 percent.**

In Apache Junction, the leading causes of death are, by age group:

- **Infant: Edwards’ syndrome and Patau’s syndrome**
- **Child (1-14): Exposure to uncontrolled fire in building or structure**
- **Adolescent (15-19): Intentional self-harm by other and unspecified firearm**
- **Young Adult (20-44): Motor or nonmotor vehicle accident**
- **Mid Age (45-64): Chronic ischemic heart disease**
- **Elderly (65-84): Chronic obstructive pulmonary disease**
- **Aged (85+): Chronic ischemic heart disease**

### Community Health Needs Assessment of Apache Junction

- **Purpose**: To combat the disparities, several key issues need to be addressed.

- **Secondary data was collected from a variety of sources, including Arizona Health Matters, the US Bureau of Labor Statistics, the City of Apache Junction website, the Apache Junction Water District, the Pima County Air Quality Control District, the US Census Bureau, and the Superstition Mountain – Lost Dutchman Museum.**

- **PHYSICAL ENVIRONMENT**:

  - **In Apache Junction, the mean household income is $43,508.** The median household income is $36,771, and the average income of individuals is $20,966. 2017 ADHS data shows 18.8% of the population lived below 100% of the Federal Poverty Line (FPL) and 40.6% lived below 200% of the FPL. By comparison, the national poverty rate in 2017 was 12.3% (USCB).

- **Job growth has increased by 3.2% in December 2018 over the job year in Apache Junction, which has been predicted to grow at 38.2% over the next ten years compared to the predicted US average of 38% (Sterling’s Best Places, 2018).**

- **There is a wide variation of economy, housing and income within Apache Junction.**

- **There are multiple shipping businesses located within Apache Junction including FedEx and UPS.**

- **There are currently 61 sworn officers in the Apache Junction Police Department.**

- **There is a wide variation of economy, housing and income within Apache Junction.**

- **There are multiple shipping businesses located within Apache Junction including FedEx and UPS.**

- **With consideration to Apache Junction’s environmental factors, it is good community to live in.**

- **The history of Goldfield Ghost Town.**

- **The AJ website lists Project Help, Horizon Health and Wellness, SunLife Family Health Center, La Posada Corporation, and the Senior Center at the MGC as community resources, but there is still a need for specialty providers.**

- **There is a wide variation of economy, housing and income within Apache Junction.**

- **Apache Junction is nestled at the base of the Superstition Mountains approximately 35 miles east of Phoenix in Pinal county with a Sonoran desert landscape.**

- **Air quality in Apache Junction is generally good,** with average measures of particulate below the national standards, which translates to cleaner air and easier breathing efforts for constituents with lung disease.

- **In Apache Junction, the mean household income is $43,508.** The median household income is $36,771, and the average income of individuals is $20,966. 2017 ADHS data shows 18.8% of the population lived below 100% of the Federal Poverty Line (FPL) and 40.6% lived below 200% of the FPL. By comparison, the national poverty rate in 2017 was 12.3% (USCB).

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- **A number of events and festivals** are served to local and national tourists from across the country.

- **Elevated poverty and unemployment, coupled with high morbidity and mortality rates, and a wide variation of economy, housing and income within Apache Junction.**

### Assessment of Community Competence

- **Physical Environment**: With consideration to Apache Junction’s environmental factors, it is good community to live in.

- **Economic**: The unemployment rate in Apache Junction was 11.4% compared to the average US rate of 5.2% (BLS, 2018).

- **Health**: The AJ website lists Project Help, Horizon Health and Wellness, SunLife Family Health Center, La Posada Corporation, and the Senior Center at the MGC as community resources, but there is still a need for specialty providers.

- **Sustainability**: There is a wide variation of economy, housing and income within Apache Junction.

### References

- **Apache Junction, AZ - Official Website | Official Website. Apache Junction, AZ - Official Website | Official Website.**
- **Apache Junction Real Estate Market Overview. Trulia.**
- **National Institute on Aging. Research suggests A positive correlation between social interaction and health.**
- **Superstition Mountains Community Facilities. Superstition Mountains Community Facilities District No. 1.**
- **United States Census Bureau. (2018).**
- **Larsen, P. D. (2019).**
- **Apache Junction Police Department Crime Stats.**
- **Apache Junction Water District.**
- **Arizona Health Matters.**
- **Lubkin’s chronic illness impact and intervention (10thed.).**
- **Garbage Collection in Apache Junction. Republic Services.**
- **Arizona Department of Health Services.**
- **Apache Junction, AZ - Official Website | Official Website. Apache Junction, AZ - Official Website | Official Website.**
- **Arizona Water Company.**
- **The history of Goldfield Ghost Town.**
- **Apache Junction Water District.**
- **Arizona Department of Health Services.**
- **Arizona Water Company.**
- **Apache Junction, AZ - Official Website | Official Website. Apache Junction, AZ - Official Website | Official Website.**
- **Lubkin’s chronic illness impact and intervention (10thed.).**
Community Health Assessment of Wickenburg, AZ
Tommie Lee Butler BSN, RN, PMHNP-DNP Candidate

History & Background
- **Origins**: Prospectors gathered in 1862 after gold was found along the Colorado River. Henry Wickenburg was among them and eventually founded the town by the same name in 1863 (Town of Wickenburg, n.d.).
- **Building along the fertile plain of the Hassayampa River; Sonora, Mexico settlers survived Indian wars, desperadoes, droughts, mine closures, and floods before settling in the northern edge of the Sonoran Desert** (Visit Wickenburg Arizona, n.d.).
- **County**: Between Maricopa and Yavapai County
- **The town’s census is 7,409 residents with the following graphic breakdown**: (US Census Bureau, 2017)

Town Characteristics

Demographics

- 3,221 households contain Wickenburg’s thriving population with 2.11 persons per house (US Census Bureau, 2017).
- Population per square mile reaches 339.1 for the rural desert location (US Census Bureau, 2017).
- Median household income is $42,752 per year from its 44.4%, 16 years plus labor workforce (US Census Bureau, 2017).
- Unemployment is a low 2.1% and 14.2% of residents fall below the poverty line (US Census Bureau, 2017).

Culture
- Wickenburg’s culture is steeped in “Wild, Wild West's” rich history
- Buildings appear as if they were plucked from the gritty outlaw 1800s and spit-shined for modern day use throughout the 18.76 square mile town (Town of Wickenburg, n.d.).

Health & Social Services
- Wickenburg is also home to several world-recognized medical treatment centers that specialize in traumas, anorexia, bulimia and addiction treatment.
  - Remuda Ranch treats anorexia, bulimia, and binge eating disorders
  - Rosewood Ranch also admits and treats anorexia, bulimia, and binge eating disorder patients
  - The Meadows, however, contributes in a different way, tackling complicated traumas and addiction treatments
- Wickenburg’s non-profit Community Hospital, equipped with a level IV trauma center and emergency department has cared for the small community’s populace since 1926 (Town of Wickenburg, n.d.).
- Surprise North and Wickenburg’s population-to-provider ratio is 873:1, double Arizona’s 396:1 (Arizona Department of Health Services, 2018).
- The closest outside emergency department is Dell E. Webb Medical Center in Sun City, 31.1 miles away (Google Maps, 2019).

Education
- Wickenburg Unified School District Number 9 serves 1500+ preschool to high school students across seven educational facilities. One of which offers college credit hours, fast track programs and summer trade education (Town of Wickenburg, n.d.).

Politics, Government, & Communication
- Wickenburg was incorporated as a town in 1909, allowing the election of officials such as a mayor. Today, the town has an official council and a very active chamber of commerce committee (Town of Wickenburg, n.d.).
- The Hassayampa Alert! The Chamber’s community newsletter informs Wickenburg locals of exciting changes, in-town business advertising, and local recognitions (Town of Wickenburg, n.d.).

Recreation & Public Services
- Despite the town’s humble size and population, Wickenburg has a surprising number of recreational activities to include tourist scavenger hunts, visiting the Desert Caballeros Western Museum, visiting Vulture City (Ghost Town), hiking Vulture Peak and much more (Town of Wickenburg, n.d.).
- Wickenburg boasts a municipal airport on the edge of town that supports a public transport shuttle, a fire department station, a Maricopa County Sheriff’s Office and a sanitation sewer treatment facility (Town of Wickenburg, n.d.).

Perception
- Pros: Wickenburg is a beautiful community inhabited by capable and wise residents that share a mutual mindset concerning the appreciation and care of their town and neighbors.
- Cooperation is by far their greatest asset and its effects are echoed heavily throughout the community’s positive conditions.
- Cons: Because the community is small and isolated, Wickenburg likely has its share of internal powers and influences. This is not necessarily a bad thing, but can lead to elitism if misused. However, no signs of such abuse was noted in the welcoming location upon visiting.

References Available Upon Request
Community Health Assessment of Benson, Arizona
Sadaf Carrillo, BSN-RN, DNP PMHNP Student

Community Demographic and History

Rural Classification
- Population: 4,837 per 2019 census data (U.S. Census Bureau, 2019)
- Rural Urban Continuum Code: 3; Metro Counties in metro areas of fewer than 250,000 population (United States Department of Agriculture Economic Research Service, 2016)
- Urban Influence Code: 2; small in metro area with fewer than 1 million resident (United States Department of Agriculture Economic Research Service, 2016)
- Natural Amenity Rank: of 7 (resourceful) (United States Department of Agriculture Economic Research Service, 2018)
- County Typology Codes: Metro, federal state government dependent, low employment, low education (United States Department of Agriculture Economic Research Service, 2017)

History
The rural community was first founded in 1880 when the Southern Pacific Railroad came through. The community was named after Judge William S. Benson, a friend of Charles Cocker, president of the Southern Pacific. The railroad that would come overland from California, would choose the Benson area to cross the San Pedro River Benson then served as a rail junction point that would come overland from California, would choose the Benson Railroad that would come overland from California, would choose the Benson area to cross the San Pedro River Benson then served as a rail junction point to obtain ore and refined metal by wagon, and would ship rail back to the mines at Tombstone, Fairbank, Bisbee, and Contention City. The Middle Crossing, railroad in Benson was used by the Southern Emigrant Trail and San Antonio-San Diego Mail Line. It was the station for Butterfield Overland Mail.

Demographic:

Community Subsystems

Economy
- There are no exact number for homeless population, but there are a total of 9 homeless shelters
- The average income of a Benson resident is $19,725 a year. The US average is $28,555 a year (U.S. Census Bureau, 2019).
- Per capita income for the city is $17,315 (U.S. Census Bureau, 2019)
- Poverty Line:
  - 6.2% of families (U.S. Census Bureau, 2019)
  - 13.7% of the total population (U.S. Census Bureau, 2019)
  - 26.1% are children under age 18 (U.S. Census Bureau, 2019)
  - 9.9% are older adults age 65 or over (U.S. Census Bureau, 2019)
- The 2019 job market for Benson has decreased by -0.9% (U.S. Census Bureau, 2019)
- There are only 2 shopping centers in the community: Wal-Mart supercenters and Butterfield Plaza.
- 4.5% of population uses food stamp services (Medicaid office, 2019)
- Unemployment rate is 5.6% when the US average is 3.9% (U.S. Census Bureau, 2019)

Transportation and Safety
- Benson Airport is located 5 miles northwest of the city center
- Interstate 10 serves the city with four exits
- Benson Area Transit (BAT) is a bus service that covers Bensons, St. David, Dragoon and Mescal
- Benson is also served by Greyhound
- Cochise Connection, which is operated by the City of Douglas offers regularly-scheduled shuttle service between Benson Bisbee, Sierra Vista, City of Huachuca, and Douglas with a one-way fare of $3-4
- Benson Fire department & Benson police department are accessible to the community
- Crime rate in Benson is 13% higher than the national average (Neighborhood Scqut, 2019).

Strengths and Limitations

Health and Social Service
- Benson hospital is a rural critical access hospital with a 22 bed unit that provides care to both acute and skilled nursing
- Most acute conditions are:
  - dental problem, bronchitis,
  - chest pain, lumbago,
  - urine infection
  - limb pain
- Most common chronic conditions are:
  - mood disorders
  - chronic obstructive bronchitis
  - hypertension
  - arthritis
  - diabetes
- Only 9 primary care providers at this time.
- Outpatient services include:
  - wound care
  - Administration of IV medication infusion,
  - free blood pressure checks
- Rehabilitation services:
  - Physical therapy
  - occupational therapy
  - speech therapy
- Benson are Southeastern Arizona Behavioral Health Service and Arizona Counseling Treatment Services for mental health; outpatient only
- One long term facility known as Good Samaritan Society-Quibiri Mission Nursing Home.
- Strengths: There are three major recreation centers: Benson Community Center (that is mainly available for parties and events), City of Benson parks & Recreation center (park), and Apache Park recreation center.
- Limitations: Poor roads, lack of traditional healer, health promotion programs, home health, palliative care, lack of employment, high crime rate, lack of healthcare

Reference available upon request: Available upon request
Prescott Community Health Assessment
Bryan Espinoza

Background and Introduction

**History**
- Founded in 1864 as the Territorial Capital of Arizona.
- Prescott was designated the County Seat of Yavapai County, one of four original territorial counties.

**Geography and Climate**
- Located 55 miles northwest of Arizona’s geographic center in the Bradshaw Mountains within Yavapai County.
- The average annual high temperature in Prescott is 69.6 degrees F, while the average annual low temperature is 39.8 degrees F.

**Demographics**
- Prescott has an estimated population of 42,731 people as of July 1, 2017.
- The community is relatively homogenous with 93.5% of the community being white, and 88.1% of the community being White alone, not Hispanic or Latino.
- It is estimated that 34.7% of the population is 65 years or older.

