Central Phoenix in Focus: An Integrated Community Assessment
CAAHEC Scholars 2019-2021
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INTRODUCTION
Phoenix is the largest metropolitan city in Arizona. This assessment data focuses primarily on the Central Phoenix area, specifically the 85006 and 85034 zip codes that represent integrated communities, both underserved and thriving. This assessment will specifically address the social determinants of health and how environment can affect health outcomes of individuals living within these areas.

METHODS
Primary
- CAAHEC Immersion Experiences
- windshield surveys
- Community Interactions
Secondary
- Online Resources

FINDINGS

<table>
<thead>
<tr>
<th>Safety</th>
<th>Property crime and violent crime are rated very low to moderately low.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>Greater presence of local grocery stores catered to various cultures in 85006.</td>
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<tr>
<td></td>
<td>Community full of fast food restaurants in both zip codes.</td>
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<tr>
<td>Economy</td>
<td>Median household income for 85006 is $32,166; with 39.9% of population living in poverty.</td>
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<tr>
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<td>Median household income for 85034 is $24,454; with 48.3% of population living in poverty.</td>
</tr>
<tr>
<td>Transport</td>
<td>Valley Metro Rail system passes through 85034, has limited reach.</td>
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<tr>
<td></td>
<td>Valley Metro Local Buses connects 85006 and 85034 area to the greater Phoenix area.</td>
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<tr>
<td>Physical</td>
<td>There are limited resources available for lower economic classes.</td>
</tr>
<tr>
<td>Environment</td>
<td>Intense heat is experienced during the summer and with poor water quality, there is a need for water access.</td>
</tr>
<tr>
<td>Communication</td>
<td>Majority of residents own a computer and/or cellphone in their household with Wi-Fi.</td>
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<tr>
<td></td>
<td>Households owning computers with internet slightly lower in Phoenix than U.S.</td>
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<tr>
<td>Community</td>
<td>City website has all disaster resources in a single place and is easy to navigate.</td>
</tr>
<tr>
<td>Competence</td>
<td>Programs like CERT, Shot in the Dark, and Street Medicine Phoenix to promote safety and health in the community.</td>
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<tr>
<td>Electrical</td>
<td>Phoenix uses $11.96/kWh of electricity, 6% higher than Arizona average.</td>
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<tr>
<td>Service</td>
<td>The cost of electricity is in Phoenix is $120, 12.5% higher than national average.</td>
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<tr>
<td>Health</td>
<td>More uninsured individuals compared to the rest of Phoenix and Arizona as a whole.</td>
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<tr>
<td></td>
<td>Higher rate of teenage mothers than compared to the nation.</td>
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SUMMARY
Strengths of community
- Cultural diversity
- Access to outlets for communication
- Wide coverage of public transportation options

Limitations
- Limited access to community healthcare
- Lack of healthcare education
- Lack of protection from extreme heat conditions

Recommendations
- Advocating for:
  - Addition of a community center
  - Addition of 1+ free health clinics
  - Increased low income housing
  - Addition of sustainable cooling stations for the homeless population

CONCLUSIONS
Improvements are needed within the community to influence the health of the individuals living in the area, including a need for healthcare access and education, as well as the impact of the heat on the community.

ACKNOWLEDGMENTS
Thank you to our CAAHEC leaders, Lourdes Montez, Carol Moffett, Elias Villarreal, Jr., Sean Clendaniel, and Marni Rawszer, and to all local community members who provided insight on these communities.
Distance Active Learning in the Family, Community, and Preventative Medicine Clerkship Curriculum: Assessing Rural vs Urban Placed Medical Students

Dario Alvarez, University of Arizona College of Medicine, Phoenix
Lee Anne Denny, MD, University of Arizona College of Medicine, Phoenix

INTRODUCTION

Physician shortage in Arizona is most felt in rural areas where there are 10.3 providers per 100,000 patients. To support rural communities, the University of Arizona College of Medicine-Phoenix began partnering with hospitals, clinics, and physicians in rural Arizona and New Mexico. This partnership allows medical students to travel to these areas and be exposed to rural medicine clinics and hospitals. During 3rd-year clerkship rotations, students also receive weekly, half-day lectures called didactics. During didactics, physicians and other lecturers provide active learning opportunities to students. In order to provide students in rural rotations with the best learning opportunity, a form of active learning designed with distance learners is provided.