**Morbidity and Mortality**

**Healthy People 2020 – Yavapai County**
- Age-adjusted death rate due to suicide: 32.8 per 100,000. (Target 10.2)
- Age-adjusted death rate due to drug-induced death: 25.6 deaths per 100,000. (Target 11.3)
- Age-adjusted death rate due to motor vehicle collision: 17.5 deaths per 100,000. (Target 12.2)
- Age-adjusted death rate due to stroke: 39.6 deaths per 100,000. (Target 34.8)
- Age-adjusted death rate due to lung cancer: 48.8 deaths per 100,000. (Target 45.5)

**Maternal and Fetal Health**
- All infant deaths: 6.51 per 1,000. (Target 6.0)
- Teen birth rate per 1,000 female population, ages 15-19: 46.0 (Arizona value: 34.1)
- Low birth weight per 1,000 live births: 8.97 (Arizona value: 7.08)

**Methods**

**Primary Sources**
- Windshield Surveys: There were three primary areas that were documented on foot in car. Specifically, Prescott Lakes Community, Prescott Downtown, Lazy G Trailer Park
- Key informant interviews: Three people were interviewed in the 5-week data collecting period with the most telling interview coming from a pharmacist

**Secondary Sources**
- Information on demographics, housing, employment, and education was provided by the US Census Bureau and the US Bureau of Labor Statistics. Information regarding detractors to health were cross-referenced with the Yavapai Regional Medical Center’s 2016 Community Health Needs Assessment

Determinants of Health

**Economy**
- The unemployment rate in Prescott is 13.9%, which is higher than the unemployment rate for Arizona and the nation as a whole (9.7% and 12.3% respectively).
- The median household income in 2016 was $48,259. (National median $55,322)
- The median value of a owner-occupied housing unit is approximately $283,500, the national average is $188,900

**Education**
- Prescott has one public school district: Prescott Unified School District No. 1.
- The school district encompasses three elementary schools, two middle schools, and one high school.
- Prescott houses Embry-Riddle Aeronautical University, Northern Arizona University- Prescott Campus, Old Dominion University, Prescott College, and Yavapai College.
- Prescott exceeds the national average for the rate of high school graduates with 94% of the population having completed high school compared to the Arizona average of 86%.

**Healthcare**

**Prescott Community Health Assessment**

**Community Health Promotion**

**Yavapai Regional Medical Center**
- Offers reduced cost screenings for blood pressure, cancer, depression, and diabetes with a network of clinics that offer sliding scale model for payment across Prescott

**West Yavapai Guidance Clinic**
- A non-profit that offers monthly activities that promote the importance of mental health
- 24/7 Crisis stabilization Unit for family members in the midst of a mental health or substance related crisis

**Access to Healthcare**

**Healthcare Facilities**
- Inpatient: Northern Arizona VA
- Yavapai Regional Medical Center West
- Outpatient:
  - Yavapai Regional Medical Center Physician Care Offices (13 total)
  - NextGen Urgent Care
  - Prescott Health Clinic
  - Mental Health Facilities:
    - West Yavapai Guidance Clinic
    - Royal Life Center
    - Arrowhead Lodge
    - Northern Arizona Center for Addiction
  - Algamus Gambling Treatment Services

**Community Concerns, Priorities, and Recommendations**

1. Prevention and reduction in mental health issues. Specifically the suicide rate in the area – Recommend that more mental health institutions provide in mental health education and events to promote mental health across all age groups in the area.
2. Unemployment and poverty – Establish incentives for companies to move into the area and provide jobs.
3. Addressing poorly planned public transport system – Reevaluate current public transportation routes and infrastructure to provide identifiable public transport and pickup/drop-off locations.
4. Access to affordable healthcare – Address the issues associated with physicians accepting Medicare to lower the patient burden on the physicians that do accept it.

References

Introduction

The city of Benson was founded in 1880, but got its name in 1924 about 40 years after the creation of the Southern Pacific Railroad. Located about 45 miles east of Tucson and 156 miles south east of Phoenix. The city was named after the president of the Southern Pacific Railroad best friend who resided in California at the time named Judge Williams Benson. Cityofbenson.com

The city was considered the perfect place where mining products could be transported from nearby mines that surround the city for final transportation. This also can be seen in how present day Benson is situation between three of the most busy routes in the states- States route 80 and 90 and the Interstate 10. the rail road is still existing but under a different company-Union Pacific Railroad.

As of 2016 according to city-data.com, there are 4974 people residing in Benson. This is about 0.87% decline from 2010 survey. Of the 4974 people breakdown by ethnicity and sex:

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>53.0%</td>
</tr>
<tr>
<td>African</td>
<td>32.0%</td>
</tr>
<tr>
<td>Asian</td>
<td>2.0%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

Objective: To conduct a community health assessment in a rural city, assess strengths, limitations, and suggest recommendations for the area.

Method: Windshield survey with photographs and interviews with local residents who live in the city. Also, data collection from online resources.

<table>
<thead>
<tr>
<th>Physical Environment</th>
<th>Economic Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Area</td>
<td>Household median income: $38,000</td>
</tr>
<tr>
<td>Tourists come to visit the Kartchner Caverns State Park</td>
<td>Makes more income than females</td>
</tr>
<tr>
<td>Multi Stunnded and Distributed: copper and silver</td>
<td>Only 1440 employees in the town with an unemployment rate of 71%</td>
</tr>
<tr>
<td>11 degrees cooler than Tucson</td>
<td>Median property value is $81, 600</td>
</tr>
<tr>
<td></td>
<td>Highest paid race is Native Americans, Blacks or AA, Whites</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values &amp; Beliefs</th>
<th>Politics &amp; Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 12 different denominations of Christianity</td>
<td>Republican: Southeastern Arizona: Tucson East, Benson</td>
</tr>
<tr>
<td>Catholic Church offers resources to the elder population</td>
<td>Mayor: Toney D. King, Sir</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Transportation &amp; Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation rate: District: 90%, Peer average: 84%, State average: 10%</td>
<td>Road conditions are poor and there are barely any side walks or bike trails</td>
</tr>
<tr>
<td>One Community College: Cochise Community College</td>
<td>Public Bus Transportation: One police station and fire department</td>
</tr>
<tr>
<td>5 Grade Schools</td>
<td>Top Crimes: Theft and burglaries around shopping facilities or work places</td>
</tr>
<tr>
<td>Benson Area School Programs: Sport activities for both girls and boys. Various educational groups and clubs that students can join.</td>
<td>Recreation: 3 Parks:</td>
</tr>
<tr>
<td>Arts and history museum</td>
<td>- Historic Apache Park: 2 acres</td>
</tr>
<tr>
<td>One Public Library: Benson Public Library</td>
<td>- Union Street Park</td>
</tr>
<tr>
<td></td>
<td>- Lions Park</td>
</tr>
<tr>
<td></td>
<td>- City Pool</td>
</tr>
</tbody>
</table>

Strengths

- Located along several trade routes such as Interstate 10, State Route 80, and State Route 90- makes easy for commuters stop to eat and rest
- Strong sense of community with historic pride from members of the community as well as the Union Pacific Rail Roads
- Kartchner Caverns State Park welcomes one million tourists yearly
- Catholic Church offers resources to the elder population

Weakness

- There are no geriatric services: only one nursing home available
- No mental health services: members have to travel to Tucson for care
- Lack of employment opportunities
- More parks and adequate street lights is needed so residents can exercise
- More affordable housing and sporting facilities is needed

Recommendations

- Create more jobs for the residents
- Utilize Telepsychiatry more so that behavioral health services is offer more in the area
- Improve on the parks and street lights so that residents can exercise and enjoy the outdoors which will improve mental health
- Improve on the geriatric services and resources in the surrounding cities that can be utilize in Benson.
Community Health Assessment of Marana, Arizona
James T. Fiske MA, BA, BSN, RN, PMHNP-DNP (Student)

Introduction/Background
Marana History and Physical Environment
History (Marana AZ, n.d.)
• “Marana” means: impassable tangle (Spanish)
• Approximately 550 to 850: Introduction of Hohokam culture
• Late 1600s: The Apache and Spanish arrive
• 1890: Southern Pacific Railroad places Marana on its map
• 1912: Arizona is named the 48th state
• 1957: First health center opens
• 1961: Construction of Interstate 10
• 1977: Incorporation of Marana
• 1999: First mayoral election held

Physical Environment (Town of Marana, 2010)
• Marana = 10 Sq. miles during incorporation
• Currently = 120 sq. miles
• Lies to the northwest of Tucson
• Has 9.65 miles of paved share use path
• Only 1,000 units of multi-family housing
• The outer borders of the town:
  ▪ Tortolita Mountains to the northeast,
  ▪ Ironwood Forest National Monument to the west
  ▪ Saguaro National Park to the south
• The rural area of Marana covers 500 square miles.

Methodology
• Windshield survey
• Information obtained from Council CIO
• Electronic information acquisition

Results

Map of Marana
[www.livingmarana.com/san-lucas]

- Politics and government (Town of Marana, 2010)
  ▪ Form of government = Council-manager
  ▪ Manager
  ▪ appointed professional
  ▪ implement council policies
  ▪ Elective representatives:
    ▪ elected by residents of Marana
    ▪ make collective decision like:
      ▪ Fix duties and compensations
      ▪ Enact ordinances
      ▪ Borrow money
      ▪ License and regulate businesses

The demographic breakdown of Marana is as follows: Population and Ethnic Breakdown (Marana AZ, n.d.)
- Population: 40,221
  ▪ White: 80 percent
  ▪ Asian: 4.22 percent
  ▪ Black: 2.94 percent
  ▪ American Indian: 1.14 percent
  ▪ Pacific Islander: 0.13 percent
  ▪ Other: 6.94 percent
  ▪ Multiracial: 3.96 percent

Age and Gender (US Census, 2019)
- Those under 5 years: 7.6 percent
- Those under 18 years: 24.8 percent
- Those 65 years and over: 18.6 percent
- Female: 51.2 percent

Education (NICHE, 2019)
- The Marana unified school district:
  ▪ Student population: 12,321
  ▪ Number of schools: 19
  ▪ Employed staff: 1,800
  ▪ Student/Teacher ratio: 19/1
  ▪ Student proficiency in math: 38%
  ▪ Student proficiency in reading: 43%
  ▪ Student proficiency in reading: 43%
  ▪ Best school district for athlete: #19 out of 127

Hospitals and medical centers near Marana (City-Data.com, 2019)
- Northwest Tucson Dialysis
- La Canada Care Center
- Life Care Center of Tucson
- Mountain View Care Center
- Columbia Homecare Northwest
- Desert Life Day Surgery

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Spectrum of Health and Medical Services (DATAUSA, n.d.)
The clinician to patient rate is as follows:
- Primary care physicians: 82/100,000 people
- Dentist: 59/100,000 people
- Mental health professional: 160/100,000 people
- Other providers: 74/100,000 people

Economy (DATAUSA, n.d.)
- In 2016 the median household income ~ $76,484
- 74% of Marana residents are homeowners.
- From 2015 to 2016, employment = ↑4.1%

Safety (City-Data.com, 2019)
- Provided by Marana Police Department
- Crime statistics for 2016 are as follows:
  ▪ Murder: 1
  ▪ Rape: 8
  ▪ Robberies: 13
  ▪ Assaults: 18
  ▪ Burglaries: 66
  ▪ Theft: 947
  ▪ Auto theft: 32
  ▪ Arson: 2

Recreation (Town of Marana, 2010)
Marana currently has:
- Community parks: 56, four of which are owned by the town.
- District parks: 2, one of which contains the Marana
- senior center
- special use parks: 1 (The Marana Heritage River Park)

Strengths
- Less noise and pollution
- Spacious
- Transportation availability to some healthcare services
- Multiple providers in one place
- Enough parking spaces

Weaknesses
- Transport difficulty for low income people
- Proximity to Tucson and Phoenix
- Lack of sufficient public transport

Recommendations
- Create a business corridor along Tangerine road
- Increase public transport

References
- Available upon request
Windshield Assessment of the Tohono O’Odham Nation – San Xavier District  Tucson, Arizona

Colleen Green, BS, MS, BSN, RN, DNP PMHNP Candidate

Background and Location
Location: Census Tract (CT) 94.09 is in Pima County, AZ
- Population: 2,385
- Size: 111.514 square miles
- Population Density per square mile: 16.7
- 34.7% of CT 94.09 is < age 20 (Pima County [PC] = 24.8%)
- 47.5% of CT 94.09 is age 20-59 (PC = 50.9%)
- 17.9% of CT 94.09 is > age 60 (PC = 7.1%)
- 14% of CT 94.09 are single female households, no husband, with children (PC = 24.4%)
- 64.3% of CT 94.09 are grandparents responsible for grandchildren (PC = 39.5%)
- 27% of the people of CT 94.09 are below poverty level (PC = 13%)
- 38.2% of CT 94.09 are White (PC = 80.6%)
- 38.9% of CT 94.09 are American Indian/Alaskan Native (PC = 5%)
- 30.3% of CT 94.09 are Hispanic/Latino (PC = 36.6%)
- The San Xavier District is one of the Tohono O’Odham communities; Before Gadsden purchase, the Nation spanned the U.S.-Mexico border. There are 28,000 members that stretch over several counties. 75 miles are up against the U.S.-Mexico border; 9 communities live in Mexico.

Methods
- Primary Sources: Three-day windshield survey with Key Informant (KI) Interviews
- Secondary Sources: United States Census Bureau American Community Survey (2013-2017 5-year estimates); Pima Maps; Internet pages for community resources

Community Core Census Data
(US Census, 2017)

Community Core – Assessment Data
- Mix of mobile homes and single family houses; varied age
- “Someone who wants to move here must prove their heritage to the Board who decides if they can live here and build a home. Nothing is done without the permission of the community.” – Vice Chair
- Many children seen walking alone. Most appear American Indian. Multi-cultural tourists seen at Mission San Xavier del Bac
- Hispanic influence seen at Santa Rosa Café in fry bread taco; Signs displayed for the Wa:k 37th Annual Pow Wow
- San Xavier del Bac is Catholic; “We are a highly spiritual people. We respect the land. Even sports such as Rez Ball involves team members being spiritually aligned.” – Vice Chair

Subsystems

Physical Environment: Clean air and expansive land; many dirt roads and natural landscape; several dogs roaming without owner

Education: School near Mission del Bac
- 76.2% of CT 94.09 has HS degree or higher (PC= 88.2%)
- 10.3% of CT 94.09 has a BS or higher (PC = 31.6%)

Economy: Median household income of CT 94.09 is $41,550 (PC = $48,676)
- Unemployment rate is 15.8% (PC = 8.4%)
- The historical sites, Native craft stores, food booths and café are local businesses that were operating during windshield assessment

Communication: Many billboards/signs display community events and health education
- “Word of mouth” is a common strategy in the community – Vice Chair

Community Strengths: 1) “The community itself...people lift each other in times of need.” – Vice Chair 2) “If people want to improve their health, resources are available.” – Farm worker 3) “People must get the blessing of the community for everything.” – Vice Chair

Community Challenges: 1) “Historic trauma caused by displacement, violence, forced assimilation, and marginalization.” – Mental health counselor 2) “Chronic health problems like diabetes and arthritis are common here.” – Farm worker 3) Lack of outdoor recreation and distance to access acute care – windshield survey

References available on request
Community Health Assessment of Sierra Vista, AZ

Lisa Le PharmD Student Class of 2021
The University of Arizona College of Pharmacy, Tucson Campus

BACKGROUND

Objective: To evaluate the health needs of Sierra Vista, AZ.

Community Description:
- Established in 1956.
- Located next to the Huachuca Mountains by the San Pedro River 1.5 hours or 70 miles from Tucson.

Demographics:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 9th grade</td>
<td>4.2%</td>
</tr>
<tr>
<td>9th-12th</td>
<td>6.2%</td>
</tr>
<tr>
<td>Some college</td>
<td>5.4%</td>
</tr>
<tr>
<td>College graduate</td>
<td>6.1%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>10.3%</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>23.2%</td>
</tr>
<tr>
<td>Master's degree</td>
<td>33.2%</td>
</tr>
<tr>
<td>Doctor's degree</td>
<td>38.1%</td>
</tr>
</tbody>
</table>

METHODS

The community health assessment was conducted between May 2018 to June 2018. Information about Sierra Vista, AZ was obtained through:
- Windshield surveys
- Interview with healthcare providers and community members
- City and County health reports
- U.S. Census Bureau

RESULTS

Housing and Economy:
- Average household income: $52,279
- Median income is declining at 4.76% in 2016
- Average median housing: $164,590

Crime:
- Average violent crime rate: 126.8

Pollution:
- Water: Chromium, Strontium, Vanadium, Radium, and Uranium were the pollution sources that contaminated from the industry.

Access to Healthcare:
- Sierra Vista has many opportunities to receive healthcare services. Majority of citizens utilize: fee-for-service, Tricare, Medicare, Medicaid, AHCCCS, Kidscare

Main Healthcare Facilities:
- Chiricahua Community Health Center
- Canyon Vista Medical Center
- Pharmacies: CVS, Walgreens, Walmart, Chiricahua, Sierra Vista

Example of Services provided from Canyon Vista Medical Center:
- Acute, critical, wound care
- Screening health scan
- Childbirth and prenatal grief program
- Outpatient medical nutrition therapy
- Adult psychiatric inpatient program.
- Hospice

Teen Pregnancy Rates: 26.7%

Morbidity and Mortality:
Top causes of death:
1. Low birth rates
2. Suicide
3. Motor vehicle accidents
4. Substance Abuse
5. Chronic Ischemic Heart Disease

COMUNITY HEALTH CONCERNS & POTENTIAL CAUSES

Priority of Health Concerns:
1. Substance Abuse
2. Pain Management
3. Cancers (All kinds)

Community Concerns and Priorities:
- Childhood leukemia / cancer cluster community
- Lack of health care provider specialties
- Lack of pain management services

LIMITATIONS

- Traveling health providers and healthcare staff
- Limited research and lack of reporting data (health, crime, economy, etc.)
- Inconsistency with statements from community residents who travel to Douglas, Tucson, Nogales, for work.

INTERVENTION OPPORTUNITIES

- Pain management clinics
- Alternative pain therapies
- Free support groups
- Improve nutrition
- Increase number of healthcare specialties

ACKNOWLEDGEMENTS

I would like to thank the Rural Health Professional Program (RHP), residents, and my preceptor, David Merrell (Pharm D.) at Chiricahua Community Health Center in Sierra Vista, Arizona for making my rotation an extraordinary learning experience. In addition, I would like to acknowledge my professor, Dr. Hall-Lipsy (Pharm D.) for her contributions in editing and Jean Barraza (BS Computer Sciences) for photo contributions to this community health assessment.

REFERENCES

3. Education Percentages: 9th-12th No diploma 30.7% 29.2% 26.1% 25.5%
4. Substance Abuse 4.3%
5. Average household income: $52,279
6. Average violent crime rate: 126.8
7. Average median housing: $164,590
8. Teen Pregnancy Rates: 26.7%
9. Top causes of death:
   1. Low birth rates
   2. Suicide
   3. Motor vehicle accidents
   4. Substance Abuse
   5. Chronic Ischemic Heart Disease

For more information please contact: Lisa Le, lisale@pharmacy.arizona.edu
Benson Community Assessment: Mental and Behavioral Health
Saba Maghari
Faculty Advisor: Elizabeth Hall-Lipsy, JD, MPH

Background
- The city of Benson, home of Kartchner Caverns State Park, is considered the fourth largest city in Cochise County, Arizona. The City is 45 miles southeast of Tucson and 156 miles southeast of Phoenix. The size of Benson city is 18.17% of Tucson and 7.45% of Phoenix.
- Population: 5,013 people with age median of 56.1 years old.
- Benson's median household income: $32,010
- County's median household income: $47,847
- State's median household income: $53,558
- A 2015 Census reported 1481 citizens were unemployed in Benson, with an unemployment of 3%. The Arizona state unemployment rate at that time was 4.9%.
- The 2017 Cochise County Community Health Assessment identifies the county's top three health priorities:
  - Mental Health and Alcohol/Substance Abuse
  - Good Jobs and a Healthy Economy
  - Healthy Eating and Obesity & Diabetes

Objective
The purpose of this community assessment is to evaluates issues within the community from the community pharmacy perspective.

Methods
- Primary data collection during June-July 2017:
  - Windshield surveys were performed by making observations while driving to the park, public school, small businesses, and health mobile unit in Benson.
  - Interviews with City Councilmember, Benson's Hospital Director, and the patients visiting the Medicine Shoppe.
  - Local Facebook groups: Benson Community Chat and Cochise County Rock Hide & Seek page.
- Secondary data:
  - Google search terms:
    - Benson AZ health care services, Specialty medical providers in Benson, AZ, Cochise County annual health report, Benson Hospital.
  - Available websites:
    - City of Benson, Cochise County, Benson Hospital, the U.S. Census Bureau 2015, Benson Hospital, Benson News-Sun, AZ Department of Health Services.

Results

Opioid Death Count

The City's Health Care Resources

Benson Hospital: 22 acute care and 8 emergency room beds
Safeway Outpatient clinic
Chiricahua Community Health Mobile Unit
Pharmacy services: Medicine Shoppe, Walmart, and Safeway
11 local physicians & 9 specialty providers
Six rehabilitation facilities: Southeastern Arizona Behavioral Health Services (SEAHBS) & Community Bridges

Mental and Behavioral Health Challenges

Community Bridge Center is dedicated primarily to substance abuse and detoxification with 24 beds and an average of 15 patients/day.
Benson's rehab centers lack professional medical health providers. This leads to rehabs bringing the patients into the hospital for detoxing and withdraw processes.
Average waiting time for admission: 6-10 hours
Patients sometimes have to wait for over 24 hours until a bed becomes available at the Benson Hospital.

Opportunity of Improvement
- Create a patient-centered clinic to expand the health care services outside of the Benson hospital.
- Establish integrated mental, physical, and behavioral care system. Providers cannot address a patient's mental health or substance use disorder effectively if patient is not physically well.
- Consider the impact of patient's culture, lifestyle, and environment on his or her perceptions of health, illness and death.
- Establish collaborative practices where different health providers can offer assessment, treatment, and follow-up for both mental and physical health conditions.
- Pharmacists can play a significant role in the treatment management and follow up steps.
- Expand the outreach for mental health treatment by providing remote therapy sessions via telephone, email or video conferencing.

Opioid Epidemic: Snapshot of Patient Case
- Increasing the dose of opioids has been considered reasonable medical practice in good pain management [3].
- A Medicine Shoppe's 2006 prescription: 900 tablets of 10 mg Methadone for 30 days.
- Direction: Take 10 tablets by mouth 3 times a day for pain.
- Based on CDC guidelines proper tapering schedule should be less than 1% of the maintenance dose, every 10-14 days.
- Initiated by the PCP and monitored by the pharmacist.
- Took the patient 2 years to completely be off the opioids.

Prevention and Mental Health Promotion Resources
- Drug Abuse Resistance Education (DARE): Teaching Benson's school district students to recognize and resist the peer pressures to experiment with substances.
- SEAHBS and Community Bridge Educational Workshops: Elevate awareness on local substance abuse signs, symptoms, and local resource information. The workshop's attendees include parents, teachers, and law enforcement personnel.
- City Council Meeting: On Aug, 2017 the council passed the motion to allow law enforcement hiring one full-time personal to dedicate his time to opioid related crimes.
Community Health Assessment—Alpine, Texas
Rebecca McClay, DC, MS, RN-BSN, CCRN

Demographics
- Rural designation by CMS and FORHP
- Frontier and Remote Level 3
- County seat of Brewster County, in far southwest Texas
- County consists of over 12,000 miles of undeveloped country
- Median age 38.9 years
  - U.S. Born 38.2 years/Foreign born 47 years
  - 5,900 population
    - 2,992 Hispanic (50.1%)
    - 2,837 White (47.5%)
    - 92 Asian (1.54%)
    - 27 Two+ (0.45%)
    - 25 Black (0.42%)
- Median household income $37,146 +/- $5,908
- Home ownership 53.7%
- 3.4% unemployment

Economy
- One grocery chain, two locations
- One Dollar General/One Family Dollar store
- Three gas stations (two with “quick marts”)
- Texas Card (food stamps) accepted signs displayed in store windows

Transportation and Safety
- Extremely limited public transportation
- Limited taxi service
- Amtrak train station in town
- People feel safe, but community is still recovering from student murder at university
- Department of Public Safety visible (State Troopers) with office on main highway
- Border Patrol highly visible
- Alpine Police Department—single location
- EMS Alpine—provided by West Texas Ambulance Service—BLS/MICU
- City of Alpine Fire Department—single location—volunteer based
- Animal Control
- Humane Society

Crime Statistics
- Violent crimes per 1,000—0.51
- Property crimes per 1,000—7.75
- Total crime—6.52% violent; 93.48% property

Education/Recreation
- Public schools through high school
- Sul Ross State University
- Centralized park with soccer and baseball fields, play equipment, public pool, jogging trail
- Outdoor community theater/movie theater
- Arts based community, many public murals and art exhibits throughout town

Health and Social Services
MEDICAL
- Primary and Mental Health shortage designation
- Big Bend Regional Medical Center is a 25-bed critical access hospital that serves the three county area. It is over 200 miles away from the nearest acute care hospital
- Presidio County Family Health Services (primary care, obstetrics, behavioral health, dental care)
- Alpine Medical Center (primary care)
- West Texas Medical Clinic
- 1 Doctor of Osteopathy (medical office/family practice)
- 2 Doctors of Chiropractic
- 1 Acupuncturist

COMMUNITY
- Community Center—subsidized day care and after school care
- Family Crisis Center of Big Bend—support and counseling to survivors of family violence, abuse, sexual assault, violent crime
- Retirement community—only Section 8 housing and apartment homes
- Nursing Facility—CLOSED
- Section 8 Housing Authority
- Sunshine House—senior citizen center, Meals on Wheels
- Yoga Clinic
- Alpine Food Pantry
- Texas Health Department (Region 9) – administered from El Paso
- Texas Workforce Commission

Strengths/Weaknesses
- STRENGTHS
  - County seat; all medical services are in the town for the county; high community involvement and spirit; significant natural amenities and great climate; high community activity promotion
- WEAKNESSES
  - Isolated from larger health and government support; lack of public transportation; high uninsured rate for adults; high amount of population lives in poverty; underemployment

*References available upon request
Flagstaff, Arizona Community Health Needs Assessment

Ajla Mujezinovic, PharmD. Candidate Class of 2021
The University of Arizona College of Pharmacy – Tucson, Arizona

Background and Introduction

Objectives:
The purpose of this Community Health Needs Assessment is to identify and evaluate the needs and concerns of the Flagstaff, Arizona community.

Description of the Community:
- Flagstaff, Arizona is a rural city located in Coconino County, the second largest county in the U.S.
- It is located about 250 miles north of Tucson and 250 miles east of Las Vegas.
- Population: 71,975 (cite US Census)

Geographic Location:

Methods

Data Collection Process
Primary:
- The windshield survey was completed from July to August 2018.
- Observations were made while visiting different locations during the time spent in Flagstaff.
- Interviews were conducted with community members and healthcare providers at North Country Health Care.

Secondary:
- Data was obtained through local, state, and national channels such as the City of Flagstaff website, the Arizona Department of Health Services, U.S. Census Bureau, Arizona Health Matters, and previous community health needs assessments.

Demographics

<table>
<thead>
<tr>
<th></th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons under 5 years</td>
<td>5.3%</td>
<td>6.2%</td>
<td>6.1%</td>
<td></td>
</tr>
<tr>
<td>Persons under 11 years</td>
<td>18.7%</td>
<td>23.3%</td>
<td>22.6%</td>
<td></td>
</tr>
<tr>
<td>Persons 18-64 years</td>
<td>52.2%</td>
<td>53.4%</td>
<td>56.7%</td>
<td></td>
</tr>
<tr>
<td>Persons 65 years and over</td>
<td>26.8%</td>
<td>17.1%</td>
<td>15.6%</td>
<td></td>
</tr>
</tbody>
</table>

Community Needs
- Affordable housing
- Access to care/specialties
  - Insurance
  - Cost
  - Provider trust
- Transportation
- High suicide rates substance use among teens and young adults
- Chronic disease management

Results

Prevention and Health Promotion

Flagstaff Medical Center:
- 267 bed, Level I Trauma Center
- Services include: cardiovascular, emergency, neurosciences, oncology, radiology, and surgery, along with a neonatal intensive care unit, and pediatric intensive care unit.