RESEARCH QUESTION

Does the Family, Community, and Preventive Medicine Clerkship provide the same level of educational experience and interaction during the didactic lectures to students rotating in rural clinics as those in an urban assignment?

MATERIALS AND METHOD

3rd- and 4th-year medical students at the University of Arizona College of Medicine – Phoenix (UACOM-P) who had completed their Family, Community, and Preventive Medicine (FCPM) Clerkship were recruited via listserv email to complete an anonymous online survey about their experience during didactics of their FCPM Clerkship.

IRB approval through the University of Arizona was obtained to commence participant recruitment. Statistical analysis were performed: Wilcoxon Rank Sum to compare continuous and ordinal variables, and chi-squared/Fisher’s exact test to compare categorical variables.

RESULTS

From the 48 students that completed the survey, discrepancies between urban and rural didactic experience were shown: engagement between rural students and instructors was lower (p<0.01); most rural students reported difficulties joining didactics (p<0.001) with the most common issues being Wi-Fi malfunction (70%), being unable to observe the whiteboard (65%), and not feeling comfortable sharing over video (60%).

CONCLUSION

Most rural students in the FCPM Clerkship reported having difficulties joining didactics lectures and sharing their ideas

• Compared to their urban counterparts, rural students reported less engagement with the instructors
• A limitation of the study is the low number of rural students who completed the survey

SUMMARY

I wish to thank my mentor Dr. Lee Anne Denny for all her support, as well as Dr. Jonathan Cartonsis, director of the rural COD, Drs. Shahrzad Saririan and Katie Brite, FCPM Clerkship Directors, and the Scholarly Project Department team, including Dr. Matthew McEchron, Kelley Howard, and Paul Kang.

ACKNOWLEDGMENTS

Table 1: Demographics of 48 students that completed the survey.

Table 2: Results of survey analyzing didactic lecturer engagement, session rating by the students, and personal learning style.

Table 3: Student-Reported Interest in Future Active Learning Style Sessions.

Figure 1: Barriers to Student Learning and Participation vs Percentage of Rural Respondents.
Non-Cognitive Predictors of Student Success: A Predictive Validity Comparison Between Domestic and International Students

Implementing posthospital telephone support and home visit improves care transitions and decrease hospital readmission

Transitional Care of Adults with Chronic Diseases Post-Discharge from Acute Settings

INTRO

Ineffective transitional care programs for ensuring the continuation of care from the acute settings to home settings or community settings within 30 days of discharge often can result in rehospitalization of adult patients with various chronic diseases.

BACKGROUND/SIGNIFICANCE

➢ More than 90% of Americans over the age of 65 have at least one chronic disease
➢ Approximately 60% of community based chronically ill patients transitioning from inpatient settings to next sites of care or home, experience care deficits
➢ Chronic diseases account for a large portion of the transitional care economic burden on health care in the United States (U.S.)
➢ Inefficient transitional care stems from
  ▪ Lack of patient education, engagement and caregiver inclusion
  ▪ Lack of collaboration among clinicians, limited or irregular follow-up
  ▪ Poor continuity of care and gaps in services as patients move across care settings
➢ Estimated costs associated with 30-day hospital readmissions is $17 billion annually
➢ Transitional care has demonstrated efficacy in reducing hospital readmission rates in chronically ill adults.

METHODS

➢ Extensive literature review on a patient-centered transitional care program in primary care using evidence-based practices
➢ Adult patients with one or more chronic diseases discharged from an acute care setting were identified as participants
➢ Participants received a telephone support and/or a home visit within 24-72 hours post discharge
➢ Care Transitions Measure (CTM®) and Medication Discrepancy Tool (MDT®) were utilized to identify gaps in care transition and medication discrepancies
➢ A chart audit tool was used to collect data on the age of the participant, the diagnosis/reason for the initial hospitalization, the CTM results, TS or HM, and ED visits or re-hospitalizations within 30 days of initial discharge.