Other Healthcare Options:
- 18 licensed pharmacies
- 2 skilled nursing facilities
- 3 home health agencies

Facilities:
- 10 elementary schools, 2 middle schools, 2 high schools, 5 charter schools, Northern Arizona University, Coconino Community College
- Gyms and other community centers
- Flagstaff Urban Trail System
- Several parks
- Libaries
- Grocery stores

Contact Information
Ajla Mujezinovic
mujezinovic@pharmacy.Arizona.edu

References
1. Fast Facts about Flagstaff: https://www.flagstaffarizona.org/media/fast-facts/
2. Arizona Health Matters: Coconino County

TABLE 1. PERCENTAGE OF AGES IN FLAGSTAFF, ARIZONA AND THE U.S.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons under 5</td>
<td>5.3%</td>
<td>6.2%</td>
<td>6.1%</td>
<td></td>
</tr>
<tr>
<td>Persons under 11</td>
<td>18.7%</td>
<td>23.3%</td>
<td>22.6%</td>
<td></td>
</tr>
<tr>
<td>Persons 18-64</td>
<td>52.2%</td>
<td>53.4%</td>
<td>56.7%</td>
<td></td>
</tr>
<tr>
<td>Persons 65 and over</td>
<td>26.8%</td>
<td>17.1%</td>
<td>15.6%</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 2. PERCENTAGES OF RACE/ETHNICITY IN FLAGSTAFF, ARIZONA, AND THE U.S.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alone</td>
<td>75.6%</td>
<td>83.1%</td>
<td>76.6%</td>
<td></td>
</tr>
<tr>
<td>Black or African American alone</td>
<td>2.6%</td>
<td>5.0%</td>
<td>13.4%</td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan Native alone</td>
<td>10.1%</td>
<td>5.3%</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>Asian alone</td>
<td>2.6%</td>
<td>3.5%</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>19.3%</td>
<td>33.4%</td>
<td>18.1%</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 3. PERCENTAGE OF RENTERS PAYING 35% OR MORE OF THEIR GROSS INCOME FOR RENT

<table>
<thead>
<tr>
<th>Renters % of Income</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>41.1%</td>
<td>35.0%</td>
<td>47.3%</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 4. MORTALITIES IN COCONINO COUNTY, ARIZONA AND THE U.S.

<table>
<thead>
<tr>
<th>Mortality</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity (Flagstaff)</td>
<td>21%</td>
<td>25%</td>
<td>28%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>34.4%</td>
<td>43.4%</td>
<td>44.6%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>43.3%</td>
<td>49.9%</td>
<td>55.0%</td>
</tr>
<tr>
<td>STIs/Chlamydia</td>
<td>753.4/100,000</td>
<td>511.5/100,000</td>
<td>497.3/100,000</td>
</tr>
</tbody>
</table>

TABLE 5. SUICIDE RATES IN FLAGSTAFF

<table>
<thead>
<tr>
<th>Suicide Rate Per 100,000</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.5</td>
<td>14.5</td>
<td>13.5</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 6. INCOME AND POVERTY

<table>
<thead>
<tr>
<th>Income and Poverty</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>$50,667</td>
<td>$50,667</td>
<td>$50,667</td>
<td></td>
</tr>
<tr>
<td>Poverty</td>
<td>25.8%</td>
<td>22%</td>
<td>22%</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 7. DRUG AND ALCOHOL USE AMONG 12TH GRADERS

<table>
<thead>
<tr>
<th>Drug/Alcohol Use</th>
<th>Flagstaff</th>
<th>Coconino County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Use</td>
<td>35.9%</td>
<td>22.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco Use</td>
<td>21.8%</td>
<td>19.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>35.5%</td>
<td>22.5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Community Health Assessment of Eloy, AZ

Mercy Omijie, BSN, RN, PMHNP-DNP Candidate

Purpose

- To overview and assess the strength and weakness needed to improve the overall health of the community

Background

- The community was named "Eloy" after Southern Pacific Company built the first railroad and added sidings and section house in the late 1880s (Eloy, 2015)
- Eloy served as a regional trade center for agricultural economy in the 1900s and since then cotton helped the area grow (Eloy, 2015)
- Eloy has a footprint of American Indians, Spanish explorers and early western settlers (Arizona The Grand Canyon State, n.d.)

Community Characteristics

- Eloy is in Pinal County, located between Tucson and Phoenix, approximately 55 miles each way and borders span of 113.7 square miles (Eloy, 2015)
- Downtown Eloy is the heart of the city, and surrounding downtown is the City Hall, United State Post Office (USPS), water tower, park, police and fire stations
- Economic boundaries include downtown Eloy, new construction homes with middle-class status
- The rural area includes stand-alone older homes < 7 years old, desert lands, trees, and no clear boundary of where the community ends

Transportation & Communication

- Average mean travel time to work is 23.3 minutes (USCB, 2018)
- No public transportation and people get around via privately owned vehicles, bikes, and or by walking
- Common communication areas include USPS, library, veteran center

Values & Beliefs

- The churches vary of different protestant and are spread out throughout the region

Politics, Government & Economics

- Mayor Joel G. Belloc, Vice Mayor Micah Powell along with five others councils, serve as members of Eloy City Council
- Presidential election 2016: 56.3% republican & 37% democrat (City-Data, 2019)
- Estimated median household income is $31,480 compared to Arizona $53,558 (City-Data, 2016)
- The unemployment rate in Eloy is 6.6% compared to Arizona 6.4% (City-Data, 2018)
- Eloy economics focused on agriculture, industrial, wholesale/retail trade and service sectors (AZ Commerce Authority, 2018)
- The city has major five major truck shops along I-10 and four prisons facilities operated by CoreCivic (AZ Commerce Authority, 2018)

Education & Crime Rate

- High school graduate is 65.8% while, bachelor’s degree is 7.7% (USCB, 2018)
- Eloy has one elementary school, three high schools and other intermediate or alternative schools (City-Data, 2016)
- Colleges and Universities are about 35 miles outside of Eloy (City-Data, 2019)
- In 2015, the crime rate was 285.1, compared to the United State average of 273.6; this is considered high (City-Data, 2019)

Health & Social Services

- Sun Life Family Health Center (SLFHC) is the only medical and behavioral facility within the City of Eloy (Eloy, 2015)
- The closest hospital and emergency room are Banner Casa Grande Medical Center, about 16 miles away from Eloy (Google Map, n.d)
- A drug and rehab center called River Source Integrative Recovery is about 9.4 miles away from Eloy (Google Map, n.d)

Natural Amenities & Recreational

- Central main street park appears to be the most popular and the other park listed include Jones Park, Shumway Park and Trekkell Park (Eloy, 2015)
- Other recreational centers includes a sky diving facility, museums, golf courses, archery range, rodeo stadium, and fitness and racquet
- Picacho Peak State Park is located about five miles south, Casa Grande Ruins National Monument is located approximately 15 miles north of Eloy, and Ironwood Forest National Monument is about eight miles southwest of Eloy (Arizona Commerce Authority, 2018)

Perception

- Strength: Residents have access to multiple recreational centers, restaurants and one hotel for family and friends to stay when they visit
- It is home to one of the nations largest skydiving open fields in America and proves to be a capable attraction for thrill-seeking visitors
- Weakness: Eloy has a high crime rating driven by low employment. The city has no public transportation for the masses and limited healthcare facilities that lack hospital beds. Residents must drive to the neighboring town of Casa Grande for inpatient treatment

Conclusion

- Eloy’s economic and political infrastructure can benefit from improvement initiatives that prioritize revitalizing the once agriculturally rich city
- Securing strong, reliable business establishments that can provide residents with employment opportunities is a must
- Steady employment will provide an alternative to desperate, illegal actions and positively impact the high rates of burglary and theft seen
- Such changes will only increase Eloy’s economic money circulation but also elevate the entire town’s market value
- Improved public services such as community parks, local hospitals, and youth centers are natural byproducts of such market value paradigm shifts to further encourage community growth

References Available Upon Request
Community Health Assessment of Benson, AZ

Isabel Rose (Izzy) Paulk PharmD Student Class of 2021
The University of Arizona College of Pharmacy, Tucson Campus

BACKGROUND AND INTRODUCTION

Objective: To evaluate the health needs of Benson, AZ.

Community Description
• Established in 1880
• Home of the Karchner Caverns State Park and a historical Railroad town 45 miles southeast from Tucson, off highway 90.
• Benson surrounds other cities: Vail, Vail, Huachuca City, Sierra Vista, Tombstone, St. David, Dragoon and Wilcox which are all part of Cochise County.

Demographics
• Population estimate: 4,974 in 2016
• Median Age Distribution: ~56 years old
• Race/Ethnicity: Education: Pre-K, K-12, Cochise Community College, UofA South Campus

RESULTS

Top Causes of Death and Reasons to Seek Healthcare:

Housing and Economy
• Average household income: $30,010 with an average of two car ownership in 2016.
• Median property value: $83,600
• Poverty rate: 24.8% and ~ 1,440 employees.

Crime
• Minimal in Benson. Most crime reported: destruction of property, thefts, auto thefts and burglaries. Over time, rape has increased and retrospectively decreased.

Access to Healthcare:
Residents in Benson have limited healthcare options. Majority of residents utilize: Sliding fee discount program, Medicare, Medicaid, AHCCCS, pay out-of-pocket.

Example of Healthcare Services:
• Acute, wound and critical care
• Specialties: cardiology, podiatry, kidney, midwifery, orthopedic, surgery
• Hospice
• Substance Abuse
• Behavioral Health
• Family Planning
• Workshops/Support Groups
• Immunization walk-in clinics

Natality & Teen Pregnancy:

Table 2: 2017 Economic Outlook Data on current resident’s educational background.

LIMITATIONS

• Limited use of technology and social media.
• Traveling healthcare providers and healthcare staff
• Close knit community creates barrier to communicate.
• Business hours of operations.
• Lack of reporting data (crime, health, etc.), lack of up-to-date data.

INTERVENTION OPPORTUNITIES

COMMUNITY HEALTH CONCERNS

Priority Health Concerns Ranked by Community Residents and Members:
1. 30-45 minute commute south or west to nearest after hour clinic. See figure 6.
2. Lack of healthcare providers/specialties.
3. Limited use of technology and social media.
4. Traveling healthcare providers and healthcare staff.
5. Close knit community creates barrier to communicate.
7. Lack of reporting data (crime, health, etc.), lack of up-to-date data.

METHODS

The community health assessment was conducted over the course of 4 weeks between June 2018 to July 2018. Information about Benson, AZ was obtained through:
• Windshield surveys
• Interview with healthcare providers and community members
• City and County health reports
• U.S. Census Bureau

REFERENCES


ACKNOWLEDGEMENTS

I would like to thank providers, organizations, and residents in Benson, AZ, my preceptor’s at the Medicine Shoppe Dr. Marie Trepamer (RPh) and Dr. Scott Nayerson (PharmD) for making my JPP rotation a one of kind learning experience. I would like to acknowledge my professor Dr. Elizabeth Hall-Lipsy (JD, MPH) for guidance on this project. I would like to thank my classmates, friends, and husband, for editing and taking photos Lisa Le (PharmD 2021), Aaron Pearce (PharmD 2020), Joseph Spiriattile (CPhT, BS, MBA 2020), Valerie Huijar (BS, LNA, RN 2019), and Sergeant Dani Paulk. I would like to acknowledge my professor Dr. Elizabeth Hall-Lipsy (JD, MPH) for guidance on this project. I would like to thank my classmates, friends, and husband, for editing and taking photos Lisa Le (PharmD 2021), Aaron Pearce (PharmD 2020), Joseph Spiriattile (CPhT, BS, MBA 2020), Valerie Huijar (BS, LNA, RN 2019), and Sergeant Dani Paulk.

For more information please contact:
Isabel Rose (Izzy) Paulk PharmD Student Class of 2021
The University of Arizona College of Pharmacy, Tucson Campus
Background and Introduction

Nogales, AZ is a town located south of Tucson, AZ, and is considered a rural area due to its population of approximately 20,000. The purpose of the community assessment is to not only examine the conditions of the community and its residents but also to identify the resources that are provided and the health care needs that are lacking in the community. The pharmacy related or not. The community assessment will consist of observations, opinion surveys and utilization of secondary data sites such as the U.S. census bureau website. Identification of the community strengths and weaknesses will also be examined to determine if they may have some influence on the health needs identified.

History

• Santa Cruz County was founded in 1869 by Arizona's 20th territorial assembly and named after the Santa Cruz River.

• Located in Santa Cruz south of Arizona and border town with Nogales, Sonora, Mexico.

• First railroad connection established in the United States and Mexico was in Nogales, AZ in the early 1800s, therefore an important gateway for exportation and importation of goods via railroad/truck.

Demographics

• The average age is 33 years, with 15.6% of the population under the age of 65 years.1

• Nogales, AZ has had a 3.7% decrease in population from 2010-2017 and has a current population of 27,929.1

Geography and Climate

• Warm and winter temperatures range between 50°F-40°F.2

• Santa Cruz County was founded in 1899 by Arizona's 20th territorial assembly and named by father Anselmo de Kino.6

• Santa Cruz County, Arizona, (2018). Available at: https://www.santacruzcountyaz.gov.

Methods

Primary Data

Windshield Survey: On June 16th and 17th 2018 a windshield survey was conducted to observe the physical and demographic elements of Nogales, AZ and Nogales, Sonora, Mexico.

Key Informant Interviews: There was a total of 25 key informant interviews conducted from June 11, 2018 to July 1, 2018. 10 were from community members, 10 from healthcare professionals such as physicians, nurses and pharmacist and 5 were from individuals working the pharmacies in Nogales, Sonora, Mexico.

Secondary data: Most of the secondary data that was gathered using secondary sources such as the US census bureau, Arizona Health Status and Vital Statistics 2016 Annual Report, and Arizona Department of Health Services. These resources were mostly used to gather information pertaining to Nogales, AZ and how they compare to the rest of the state in order to access health outcomes and to identify the resources that are provided and the health care needs that are lacking in the community.

Abstract

Nogales, AZ has had a 3.7% decrease in population from 2010-2017 and has a current population of 27,929.1

The Primary language spoken at home is Spanish (86.6%) and English being secondary (12.7%).1

The top five leading causes of Death in Santa Cruz County were Cardiovascular Disease, Cancer, Unintentional Injury, Cerebrovascular disease and Diabetes.

The median household income is 27,929 isl.