RESULTS

➢ Reduction in ED and hospital readmission within 30 days of discharge
➢ Effective care coordination among multidisciplinary team
➢ Efficient transition from acute care settings to home or community settings
➢ Patient satisfaction and improved quality of care
➢ Fewer medication discrepancies
➢ As age of participants increased in data, CTM score decreased
➢ Practice reimbursement on transitional care intervention

DISCUSSION/LIMITATIONS

➢ A patient-centered transitional care program in primary care using evidence-based practices such as telephone support and home visit improves experiences for patients transitioning from inpatient settings to home settings post discharge
➢ Providing a timely and effective transitional care intervention in a primary care setting can reduce hospital readmissions, improve symptom management and quality of life of adult patients with chronic diseases
➢ Practice setting changes are essential to continue to validate value and enact a care coordination team to assist transitional practices within practice settings
➢ A successful transitional care can serve as a model for analyzing primary care functioning where gaps in their processes are affecting performance and the analysis can then be used to recommend evidence-based practice changes.
Community Health Assessment of Payson, AZ
Chelsea Apperson MS, RN, PMHNP-DNP Student

Background and Introduction

Objective: To identify and evaluate the community strengths and health needs of Payson, AZ

Geography & History
Founded in 1882, Payson, AZ lies almost in the center of Arizona, in Gila County and the Tonto National Forest, at an elevation of 5,000 feet (Kiddle Encyclopedia, 2019).

Demographics
Population estimate: 15,710; Size: 19.47 miles² (US Census Bureau, 2018)

Rural-Urban Continuum Code 4 (USDA, 2013)
- Nonmetro - Urban population of 20,000 or more, adjacent to a metro area

Health Professional Access:
- 1 critical access hospital, 1 community behavioral healthcare center, 1 community Christian health clinic, 2 Banner Health clinics, 1 urgent care, 2 addiction treatment centers, 1 social services organization, 3 primary care offices, 3 psychologists, 2 naturopathic/holistic practitioners, 11 massage/wellness practices, 1 cannabis dispensary, 10 assisted living communities, 9 home health agencies, 3 fire/EMS departments, and 1 police precinct (Google Maps, n.d.)

Education
- 2 elementary schools, 1 middle school, 2 high schools, 1 Christian school, 1 community college (Google Maps, n.d.)
- Payson Unified District drop out rate: 21.21% (CMS, 2015-2016)

Health Promotion (in addition to health professional access)
- Senior Center
- Green Valley Park
- Rumsy Park
- Taylor Swimming Pool
- Tonto National Forest Trailheads
- Campgrounds
- Rodeo
- Big Brothers Big Sisters
- Payson Community Kids
- Payson Public Library
- Golf Clubs
- Farmer’s Market
- Verde River Hot Springs

Results

Community Core
- Old, established neighborhoods that range from mobile homes to mansions
- All surrounded by the Tonto National Forest landscape

Values & Beliefs
- Diverse (heterogenous) places of worship including the Church of Jesus Christ of Latter-day Saints, Methodist, Lutheran, Non-denominational Church, Baptist, and Catholic (Google Maps, n.d.)

Government & Economy
- Arizona 4th District: Senator Sinema (D) & Senator McSally (R), Representative Gosar (R) (GovTrack, 2019)

Education
- 2 elementary schools, 1 middle school, 2 high schools, 1 Christian school, 1 community college (Google Maps, n.d.)
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- Verde River Hot Springs

Methods
The community health assessment was performed during September 2019. Information and data was obtained by means of:
- Windshield survey
- Interviews with community members and healthcare professionals
- Online assessment and data collection from (a) governmental websites (b) Payson City websites
- (Payson Senior Center, n.d.)

Results (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
- Emergency Department (ED) overload
- Polysubstance use/Mental Health burden
- Budget deficits impact preventative care

Recommendations
- Implement a community paramedicine program to decrease ED overload
- Expand and enhance detox, addiction, and mental health treatment centers
- Seek out federal funding opportunities by developing grant proposals

References
(Phoenix Internet, n.d.)
(The Crazy Tourist, 2019)
Exercise and Poor Cardiovascular Health in Prescott, Arizona

Lindsey Baugham
Faculty Advisor: Elizabeth Hall-Lipsy, JD, MPH

Background

• Prescott, Arizona is home to approximately 51,700 people, 61.4% of whom are aged 45 or older
• The geographical location and terrain of the town yields great weather and significant access to outdoor exercise opportunities such as hiking and biking
• Despite this, chronic ischemic heart disease is the leading cause of death in Prescott, especially in residents aged 45 and older

Purpose

The purpose of this project was to investigate the disparities between the high access to safe exercise opportunities and the high incidence of cardiovascular disease in Prescott, Arizona

Methods

Primary data collection (July 2019)
• Conducted key informant interviews and windshield surveys
Secondary data collection (July–November 2019)
• Conducted research through various city, state, and governmental websites

Example Survey Questions

What is your favorite thing about living here?
• “Definitely the weather!”
What are some major health-related concerns you have about Prescott?
• “It is just so hard to get in to see your doctor, especially if they’re a specialist.”
• “Therapists and PCP’s tend to move away and don’t stay here.”
• “I have started going to see a naturopath since they’re easier to get in and see.”

Results

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prescott</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>7.2%</td>
<td>8.5%</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>28.4%</td>
<td>25.2%</td>
</tr>
<tr>
<td>Obesity</td>
<td>24.9%</td>
<td>23.5%</td>
</tr>
<tr>
<td>Poor Dental Health</td>
<td>16.6%</td>
<td>19.2%</td>
</tr>
</tbody>
</table>

Health Behaviors

<table>
<thead>
<tr>
<th>Health Behavior</th>
<th>Prescott</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Obesity</td>
<td>25%</td>
<td>24%</td>
</tr>
<tr>
<td>Access to Exercise Opportunities</td>
<td>90%</td>
<td>86%</td>
</tr>
<tr>
<td>Physical Inactivity</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Population in a Food Desert</td>
<td>31%</td>
<td>26%</td>
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</tbody>
</table>

Conclusions

• Even though Prescott has more access to exercise opportunities, there is still a higher incidence of obesity, high blood pressure/heart disease, and physical inactivity than in the state overall
• This could be attributed to citizens retiring to Prescott who did not develop regular exercise routines when they were younger
• Citizens also seem to struggle with eating healthy given their available poor options and the food desert areas
• Patients may not have as much access to a health care professional which may negatively affect their cardiovascular health

Community Suggestions

1. Initiate more local wellness programs to encourage citizens to exercise, especially outdoors if possible
2. Develop pamphlets and fliers to be distributed around the city containing education on the link between lifestyle choices and heart disease
3. Increase access to affordable, healthy food options
4. Bring more healthcare providers to the area in order to care for and address heart disease and patient lifestyle

References

Rio Rico Survey: Opioid Misuse
Authors: Lindsey Baugham, Maiya Block, Oscar Diaz, Lillian Foster, Veronica Lugo, Sarah Miranda, Anna Ressel, Abbigael Simpson, Davina Vea, and Aaron Yoder

Introduction
Opioid-related overdose, death, and opioid misuse continue to rise and are a current public health crisis across the US.¹ In 2017, Arizona Governor Doug Ducey declared a state of emergency to combat the opioid epidemic. Since June 15, 2017 ADHS reports 4,815 opioid-related deaths and 37,999 overdoses.² Although the state of emergency in Arizona ended in 2018, more information is needed to better understand the state of the opioid crisis today. Our Cohort of AHEC Scholars conducted a door-to-door survey in Rio Rico, AZ on perceptions of opioid misuse to gauge concern and knowledge in that community.

Methods
SEAHEC coordinators adapted a survey previously conducted in Nogales, AZ to be used in Rio Rico, AZ. SEAHEC coordinators met with staff of a community organization involved with opioid misuse problems to determine a convenience sample where the survey was most relevant. Pairs of AHEC Scholars went from door-to-door in the relevant neighborhood and orally conducted the survey in English and Spanish. Responses and relevant quotes were transcribed and analyzed after the survey was conducted before it was presented to the Santa Cruz Opioid Consortium.

Results
-43 total surveys were collected with responses in both English and Spanish.
-16 respondents stated they did not know what an opioid is and 25 stated they did not know how to recognize an opioid overdose.

-Figure 1 below shows perceived severity of opioid misuse in Rio Rico varied widely.

Results (continued)
-An overwhelming majority of respondents stated that they believed youth and young adults were most at risk for misusing opioids, followed by middle-aged adults and elderly individuals.
-When asked how people who misuse opioids in Rio Rico are viewed, the most common response was negative (i.e. “junkie”, “drug addict”).
-Suggestions to improve the issue of opioid misuse included changing prescribing practices (n=9), education (n=6), and family or community outreach (n=4).

Conclusions
Perceptions and knowledge of what an opioid is and misuse vary widely in Rio Rico. The severity of opioid misuse was perceived by many to be high, but also a large number did not think opioid misuse was a large issue. Our results suggest that improvements in knowledge of opioids in general, including misuse could help improve the current situation in Rio Rico. More information about opioid misuse in Rio Rico should be collected to determine future interventions.