The unemployment rate is of 15.10%, 5.10 greater than that of the state (10%).1,2,8

31.03% of the population is Hispanic.1

The average age is 33 years, with 15.6% of the population under the age of 65 years.1

• Nogales has 8 elementary schools, 2 middle schools, 2 High Schools and 1 Community College.3,4

• 28.6% of the population has High School Degrees which is higher than the state (24.3%).1,2,8

Community Health Assessment of Nogales, AZ

Victor Hugo Ruiz and Yolimar Perez, PharmD Candidates Class of 2021

University of Arizona College of Pharmacy, Tucson, AZ

Mortality and Morbidity

Table 1: Rate of Causes of Death per 100,000 persons, 4 year average 2012-2016

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Age Adjusted Rate</th>
<th>Age Adjusted Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>101.9</td>
<td>118.5</td>
</tr>
<tr>
<td>Cancer</td>
<td>87.5</td>
<td>71.4</td>
</tr>
<tr>
<td>Diabetes</td>
<td>64.7</td>
<td>85.4</td>
</tr>
<tr>
<td>Suicide</td>
<td>11.0</td>
<td>15.4</td>
</tr>
<tr>
<td>Infant Death</td>
<td>6.5</td>
<td>8.0</td>
</tr>
<tr>
<td>Infant Births</td>
<td>42.4</td>
<td>45.2</td>
</tr>
</tbody>
</table>

Determinants of Health

Table 2: Alcohol and Drug/Opioid cases per 100,000 person

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Rate of Causes of Death per 100,000 persons, 4 year average 2012-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol and Drug/Opioid cases</td>
<td>101.9</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>101.9</td>
</tr>
<tr>
<td>Cancer</td>
<td>87.5</td>
</tr>
<tr>
<td>Diabetes</td>
<td>64.7</td>
</tr>
</tbody>
</table>

Community Outreach and Support

La Vida Buena

• Education on Nutrition, Diet and Exercise

• Community outreach and promotion of services such as diabetes and asthma education, mental health services

• Empowering patients to ask questions, be involved in their care and most importantly education them not only about their disease state but also about how their medications will help them manage their disease state and improve quality of life.

• Improve communication by using translating services to resolve language barriers or utilize staff efficiently that may speak the native language.

References


Acknowledgments

I would like to thank the Nogales Community, Carondelet Holy Cross Hospital and Mariposa Community Health Center who participated in the key informant interviews and to Dr. Elizabeth Hall-Lipsy for providing guidance in this project.

For more information, please contact:

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Yolimar Perez: yperez@pharmacy.arizona.edu
Community Health Assessment of Three Points, Arizona

Phillip Stensrud, BSN, RN, DNP PMHNP Candidate Class of 2019

Community Background and Location

Rural Classification
Pima County Classification Codes:
- Pima County Population: 980,263 per 2010 US census data.
- Rural-urban continuum code: 2*
  *Metro county in metro area with 250,000 to 1 million population.
- Urban influence code: 2**
  **Small in a metro area with less than 1 million population.
- Natural amenities scale: 4.0
- Typology code: Metro, non-specialized, retirement destination.

Employment Health Insurance Sex
Civilian labor force: 47.4%
Medicare
85 y/o: 18.8% lack coverage
Female: 50.6%

Economy
Revenue Sources:
- Agriculture, locally-owned small businesses
- Overall unemployment: 16.8%
- Median household income: $36,419
- Est. commute: ~50 minutes
- Poverty: 29.1%

Education
School district: Altar Valley School District
Schools:
- Robles Elementary School
- Altar Valley Middle School
- Students transported to Flowing Wells HS
- High school graduation rate: 76.2%
- College graduation rate: 11.4% (Bachelor's degree or higher)

Recreation
Robles Junction Community Center
Equestrian arenas
Shaded playground & picnic areas
Basketball court
Buckelew Farm (annual pumpkin festival)

Physical Environment
46.42 sq. miles
2004 households
Avg. 2.72 people/household

Transportation & Safety
Located on AZ State Route 86 (Ajo Highway):
- Well maintained & shoulder/bike lane
- Greyhound Bus Station
- Popular cycling destination
- Residential areas:
- Mostly dirt roads with no sidewalks
- Safety management:
  - Three Points Fire Department
  - Pima County Sheriff Department

History
- Founded in 1882.
- Also called "Robles Junction" after founder, Bernabe Robles.
- Site to Historic Robles Ranch
  *Former one of the largest ranches (now used as the community center)
- Helped shape the development of:
  i. Cattle
  ii. Freighting
  iii. Mining
  iv. Travel industries in greater Tucson

Values & Beliefs
Churches:
- Catholic – 1, Presbyterian – 1, Lutheran – 1, Baptist – 4
- Pride of historic relevancy, off-the-grid living, rural/agricultural living

Politics & Government
Census-designated zone
- Regulated by Pima County

Health and Social Services
United Community Health Center
- Offers family practice and women's healthcare services.
- Family Nurse Practitioners on-site delivering holistic care.
- Lab draws done M/W/F before noon.
- Transportation service to appointment available.

Robles Junction Community Center
- After-school programs
- Community service
- Computer lab
- Public meetings
- Senior programs
- Pima-Tucson Library Bookmobile

Strengths
- Ease of accessibility from greater Tucson area.
- Strong sense of community with historic pride.
- Multitude of community resources available.
- Attractions that bring tourism (Buckelew Farm, Three Points Restaurant, Robles Junction Community Center).

Limitations
- Issues with drug abuse and crime (per resident report).
- Lack of public transportation and infrastructure off main road.

Recommendations
- Rural culture sensitive approach to mental health with community outreach measures.
- Reinforce and introduce additional screening for substance abuse at primary care level.
- Initiate tele-health services for special consultation and mental health needs.

References Upon Request
Community Health Needs Assessment of Avra Valley, Arizona

Victoria Towers BSN, RN  DNP-PhD Student

Demographics and Ethnicity
- Total population: 6,050 people
- Female: 45.3%
- Median age: 47
- Age 65+: 21.4%
- Veterans: 589 people

(U.S. Census Bureau, 2018)

Economy, Politics, and Government
- Designated as a CDP in 1970s
- Functions as a living community with easy access to the major interstate I-10 and the towns Marana, Tucson, and Oro Valley
- Land Area: 22.9 square miles
- Population density: 272.7 people per square mile
- Air Quality Index (AQI) in 2013: 132
- Marana Domestic Water Improvement District

(U.S. Census Bureau, 2018)

Classification
- FIPS Code: 04-04880
- Part of Pima County which has a Urban Influence Code and Rural-Urban Continuum Code of 2
  - This indicates a metro area with counties in metro areas of 250,000 to 1 million population
- Avra Valley is identified as a Census Designated Place (CDP)
  - Census Class Code: U1

(U.S. Census Bureau, 2018)

History and Physical Environment
- Designated as a CDP in 1970s
- Functions as a living community with easy access to the major interstate I-10 and the towns Marana, Tucson, and Oro Valley
- Land Area: 22.9 square miles
- Population density: 272.7 people per square mile
- Air Quality Index (AQI) in 2013: 132
- Marana Domestic Water Improvement District

(U.S. Census Bureau, 2018; City-data.com, 2019)

Values and Beliefs
- Avra Valley Community Church (non-denominational)
- Morning Star Bible Fellowship (Christian)
- English only spoken: 81.1%
- Veterans of Foreign Wars Post 5990
- No additional historical markers, cultural sites, or heritage information

(U.S. Census Bureau, 2018; Avra Valley Community Church, 2018)

Education and Recreation
- High school graduate level of education: 78.1%
- Roadrunner Elementary School (Title 1 eligible)
  - The graduation rate is 70.6% and the dropout rate is 3.3%
  - 66.8% of students are eligible for either reduced or free lunch
- No community parks aside from school property

(U.S. Census Bureau, 2018)

Transportation and Safety
- Mean travel time to work: 43.5 minutes
- Personal vehicle most common form of transportation
- There are 20 reported sex offenders in the CDP
- Most common crimes pertain to quality of life including possession of drugs and disorderly conduct/disturbances
- Avra Valley Fire District Station 191; Marana Police Department; Pima County Sheriff Department

(U.S. Census Bureau, 2018; Crime Reports, 2019)

3 Strengths:
- Presence of local Fire/EMS services
- Relatively nearby gamut of health services provided through the town of Marana
- Relatively accessible area due to no mountain ranges and all houses and buildings were one story, which aids the 24.8% of the residents under 65 years old who have a disability

(U.S. Census Bureau, 2018)

3 Limitations:
- Lack of immediate local health services that are accessible and convenient
- Lack of supportive health promotion such as grocery stores, community areas to gather, sidewalks, or other recreational areas
- Lack of geographically centralized center for health information and education

3 Recommendations:
- Build local grocery store/market so residents have access to healthy food options at an affordable price without travel
- Create satellite local health clinic to serve as a triage site for residents and refer to remote sites as necessary
- Create community recreational areas that support physical activity such as a bike path or nature park with walking paths

References available upon request.
Community Assessment of Florence, Arizona

Jasmine Wanders, BSN, RN DNP-Psychiatric Mental Health Nurse Practitioner Candidate, Class of 2019

Introduction

Florence Arizona was established in 1866. Prior to its annexation as part of the Gadsden Purchase, it was the home of the Athabascans, ancestor of the San Carlos Apache tribe Indians. The Town of Florence is the sixth oldest settlement in the state of Arizona. It is located 45 minutes for Phoenix and 45 minutes from Tucson. There are three major transportation corridors that run through Highway 287, Highway 79 and Hunt Highway. There is a mixture of Native Americans, White, Hispanic and Black residents Florence has a Rural-Urban Continuum Code of 1 and a UIC code of 1 for Pinal County area, for Metro county with a population of 375, 770. The town of Florence has a population of 25, 536.

Objective: To conduct a community health assessment in a rural city, assess strengths, limitations and suggest recommendations.

Method: Primary: Windshield survey with photographs and interview with local citizens who have lived in the area more than 10 years but less than 30 that have lived in Florence, Arizona. Secondary: Data collection from the U.S. Census bureau and other online sources.

Results:

<table>
<thead>
<tr>
<th>Geography</th>
<th>Health</th>
<th>Males/Female</th>
<th>Income/Poverty</th>
<th>Families/Living Arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land in square miles in 2010: 52.45</td>
<td>Those without health insurance under age 65-12.5%</td>
<td>Those under age 5-2.2%, under age 18-9.9%</td>
<td>Per capita income in past 12 months-$13,084</td>
<td>Persons per household (2017): 2.43</td>
</tr>
<tr>
<td>Those over age 65-23.6%</td>
<td>Persons in Poverty-14.6%</td>
<td>Language other than English spoken at home-34.9%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

White alone 11,101 40.2% Hispanic 1,341 4.9% Black alone 864 3.1% American Indian alone 333 1.2% Two or more races 172 0.6% Asian alone 91 0.3%

6,954 597 per 100,000 429 per 100,000 compared to the U.S. average of 483 per 100,000

Major Depression
\# of people per one doctor
Teen Pregnancy
Physically inactive
Substance Abuse
Alcohol
Tobacco
Drugs

4.6%
5.6%
65 per 1000
26.7%
3.1%
17%
5.6%

Community Concerns:

Health and Social Services
Fast Med Urgent care, Banner Casa Grande Hosp is 45 minutes away, Banner Ironwood Hosp is 35 minutes away, Behavioral Systems Southwest

Transportation and Safety
Need a ride Az taxi & ambulatory services, Hoffman flatbed transport, Florence police department.

Education
Preschools: 5, Elementary schools: 5, Middle Schools 4, High Schools-4

Recreation
3 public parks, 1 aquatic center, 1 little league park, library and community center, senior center, Fitness center

Media
Florence Reminder Blade and Tribune

Strengths of the Community
Historic Western town, St. Anthony’s Monastery, Small town, close family, Hiking, Camping

References:
- Town of Florence 92019): www.florenceaz.gov/town-history.c/
- U.S. Census Bureau (2010): http://www.census.gov/quickfacts/facts/florencetownarizona/PST120217
Community Health Assessment of Maricopa Arizona
Kayode Wemimo RN, BSN, PMHNP-DNP (Student)

Introduction/Background

Maricopa History and Physical Environment
- Maricopa is one of the oldest and most historic communities in the state of Arizona from industrial to farmland.
- Maricopa is surrounded by beautiful mountains of Sierra Estrellas, Palo Verde, Saddleback and Haley hill.
- 1800: Center base of the immigrant crossing Arizona to California.
- 1850-1860s: First organized semi public transportation in Arizona.
- 1870: First to provide water, food for travelers travelling from east-to-west and north.
- 1879: Create Southern Pacific and Maricopa and Phoenix railroad.
- 1919: Flooded multiple time, railroad redirected from Picacho to Phoenix.

- 1948-1960: Maricopa grew in farmland; variety of crops including alfalfa, peas, melons, citrus, and pecans.
- 2003: Incorporation, the 88th city in Arizona.
- 2003: Census listed Maricopa with population 1040.
- 2005: Fastest growing city in America; Population 15, 934.
- 2007: Population of 45,473 people with a median age of 34.8 and a median household income of $68,888.
- Economy: Agriculture, Forestry, Fishing, Hunting; Arts, Entertainment, Recreation; and Finance & Insurance.

Methodology: Maricopa Windshield Survey
- Information obtained from Council CIO.
- Electronic Acquisition.
- Result:
- Printed: 01/03/2019 6:49 AM.
- Number of Registrants Registritant Status.
- Party ACTIVE Grand Total.
- C DEMOCRATIC 55372 55372.
- 2 LIBERTARIAN 1630 01630.
- 3 REPUBLICAN 74062 74062.
- 4 GREEN 00305 00305.
- 9 Other 75573 75573.
- Grand Total 206942 206942.
- Maricopa Classification (2018).
- Pinal County.
- Maricopa Population.
- currently 45,473 people. 95.4% of the population are citizens.
- AZ composed 25,462 White residents (56%), 11,091 Hispanic residents (24.4%), 4,814 Black residents (10.6%), 1,805 Asian residents (3.97%), and 1,235 Two+ residents (2.72%).

Economy, Recreation, Strength and Weakness
- In 2015 to 2016, employment in Maricopa grew at a rate of 1.41%.
- Median household income: $68,888.
- The most common job, groups by the number of people living in Maricopa, AZ, are Business, Management, Science, & Arts, Sales & Office, and Service.
- There is one Walmart, one Fry's store, one Bashas store, one CVS store, Five gas station.

Poverty by Race & Ethnicity in Maricopa is 8.02%,
1. White 2,648 ± 570
2. Hispanic or Latino 891 ± 328
3. Black or African American 605 ± 264
Recreation
Community center in Maricopa functions as common area with multiple entertainment and other resources.

Strength
Strong sense of community with historic pride.
Limitations:
Issues with drug abuse and crime (per resident report).
Lack of essential health services: acute care, mental healthcare, specialty services, palliative/hospice care, rehabilitation services.
Lack of public transportation and infrastructure off the main road.
Recommendations
- Rural culture-sensitive approach to mental health with community outreach measures.
- Reinforce and introduce additional screening for substance abuse at the primary care level.
- Initiate telehealth services.
References: Available upon request.
Cornville, Arizona: Community Health Assessment

Summer Tanner Williams MSN, WHNP, PhD/DNP/PMHNP student

Background:
- Rural Americans may experience an increased risk for health disparities (Rural Health Information Hub, 2019)
- Cornville, AZ: Population 3,752 (AZ Home Town Locator, 2019)
- Early 1800s white settlers migrated to the area with their pioneer spirit (Arizona Vacation Guide, 2014)
- Established in 1885 as an unincorporated community (Cornville Historical Society, 2019)
- 13.16 square miles, 3,314 feet elevation (AZ Home Town Locator, 2019)
- Surrounding Cottonwood, Sedona, Camp Verde and Rim Rock in northern Arizona

Methods:
- Windshield survey over the course of three days
- Discussion with seven locals, varying in 3-29 years of residence
- Online data collection

Results:

Demographics:
- Median resident age: 57.6 years (City-Data.com, 2019)
- Males: 1,543 (47.1%); Females: 1,737 (52.9%) (City-Data.com, 2019)
- 99.24% Caucasian (Areavibes, 2019)
- 91% speak English; 7% speak Spanish (Areavibes, 2019)
- Families with kids under 18: 16% of the community (Areavibes, 2019)
- Never married (18.8%), currently married (55.1%), separated (2.0%), widowed (13.6%), divorced (10.5%) (City-Data.com, 2019)
- Two churches, Baptist and Lutheran
- Many own cattle, horses, chickens etc.; gardens and fruit trees throughout
- Published authors and noted artists

Economy, Politics & Government:
- Increased growth and home values (average $368,117) (AZ Home Town Locator, 2019)
- Median household income: $60,455 (United States Census Bureau, 2017)
- Unemployment rate in 2015: 5.6% (City-Data.com, 2019)
- Employment limited in town, many commute
- Cost of living index: 4% higher than AZ state (Areavibes, 2019)
- 7.91% work from home (Geostat, 2019)

Education & Recreation:
- High school diploma or higher (86%); Bachelor's degree or higher (24.2%); Graduate or professional degree (11.4%) (City-Data.com, 2019)
- High school graduation rate 5% lower than AZ average (Areavibes, 2019)
- Nearest college, Yavapai College, 34 miles away (City-Data.com, 2019)
- Two elementary schools (K-8) (City-Data.com, 2019)
- Several wineries and vineyards
- Golf course
- Eliphante, three acres of sculpture and art, began in 1979 (City-Data.com, 2019)
- Oak Creek activities include kayaking, swimming, fishing
- Windmill park
- Off-roading and hiking/biking trails

Wellness/Healthcare/Services:
- 8.2% of residents without health insurance (United States Census Bureau, 2017)
- Average BMI: 28.3% (City-Data.com, 2019)
- Average hours of sleep a night: 6.9 (City-Data.com, 2019)
- Life expectancy: 77.8 years (Geostat, 2019)
- No primary care, urgent care, EMS services, pharmacies, mental health services, home health agencies, hospitals, or counseling services in Cornville; all located in nearby cities, minimum 8 miles away, depending on service (The Real Yellow Pages, 2019)

Conclusions

Strengths:
- Clean water & air with many outdoor activities, wineries and vineyards
- Increasing tourism and economy, low crime rates (Areavibes, 2019)

Limitations:
- Lack of affordable housing, no public transportation, nearly all health care needs met outside of town (Geostat, 2019; The Real Yellow Pages, 2019)

Future Implications

Recommendations:
- Use of public transportation; implementation of a bus route to Cottonwood, AZ
- Urgent care within town limits to meet the needs of older population, risks of outdoor activities and increasing tourists
- Pharmacy services within town limits

References Available Upon Request
Introduction
- Espanola, New Mexico is a rural city located in northern New Mexico with a population of 10,138 in Rio Arriba County
- Settlement began in 1200 CE from migration of Ancestral Pueblo people and their descendants, the Tewa people
- Many residents work for Los Alamos National Laboratories
- Mixture of Native American, Hispanic and White residents
- Spanish arrived 1598, U.S. government arrived in 1864

Objective
To conduct a community health assessment in a rural city, assess strengths, limitations and suggest recommendations.

Methods
Primary: Windshield survey with photographs and interview with a nurse who has lived an worked in Espanola his entire life.
Secondary: Data collection from U.S. Census and online sources.

Results

### Health

<table>
<thead>
<tr>
<th></th>
<th>Espanola</th>
<th>New Mexico</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>With a disability, under age 65, percent, 2010</td>
<td>11.9%</td>
<td>10.3%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Persons without health insurance, under age 65, percent</td>
<td>22.0%</td>
<td>12.8%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

(United States Census Bureau, 2018)

### Age and Sex

<table>
<thead>
<tr>
<th></th>
<th>Espanola</th>
<th>Rio Arriba</th>
<th>New Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females under 5 years, percent, 2010</td>
<td>8.2%</td>
<td>6.7%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Females under 18 years, percent, 2010</td>
<td>26.5%</td>
<td>24.6%</td>
<td>25.2%</td>
</tr>
<tr>
<td>Females 65 years and over, percent, 2010</td>
<td>13.2%</td>
<td>14.1%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Female persons, 2010</td>
<td>52.0%</td>
<td>50.6%</td>
<td>50.6%</td>
</tr>
</tbody>
</table>

(United States Census Bureau, 2018)

### Income & Poverty

<table>
<thead>
<tr>
<th></th>
<th>Espanola</th>
<th>New Mexico</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Capita Income in past 12 months, 2010</td>
<td>$19,186</td>
<td>$24,459</td>
<td>$29,829</td>
</tr>
<tr>
<td>Persons in Poverty, Percent</td>
<td>32.1%</td>
<td>19.8%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

(United States Census Bureau, 2018)

Community Resources
- Presbyterian Espanola Hospital (PEH) is a non-profit, serves Espanola, Taos, Los Alamos and surrounding areas. The ER sees over 100 people daily
- PEH has 26 Medical-Surgical beds, 8 ICU beds and 8 OB beds
- PEH has a same day urgent care clinic and a medical group
- One nursing home, Espanola Valley and Nursing Rehabilitation
- Social services include Income Support Division, Rio Arriba Resource and Development, Tewa Women United
- Rio Arriba Senior Center, Big Brothers Big Sisters of NM, and Life Link provides homeless services
- Recovery programs include May Recovery Program, Delaney Street Foundation

Transportation and Safety
- North Central Regional Transit District (NCRTD) started in 2007, free transit service that covers 10,079 square miles
- 2014 FBI statistics ranked Espanola as having the highest rate of violent crime in New Mexico
- 30 police officers work for the Espanola Police Department, the New Mexico State Police department, and the Rio Arriba County Sheriffs Department

Education
- 6 public elementary/middle schools, 3 private high schools, 2 public high schools, local college, Northern New Mexico College with 1,226 students

Recreation
- Two parks, 2 libraries, and one recreational center with a pool

Strengths and Limitations

Strengths of the Community
- Cultural resiliency of area pueblos
- Pride in the history of the area by various cultures
- Strong family ties
- Community looking forward to a Lowrider Museum, as Espanola is also known as the Lowrider capital of the country

Limitations
- 2015 FBI Crime ranking, drug trafficking and overdose continues to be a community problem
- Grandparents are raising their grandchildren, social services are needed to support both grandparents and the children
- Mental health services are needed to address the addiction issues and the aftermath inflicted on families from generational trauma
- Telepsychiatry could address lack of mental health providers
- Need for inpatient and outpatient treatment centers for substance use disorders
- Need for incentives for healthcare professionals

References available upon request; Contact: tiffinnmzellers@email.arizona.edu
**BACKGROUND**

- One billion people in the world live without electricity.
- More than four billion have no reliable access to internet.
- South Pacific island nation of Vanuatu is near Australia (pop: 276,000).
- Nearly 80% live in rural areas with no electricity or internet connectivity.
- Minimal health knowledge, health education, or health information.
- Extreme remote living conditions: dirt roads, no running water, sewers etc.
- Extreme weather conditions: Cyclones, torrential rains, high heat & humidity.
- Only 1 physician per every 3000 people (2019) (In US 1 physician per 500).
- One billion people in the world live without electricity.
- Nearly 80% live in rural areas with no electricity or internet connectivity.

**PURPOSE**

Apply an innovative technology to deliver health information to improve health outcomes in remote & resource challenged areas of Vanuatu.

**SAMPLE**

A random sampling of adult (≥19 years of age) indigenous participants (N=64).

**SETTING**

A small health facility & local villages of Atchin & Lamap on the island of Malekula, Vanuatu.

**STAKEHOLDERS**

- Citizens of Vanuatu.
- Ministry of Health Vanuatu.
- SolarSPELL.
- Peace Corps Volunteers (PCV).
- ASU.

**METHODS**

1. Permission was obtained from the Ministry of Health in Vanuatu.
2. Permission obtained from SolarSPELL as well as IRB approval from ASU.
4. A blood pressure was obtained by local community healthcare worker with a portable BP cuff.
5. 3-minute whiteboard video on blood pressure prevention & management was shown to participants.
6. 2 to 4 weeks later a follow-up blood pressure was obtained.

**INTERVENTION**

A 3-minute whiteboard video in common language of Bislama to educate on the prevention and management of hypertension.

**STUDY CHALLENGES**

- Many weeks of torrential rain and threatening cyclone.
- Weather prevented collection of post-intervention data in Lamap.
- Dirt roads in poor condition.
- Lack of reliable transportation.
- High heat & humidity.
- Rugged conditions & burdensome daily tasks for rural Vanuatu residents.
- Low literacy rates among participants.
- Some participants travel many hours to participate.

**RESULTS**

**SIGNIFICANCE**

- 20% had normal pre-systolic BP (<120mmHg).
- 19% had elevated pre-systolic BP 130-139 mmHg.
- 14% had elevated pre-systolic BP ≥140mmHg.
- 47% had hypertension (C) pre-systolic BP >160mmHg.

**LIMITATIONS**

- Small sample size (N=64).
- Only 64% followed up on PCV’s participants.
- 70% lost to follow up (n=12) due to severe weather.
- Few other demographic data obtained.

**IMPLICATIONS**

- Healthy 80% of all participants had SBP outside of the normal range confirming that this is a significant problem in this impoverished area.
- The findings are also clinically significant in the published evidence for anticipated outcomes with successful implementation.
- This suggests an approx. 45% stroke risk reduction, even in this extension level of health care.
- Further study is warranted with a larger sample population.
- The SolarSPELL project provides the potential for an isolated area even in the United States, such as some remote former American Indian, where travel can be dangerous.

**STUDY](http://www.solarspell.org)**

For more information:

Emily Blau (602) 436-4477

blauemily@yahoo.com

and SolarSPELL.org

<table>
<thead>
<tr>
<th><strong>IMPLICATIONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy 80% of all participants had SBP outside of the normal range confirming that this is a significant problem in this impoverished area.</td>
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</tbody>
</table>

**THANKS**

Thank you to the Peace Corps Volunteer, Eric’s wife, Kathy’s sister, and the entire SolarSPELL team, the Walton Global Scholarship, all of our PCV workers, & especially to the people of Vanuatu…who are the happiest people I know.

A special thank you to Dr. Laura C. Rohan and the entire SolarSPELL team, the Walton Global Scholarship, all of the post and present United States Peace Corps Volunteers in Vanuatu, the community healthcare workers, & especially to the people of Vanuatu…who are the happiest people I know.

A special thank you to the Arizona State University College of Nursing and Health Innovation, which allowed for the extension length of stay in country which deeply enriched my nursing education & this project.
Exploring the role of the pharmacist in administrating the HPV vaccine: Caregivers' views

Lauren Dominick, MS4, University of Arizona College of Medicine – Phoenix; Alexis Koskan, PhD, Arizona State University, College of Health Solutions

Background

Human Papillomavirus (HPV) and the Vaccine

- HPV is the most common sexually transmitted infection.1
- HPV causes cervical, vaginal, vulvar, oropharyngeal, anal, and penile cancers.1
- Gardasil 9, the HPV vaccine, protects from 7 cancers.
- The vaccine is recommended for 2-18 years and 45-64 years.
- HPV vaccination rates are lower in rural areas.6
- Pharmacies are recommended for HPV vaccination.
- The U.S. is far from reaching the goal of 80% HPV vaccination rates.

Methods

- Research team recruited rural caregivers of HPV vaccine age-eligible children
- Study fliers posted at libraries
- Study participants received $20 Walmart gift card

Data Analysis

- Inductive approach
- Iterative approach to creating a coding guide
- Co-created coding guide
- Met to expand/collapse items on guide
- Analyzed 1 interview together, 3 separately
- Met to discuss coding discrepancies

Results: Participant Demographics (n=26)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Education</th>
<th>Income (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>High school graduate: 3</td>
<td>Less than 25,999: 7</td>
</tr>
<tr>
<td></td>
<td>College graduate: 7</td>
<td>26,000-51,999: 7</td>
</tr>
<tr>
<td></td>
<td>Some college: 6</td>
<td>52,000-74,999: 8</td>
</tr>
<tr>
<td></td>
<td>School: 5</td>
<td>More than 75,000: 3</td>
</tr>
<tr>
<td></td>
<td>Undergraduate/Technical/Vocational: 1</td>
<td>Don't know: 5</td>
</tr>
<tr>
<td></td>
<td>Postgraduate degree: 4</td>
<td>Decline to say: 1</td>
</tr>
</tbody>
</table>

Results: Qualitative Findings

<table>
<thead>
<tr>
<th>THEME</th>
<th>SUPPORTING QUOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness for pharmacist to vaccinate children against HPV</td>
<td>&quot;If I knew that they were qualified for it and had all the certifications and everything like that, I wouldn't see why not?&quot; (Caregiver 13)</td>
</tr>
<tr>
<td>Reasons for &amp; against pharmacist vaccinating children</td>
<td>&quot;I don't know…It just feels more comfortable [receiving vaccines] with their doctors because their records are already there. I don't have to worry about not having records and me forgetting to give [the doctor's official] the information that I got and what they say was shot...&quot; (Caregiver 17)</td>
</tr>
<tr>
<td>Health education preferences</td>
<td>&quot;I think the generation uses Facebook a lot. Which are—we have older—younger, people have kids younger in this area. So you're looking in this 30 to maybe 50 age range as far as being parents of kids that need the—HPV vaccine. Most use Facebook, some use Instagram or Snapchat, I would say anything that has to do with things like community pages. We have—we're just thinking Facebook particularly. Community pages, Health Department, school pages, things like that. And just events, even, would be a good fit.&quot; (Caregiver 10)</td>
</tr>
</tbody>
</table>

Discussion

- Many caregivers unaware that children can receive HPV vaccine at pharmacy.
- Pharmacies complete a training program to administer vaccines.
- By law, immunization records must be sent by pharmacy to PCP.
- "Convenience" was main rationale for receiving HPV vaccine at pharmacy.
- Barriers to HPV vaccine initiation:
  - Lack of knowledge
  - HPV as only women's health issue
  - Religion
- Facilitators of HPV vaccine initiation:
  - Protect children from HPV infection/cancer
  - Education about benefits and protection offered by vaccine
- Education preferences:
  - Print (flyers/brochures)
  - Online (websites and social media)
- Distributed HPV vaccine information must be:
  - From a reputable source
  - Easy to understand
  - Include benefits and potential risks

Conclusions

- Pharmacist-administered vaccine programs could be an acceptable way to promote HPV vaccine completion.
- Results mitigate fear that adolescents will not be seen for preventative care if they do not need HPV vaccine.
- Test an education/outreach intervention of education + pharmacist-administered vaccine

References


Acknowledgements

I wish to thank my mentor, Dr. Sarada Panchanathan, for all of her guidance and advice throughout my Scholarly Project and my principal investigator, Dr. Alexis Koskan, for her support and direction in this project. I would also like to thank Dr. McEwen for his continued assistance and encouragement throughout my four years of medical school.
Surgical Intervention For Colorectal Cancer In A Rural Setting: 
A Case Report

Nancy Lopez M.S.¹ Victor Cruz, M.D.²
¹The University of Arizona College of Medicine-Phoenix
²Valued Medical Care, Deming, New Mexico

Introduction

Colorectal cancer is the third most common cancer in men and women and the second leading cause of cancer-related deaths in the United States¹. Colon cancer typically develops from precancerous polyps in the colon or rectum, therefore screening tests are imperative for early detection.

In New Mexico, 59% of adults in the United States who are 50 to 75 years are up-to-date with colorectal cancer screening².

In 2017, the CDC released a report that revealed higher cancer death rates in rural communities, with rates of lung, colorectal and cervical cancers being amongst the deadliest³.

Several demographic, environmental, economic, and social factors put rural residents at higher risk of cancer, which can ultimately result in delayed intervention requiring invasive surgical management such as that described in this case report.

Background

Colorectal cancers require multimodal expertise for effective treatment and with limited high-volume facilities, rural residents may be at a disadvantage.

Wasif et al (2016) found an association between longer distances traveled for treatment and lower 90-day and 5-year mortality for all cancer types⁴.

Lidsky et al (2017) found that despite an increased travel burden, patients treated at high volume centers had improved perioperative outcomes, short-term mortality, and overall survival⁵.

Improved outcomes at high volume facilitates can be attributed to surgeon volume, the ability to rescue patients from complications, and increased utilization of multimodality therapy⁶.

Rural residents may not have feasible access to high volume facilities, as more than half of the United States population resides in regions without a high-volume facility⁷.

Minimal research has shown the impact of increased travel distance on advanced colorectal cancer. Increased travel distance can potential delay surgical management and lead to worse prognosis.

Case Presentation

A 71 y/o male with pmh of alcohol abuse and prostate cancer 9 months s/p radiation therapy presents with 4-6 months of progressing intermittent constipation and some blood in the stool seen when wiping. Patient reports urgency and tenesmus, but denies prior colonoscopy, change in stool caliber, weight loss, pain with defecation, hematochezia, and family h/o of colon cancer. Patient was not taking medication, past surgical history significant for prostate biopsy. Family history was significant for malignant pancreatic neoplasm.

Physical exam was positive on direct rectal exam for a hard immobile mass approximately 1 cm from anal verge otherwise exam benign.

Laboratory evaluation was (CBC, CMP, LFT, coag panel) was within normal limits. There was no evidence of anemia, hepatic or hematologic dysfunction. CEA was 2.1.

Colonoscopy revealed a large irregular mass at the distal rectum protruding into the lumen. Proximal inspection of the colon revealed a single polyp in the transverse colon. Computed tomography of the chest, abdomen, and pelvis showed no distal metastasis. Endoscopic ultrasound and MRI were not performed at this time, due to patient superseding maximum radiation therapy s/p prostate cancer. Additional imaging would not change surgical or oncotic management.

The patient underwent a laparoscopic abdominal peritoneal resection with total mesorectal excision. The sigmoid colon and rectum were mobilized and resected. The irregular mass was located 2cm above dentate line. Total mesorectal excision was performed to reduce recurrence of local neoplasms. The perineal was resected and a colostomy was constructed at the left trocar site.

One week following surgery patient reported mild erythema and serosanguinous discharge in perineal surgical site, otherwise doing well. Pathology reported T2N0M0, Stage BA colon cancer. 0 out of 13 lymph nodes were positive for metastasis. Margins were clear with proximal colon at 9cm, distal colon at 4.5cm, and lumen radially at .5cm, within the recommended margins of 5cm, 1-2 cm, 1mm, respectively. Patient was scheduled to follow-up with oncology to discuss possible adjuvant therapy.

Discussion & Conclusions

The primary drivers of rural cancer disparities are related to differences in prevention, screening, treatment for cancer patients, and cancer survivorship⁸.

Given low colon cancer screening, methods to improve outcomes include promoting alternative modalities to colon cancer screening, such as stool tests followed by further discussion if the stool test indicates potential cancer.

Additional methods to promote screening in rural communities include implementing hospital policy to promote colon cancer screenings by advertising displays at waiting rooms and recommending colon cancer screening for patients receiving treatment at urgent and emergency care centers.

Additional items to consider that werenot discussed are that the residents of rural areas in the United States tend to be older and sicker than their urban counterparts⁹. Seeking distant high-volume facilities with lower short and long term mortality can be more difficult to attain, including factors such as transportation, finances, and post-surgical social support, thus impeding timely disease management.

References


Figure 1: Anorectalanatomy

Figure 2: Immobile irregular mass at the distal rectum 1cm distal to the anal verge

Figure 3: Single polyp at the transverse colon
Effective Utilization of Healthcare Resources: A Fotonovela Educational Intervention For Adult Patients
Toyin O. Marcus, RN, BSN; Johannah Uriri-Glover, PhD, MSCR, RN; Judith Ochieng, PhD, DNP, RN, FNP-BC

Background/Significance
- $2.4 trillion on healthcare services.
- 80% of Emergency Department (ED) visits are non-urgent care.
- Adults age 18-64 with Medicaid coverage have the highest rate of ED visits.
- About 24% of SEHC patients seek non-urgent medical care in the ED.

Purpose
- Use Fotonovela to educate patients with high ED visits to gain decision-making knowledge to choose their health care appropriately.
- Increase patient PCP utilization and inversely decrease ED utilization.
- Evaluate the effectiveness of Fotonovela tool.

Methods:
- IRB Approval: Jan. 2019
- Project Site: St. Elizabeth Health Center (SEHC)
- Population: Sample (N=7), English & Hispanic speaking adults ages 18 to 64 with minimum of 2 ED visits
- Intervention: Participants were identified using Care Empower system, an Electronic Health Information (EHI) exchange data base. Chart audit were conducted for those who met inclusion criteria and they were presented with recruitment letters and consent forms. Demographic questionnaire, baseline pre-test, and a 15 min educational session were conducted. Six weeks later, a post-test were conducted, EHI and chart audit was used to assess changes in ED use.

Results
- Figure 1: Number of ED Visits (Pre Intervention)
- Figure 2: Number of ED Visits (Post Intervention)

All participants enrolled completed the project. Pretest data were collected from 100% while 43% posttest data were collected thus far. Bar chart shows number of ED visits pre-intervention and post-intervention thus far. Their mean age was 52.2 years (SD = 13.7). 57% participants were female. Most of the participants spoke English at home (85 %), and have high school education or higher (57%).

At 6-weeks posttest, participants had significantly higher appropriate ED utilization knowledge and scored Fotonovela as very effective tool and had significantly lower ED visits.

Conclusion
The outcomes of this study demonstrate the positive impact that can occur with Fotonovela intervention in improving health care knowledge and behavior change.
Fotonovela tools can improve low health literacy levels and solidify accurate knowledge on appropriate use healthcare resources. It is feasible and economically worthwhile. The fiscal costs include copyright, printing costs, and staff in-service cost.

For more information
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Improving the Treatment of Skin and Soft Tissue Infections in the Incarcerated Population

Adalivia Resendiz-Casas, BSN, RN, AG-DNP Student & Faculty Mentor: Laurie Baker, DNP, RN, ANP-BC

Aims
1) To determine the rate of utilization of a skin & soft tissue infection treatment (SSTI) algorithm within a correctional facility and
2) To increase its use amongst providers

Background
- Prisoners have a high prevalence of SSTIs due to multiple risk factors
- Failed treatment costs ~$1,200 per occurrence
- Complicated treatment costs related to hospital admissions, surgical intervention, amputations, death

Internal Evidence
- Algorithm use not monitored
- High incidence of SSTIs

Evidence Synthesis
- All healthcare facilities encouraged to use evidence-based algorithms for SSTI treatment
- Algorithms – most effective during face-to-face patient-provider encounters

Methods
Ethics:
- Approval obtained through Arizona State University Investigation Review Board and facility medical director.
- A consent letter was provided to participants
- All subject data was coded for privacy

Setting:
- A correctional facility in the Southwestern United States that houses more than 2,300 prisoners.

Sample:
- Providers surveyed - 8
- Charts reviewed - 97

Intervention:
Placement of laminated, full-size algorithm in each exam room where patients are evaluated.

Instrument:
- Self-developed survey given pre & post intervention for demographics and with Likert scale for providers to report their use of algorithm.
- Retrospective chart analysis performed to quantify use of algorithm in patients with SSTI diagnosis.

Data Analysis:
Descriptive and inferential statistics with SPSS software

Descriptive Statistics
- Providers consisted of 4 females, 4 males
- Provider ages ranged from 29-57 years
- 1 provider identified as physician, 2 as nurse practitioners, and 5 as physician assistants

Results
- Pearson Chi-Square two-tail test was non-significant at p<.05, p=.137
- 15% use of algorithm
- 23% in # of SSTIs

Limitations
- Small sample size
- Short intervention period

Implications & Future Practice
- Additional studies with larger sample sizes
- Implement in other correctional facilities
- Increased accessibility improved use of the algorithm
- Decrease seen in total number of SSTIs

For more information
Contact Adalivia Resendiz-Casas at aresend4@asu.edu
Background

- Increase in Arizona opioid prescriptions
- Increase in misuse, abuse, and deaths
- New opioid prescribing guidelines mandated from Governor's office
- The problem: Lack of integration of guidelines in practice among healthcare providers

Objective

To implement opioid prescribing guidelines within primary care setting

Approach

✓ ASU IRB approval
- Sample-6 DEA prescribing providers
- Setting-private family practice in Chandler, AZ
- Intervention-opioid prescribing guidelines presented via PowerPoint, informed consent instead of pain contract, creation of pain algorithm
- Data Collection- Pre, post and 6 week post questionnaire adapted from AZDHS
- Data analysis-Wilcoxon signed rank test and Friedman test used for result analysis

Discussion

- Results show over time, Providers:
  - Increased knowledge that opioids are not effective for long-term chronic pain
  - Increased satisfaction with knowledge of managing patients with chronic pain

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Pain Algorithm

- Acute Pain
  - Non-pharmacopoeia: Non-opioid medications
  - Pain Relief: patient is pain free
  - Refill: Patient is 100% compliant

- Chronic Pain
  - Self Management strategies: Non-opioid medications
  - Pain Relief: patient is pain free
  - Refill: Patient is 100% compliant

- Acute Pain
  - Non-pharmacopoeia: Non-opioid medications
  - Pain Relief: patient is pain free
  - Refill: Patient is 100% compliant

- Chronic Pain
  - Self Management strategies: Non-opioid medications
  - Pain Relief: patient is pain free
  - Refill: Patient is 100% compliant

Barriers

- Resistance to change
- Lack of time
- Lack of follow-up

Implications for Practice

Implementation of opioid prescribing guidelines increases provider knowledge and satisfaction with opioid prescribing and management

For more information

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References available upon request
Comparison of Morbidity, Mortality, and Primary Care Providers in Arizona’s Rural and Urban Primary Care Areas (PCAs)
Michael Wassermann, MS4, University of Arizona College of Medicine – Phoenix

Abstract

Research question: Is there any difference in total number of primary care providers, mortality per 100,000 persons, or morbidity per 100,000 persons in Arizona’s rural vs urban primary care areas?

Background: The United States is currently facing a rural primary care provider shortage. Rural areas are fundamentally unique socio-ethnographic environments, and as such have unique needs compared to their urban counterparts. There is limited research on the distinct characteristics that divide rural environments from urban areas. Our project aims to explore these relationships.

Methods: Data was gathered from the Arizona Department of Health Services (AzDHS) community profiles dashboard from 2013 for all 126 Primary Care Areas (PCAs). The 126 PCAs were classified as either Rural or Urban based on AzDHS classifications. In total there were 41 Rural PCAs and 65 Urban PCAs. 20 PCAs were excluded in the comparison, which were classified as either Frontier or Native PCAs. Wilcoxon rank sum was used to compare total number of primary care providers, mortality, and morbidity.

Results: Rural primary care areas showed higher incidence of congestive heart failure (p < 0.001) and chronic diseases (p = 0.02) and lower total numbers of primary care providers (p < 0.001) compared with urban areas. The 126 PCAs were classified as either Frontier or Native were excluded.

Conclusions and Impact: Our findings demonstrate distinct differences between rural and urban primary care areas. Rural environments in Arizona suffer from higher rates of congestive heart failure / chronic diseases and have fewer primary care providers. Our project demonstrates the need for greater number of primary care providers in rural environments in Arizona.

Introduction

According to a report published in 2013 by the Association of American Medical Colleges (AAMC), Arizona ranked 43rd in the nation for its shortage of primary care physicians. In response to the perceived impending physician shortage, medical schools nationwide have lobbied to increase their enrollment capacities in an effort to offset the potential adverse effects of the shortage with the hope that new graduates will pursue primary care.

What remains to be seen is whether or not new graduates that pursue primary care practice will do so in a rural setting. Rural environments are fundamentally unique in their composition and access to healthcare resources. These areas have felt the burden of the primary care provider shortage greatly and will continue to do so unless these areas continue to attract PCPs.

In order to demonstrate the importance of rural primary care providers, their necessity must be clearly demonstrated.

Methods

2013 public health data were made available from the Arizona Department of Health Services (AzDHS) community profiles dashboard. Individual community profile data for 126 out of 126 of Arizona’s Primary Care Areas (PCAs) were then extracted and obtained for the following fields: total number of primary care providers, mortality per 100,000 (all deaths, heart disease, all cancer, chronic lower respiratory disease, all accidents), and morbidity per 100,000 (stroke, chronic diseases, congestive heart failure, hypertension, uncontrolled diabetes).

The 126 PCAs were further subdivided into either Rural or Urban PCAs based on AzDHS classification. There were a total of 41 Rural and 65 Urban PCAs. 20 PCAs that were classified as either Frontier or Native were excluded.

Wilcoxon rank sum was utilized to compare the following variables for “rural” vs “urban” PCAs: total number of primary care providers, mortality per 100,000 (all deaths, heart disease, all cancer, chronic lower respiratory disease, all accidents), and morbidity per 100,000 (stroke, chronic diseases, congestive heart failure, hypertension, uncontrolled diabetes).

Discussion and Conclusions

Research Question: Is there any difference in total number of primary care providers, mortality per 100,000 persons, or morbidity per 100,000 persons in rural vs urban primary care areas?

Discussion: Wilcoxon rank sum demonstrated a statistically significant difference between total number of primary care providers, congestive heart failure, and chronic diseases in rural vs urban primary care areas. Urban primary care areas had a greater total number of primary care providers and rural areas showed higher rates of congestive heart failure and chronic diseases per 100,000 persons.

Limitations: While our analyses demonstrate statistical significance in a few categories, data were only available from 2013 suggesting only a small snapshot of possible relationships that may or may not exist. Our investigation was retrospective in nature and future investigations will need a more robust, longitudinal data set to analyze.

Conclusions: There is a statistically significant relationship in the reduction of certain causes of mortality per 100,000 persons as the total number of primary care providers increases. Additionally, there are a greater number of primary care providers in urban primary care areas, and there is a higher incidence of congestive heart failure and chronic diseases per 100,000 persons in rural primary care areas.

Acknowledgements

I wish to thank the Scholarly Project department at the University of Arizona College of Medicine – Phoenix, specifically Dr. Matthew McEchron and my mentor Dr. Jonathan Cartsonis for his guidance and tireless commitment to furthering his students’ education. Additionally, this project would not be possible without the statistical assistance / guidance of Paul Kang.
Increasing Mindful Eating Among Family Nurse Practitioner Students
Erin Jensen, RN, BSN, DNP Student; Patricia Daly, PhD, FNP-BC, ENP-BC, FAANP

Purpose
- Assess healthy eating practices of family nurse practitioner students
- Measure the effectiveness of mindful eating mobile phone application (MEA)

Background
- College students are at risk for disordered eating habits due to stress and time management
- Mindful eating “the practice of being fully aware and present while eating” promotes healthy eating and normalizes weight.
- College students readily adopt mobile computer applications

Method
Participants will:
- Complete two validated eating practice tools prior to and immediately following MEA
  - Mindful Eating (MEQ)
  - Binge Eating (BEQ)
- Following a brief education about mindful eating, students will use a mindful eating mobile application for a period of six weeks

De-identified findings will be shared with students and faculty

References

The Human Becoming Model
Teaching-Learning is a cocreated journey

Future Implications
- Future studies may follow diverse cohorts of nurse practitioner students and practicing nurse practitioners over time measuring the effectiveness of MEA
- Increasing understanding of MEA may impact practice supplying a potentially valuable tool to share with their patients

Results
- Data planned to be collected in Spring of 2020
REVAMP: A prospective study on the impact of virtual medicine on CPAP compliance and satisfaction of care

Lilibeth Pineda, MD; David Lee
University of Arizona College of Medicine-Phoenix

Introduction
Obstructive Sleep Apnea (OSA) is a chronic sleep disorder characterized by recurrent, functional collapse during sleep of the velopharyngeal and/or oropharyngeal airway which leads to reduced or complete blockage of airflow despite breathing efforts. OSA is an important condition due to complications of poor neurocognitive performance, daytime symptoms, cardiovascular morbidity, and perioperative complications.

The gold standard for treating OSA is Continuous Positive Airway Pressure (CPAP) which has shown improvement in sleep apnea quality of life index (SAQLI), improved systemic blood pressure control, reduced number of sleep-related respiratory incidents (e.g. motor vehicle crashes), reduced healthcare utilization and costs, and decreased cardiovascular morbidity and mortality.

The Problem
Compliance remains the largest barrier in the treatment of OSA. Adequate CPAP therapy is defined as at least 4 hours/night >=70% of the time for at least 30 consecutive days. Studies have shown that as many as 46% of patients are non-compliant with their CPAP therapy within a span of one year from initial diagnosis.

Despite traditionally low compliance rates, methods of improving compliance that entail close follow-up with patients can yield compliance rates as high as 92.3% within the first month and 73.9% within one year from diagnosis. However, such follow-up measures can be difficult for patients that have difficulty accessing healthcare.

Rationale
Figure 1: Prevalence of OSA in the veteran population from 2014-2016
Figure 2: Increased demand for Polysomnography (PSG) and Home Sleep Test (HST) over 15 years

REVAMP
- Veteran and provider-based web application to facilitate remote diagnosis and management of OSA
- Remote collection of CPAP usage and REVAMP satisfaction questionnaires
- Direct communication with provider to establish transparent and meaningful engagement
- Available OSA education and troubleshooting for patients
- Supports staff efficiency

Timeline for Project Completion
Year 2 Spring 2019
- Complete data collection of REVAMP patient population and baseline data

Year 3: Fall 2019
- Begin statistical analysis on demographics and CPAP compliance
- Review REVAMP questionnaire patient responses
- Begin SP thesis and thoroughly complete aspects of thesis (background, introduction, method/data analysis, results, references)

Year 3 Winter 2020
- Continue work on SP thesis
- Finalize statistical analysis
- Begin preparation for spring 2021 poster

Year 4 Fall 2020 – Spring 2021
- Finalize and submit written thesis and poster
- Present at the March 2021 Student Research Symposium

Discussion and Conclusions
- CPAP compliance is beneficial for quality of life and improvement of health outcomes.
- Current CPAP compliance rates are below the therapeutic threshold of 70% usage of >= 4 hours/night
- REVAMP is a personalized, interactive web platform to optimize clinical management of veterans with OSA
- We hypothesize that there will be a statistically significant increase in CPAP compliance for REVAMP patients vs. non-REVAMP patients as previous literature suggests close communication, transparency of data, and ease of access to a provider for patients can improve CPAP compliance

References
Problem Background: National, State, & Local

- As many as 47,600 (67.8%) of the estimated 70,327 drug overdose deaths in the U.S. in 2017 involved opioids: Most overdose deaths are attributed to synthetic opioids.
- The U.S. opioid crisis economic burden is ~$78.5 billion dollars annually (healthcare/treatment, legal, loss of productivity).
- As many as 18,862 opioid overdoses may have occurred in Arizona since June 15, 2017, with 2,559 (~13%) resulting in death.
- 2,153 opioid overdoses may have occurred in Pima County since June 15, 2017, with 301 (~14%) resulting in death.
- In 2016, the Pima County Office of the Medical Examiner confirmed 356 drug overdose deaths; 264 (~74%) of these deaths involved opioids.

Summary of Key Findings

- The Basic Opioid Overdose Knowledge (BOOK) screening tool is an internally valid screening instrument for assessing critical knowledge gaps in high-risk opioid users for three domains: opioids, opioid overdose, and overdose response.
- Rural opioid users present with more opioid overdose history and critical knowledge gaps than urban users. Users of prescription opioid medications for chronic pain diagnoses present with greater knowledge gaps than illicit users.
- Common themes and knowledge gaps identified in young adult non-medical users of opioids include: perceptions of lower risk than other users; deficient knowledge of overdose prevention, response, and use of naloxone.
- Evidence shows screening and education are usually effective.

Proposed QI Solution

Introduce a screening tool (e.g. BOOK) for use by primary care and behavioral health providers in integrative care settings to detect critical knowledge gaps about opioids, opioid overdose, and overdose response in users of prescribed and/or illicit opioids. Better detection leads to personalized interventions.

Study Question

PICO: In patients who use prescribed and/or illicit opioids (P), can an opioid knowledge patient-assessment tool (I), compared to no intervention (C), help providers in behavioral health, primary care, and integrative care environments better detect patients at-risk for opioid overdose (O)?
Unlocking the Truth about Mental Illness & the Homeless

Amir Raad RN, BSN (DNP-PMHNP student 2021)

The Issue
Who is Affected?

- There are several different mental illnesses that plague the homeless; these include depression, alcohol abuse, drug depression, schizophrenia, mood disorders, high suicide rates, and personality disorder. Homeless individuals suffer from a broad range of acute and chronic illnesses which are typically left untreated, causing high mortality rates. The homeless have needs that take a higher precedence such as seeking food, shelter, and medical care.

- Studies suggest that having a permanent residence decreases mental illnesses like depression, substance abuse, and suicidal ideation. Other studies have suggested that health care services should be offered in one location so as to optimize treatment received. It is the general consensus throughout the research that more studies should be done in order to better understand the specific health disparities of the homeless, especially those with mental illness.

Key Issues
Practices
Research

- There are a number of different factors that affect the homeless' ability to remain within a treatment program. In a study conducted by Salavera, Tricas, and Lucha (2011), interviews were conducted on homeless individuals who remained in treatment for longer than two months. The interviewees were asked about problems with work, education, financial status, and their health. Results showed that only 39% of homeless individuals interviewed had completed high school, and 39% had at least 3 or more personality disorders. The surveys have revealed that common deficiencies among the homeless included lack of education and mental illness.

Evidence Based Research

- A study conducted by Kirkpatrick and Byrne (2009) showed that people who went from living on the streets to a permanent home had decreased mental illnesses such as suicidal ideations, substance and alcohol abuse, and depression.

- The program used for the purpose of Kirkpatrick and Byrne's study was Housing with Outreach, Mobile and Engagement Services (HOMES). The program was developed to help the homeless live a more stable and healthy lifestyle. 12 people were interviewed after receiving help from HOMES. They are all residing in a permanent residence and getting mental health treatment. Their mental statuses have increasingly become more stabilized. The need for programs such as HOMES has exceeded most organizations' abilities to accommodate. Not everyone has the opportunity for living a more stable lifestyle through these types of organizations, but hopefully, there will be more resources for them someday.
Mental Health Disparities

- Mental Health disorders are the leading cause for disability and disease in the United States (US)
- 20% of US population lives in rural areas
- Only 9% of providers practice within rural areas
- Higher workloads, lower pay for rural providers
- Patients in rural areas have more disabilities, poverty and decreased access to transportation compared to patients in urban areas.

Behavioral Health Workforce Education and Training (BHWET) Grant

- Health Resource & Service Administration (HRSA)-A grant awarded to University of Arizona College of Nursing
- Assists in training and developing student nurse practitioners (NPs) to increase mental health providers in rural and underserved areas
- Encourages Student NPs to work in underserved or rural areas after graduation
- Requires students to complete a 6 month clinical rotation at rural or underserved facility
- Provides financial assistance to student NPs
- Provides assistance with clinical placements

Problem Statement:
- Patients at Horizon Health & Wellness (HHW) are dissatisfied while waiting to see TMH providers and patients’ appointment attendance is low.

Objectives:
- Assess children and adults’ TMH Satisfaction
- Assess what TMH issues can be improved
- Patients’ interest in Home TMH
- Determine what patients are more likely to adopt Telemental Health.

Methods:
- Distribute Patient Satisfaction Surveys

Theory and Survey Topics:
Rogers Diffusion of Innovation Theory:
- Relative advantage
- Compatibility
- Complexity
- Trialability
- Observability

References
- References available upon request
Race and Inequalities Within the Opioid Epidemic

Dylan Bia, Jason Dayee, Daelyn Nez

October 26, 2017, President Donald Trump declared the opioid crisis as a public health emergency in the United States. "We will work to strengthen vulnerable families and communities, and we will help to build and grow a stronger, healthier, and drug-free society." The opioid epidemic grew in the 1990s and is rapidly increasing.

Opioids are controlled drugs with high rates of addiction monitored by the Drug Enforcement Administration (DEA). Modern opioids are laced with fentanyl, a synthetic chemical if taken in large amount increases the fatality rate. 115 people overdose daily by opioids.

We want to raise awareness and normalize the topic of opioid addiction. Underrepresented and minority communities across America are affected largely by the epidemic. The lack of health education, quality healthcare, and knowledge affect many communities.

Introduction

Possible Solutions

In the future, we can further implement more awareness and eradicate all opioid abuse around the world.

The creation of a national campaign to inform the public of the danger of the opioid epidemic and addiction.

New implements regarding opioids in the medical field can offer alternative pain management. The increase of workshops that informs about the dangers of potential addiction to any prescription drug.

A federally operated Prescription Drug Monitoring Program (PDMP) a database for prescribed drugs to find drug abuse and patterns.

Continuing to improve the healthcare system and continuing to raise awareness will aid many communities against the opioid crisis.

Discussion

All people are susceptible to the opioid crisis not regarding to all factors, but there are larger environments that are prone to being susceptible by the crisis. The rise of the opioid epidemic has slowly gained attention of the mass media.

Through research of opioid abuse, recently they have found specific areas with backgrounds of unemployment, little influence of education and lose of hope. Many small populations are common to having a higher chance to abuse drugs.

This can be analyzed with many American Indian tribes and poverty towns in Virginia are common. This is harming the country itself, by the official declaration of health crisis, President Trump vowed to budget over $13 billion overall to prevent from potentially becoming a pandemic crisis.

Conclusions

The opioid epidemic has been a serious problem since the 1990s and is taking a larger toll on society today. President Donald Trump has finally decided to publicly announce it as an official health crisis to allow the government to take initiative. Millions are dying every year from overdoses, all communities are affected by it. Raising awareness will help not only the minority groups, but all communities.

The opioid epidemic has become a national problem and continuing to spread worldwide. As a country, the federal government and its citizens must acknowledge the opioid epidemic is a crisis. It is necessary to lead the prevention of opioids before it becomes a pandemic that can not be resolved.

References