References
Using Patient Notification Reminders To Increase Diabetic Patient Participation In Follow Up Hemoglobin A1C Testing

Candice Ben BSN, RN, DNP/FNP Student

Background & Significance

• Globally there are 422 million adults with diabetes (WHO, 2018).

• In the U.S. there are 100 million adults with prediabetes or diabetes (CDC, 2017). One in ten Americans have diabetes (CDC, 2020).

1 in 10 Americans Have Diabetes

• The estimated cost of diabetes in 2017 was estimated to be 327 billion dollars (ADA, 2019).

Goal HgbA1c: <7%

• Arizona estimates there are 600,000 adults with diabetes (ADHS, 2018).

• Diabetes disease management has several factors with a goal to achieve glycemic control. This is monitored through HgbA1C testing.

• Reminding patients to return to the clinic for HgbA1C testing can help them to achieve better glycemic control.

Project Purpose & Question

• Increase diabetic patient participation in HbA1c follow up testing using patient notification reminders.

• Diabetic patients aged 18 to 75 years old.

• The patient reminder will be delivered through the current patient portal being used at the clinical site.

• Stakeholders will include Banner South Campus Clinic, provider, nurse practitioners, medical assistants, and patients.

Do patient portal notification reminders increase follow up HbA1c testing in diabetic patients aged 18 to 75 years old at Banner South Campus in Tucson Arizona?

• Research has shown an improvement in HgbA1C when patients received text message reminders about their diabetes disease management.

Framework & Concepts

• Implementation of this project is ongoing. Reference list is available upon request.
Debriefing: A Quality Improvement Project to Address Moral Distress
Claire C. Bouchard, MSRN, AGACNP-DNP Student; Patricia Daly, Ph.D., FNP-BC, ENP-BC; Wanda Larson, Ph.D., M.Ed., RN, CEN, CPEN; Evangeline Dowling, Ph.D., MSN-Ed., RN

Purpose & Setting
This quality improvement project will investigate the feasibility and utility of a reactive debriefing protocol as an intervention to address moral distress within the emergency department of an academic Level I trauma center in Tucson, Arizona.

Background
- **Moral distress**: The feeling of being unable to deliver optimal patient care due to organizational or situational constraints.
- Emergency nurses suffer from high levels of moral distress.
- A high level of moral distress is negatively associated with staff retention and patient outcomes.
- The consistent use of debriefing after adverse events may prevent or ameliorate moral distress among emergency nurses.

Methods
**Measurement tool**: Measure of Moral Distress for Healthcare Professionals (MMD-HP), a validated tool to quantify moral distress among nurses.
**Debriefing Protocol**: Debriefing In Situ Conversation in Emergency Room Now (DISCERN) tool (below).
- Education on moral distress and the DISCERN tool will be provided during a quarterly staff meeting.
- Baseline MMD-HP values will be collected.
- A paper copy of the DISCERN tool will be distributed in all trauma and death packets.
- MMD-HP values will be collected from nurses who did and did not participate in DISCERN debriefing.
- Data collection is planned for June 2020 with a goal of 50 nurse participants.

Conclusion & Practice Implications
- **Debriefing may positively impact the four syntheses of moral distress (left).**
- Emergency personnel are unlikely to engage in debriefing due to organizational and situational factors.
- Implementing a protocol may overcome barriers to routinizing debriefing.

**The DISCERN Tool**

<table>
<thead>
<tr>
<th>Date</th>
<th>Members present:</th>
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<tbody>
<tr>
<td></td>
<td>Charge RN</td>
</tr>
<tr>
<td></td>
<td>Pod/Patient Care Tech</td>
</tr>
<tr>
<td></td>
<td>Respiratory Therapist</td>
</tr>
<tr>
<td></td>
<td>Pharmacist</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>

- **What went well during our care for the patient?**
  - Ex: Clinical care, team-work, communication, leadership, other
- **What could have improved during out care for the patient?**
  - What are potential solutions?
  - Was the team leader the only provider calling out medication orders?
  - Was anyone confused about who was the team leader?

References

Contact Info
The delivery of wound care education as a harm reduction strategy to people who inject drugs can be confidently taught by community lay workers.

Improving confidence levels in wound care education: A harm reduction strategy for people who inject drugs

Jodi Bray, BSN, RN
Erika Tharalson, DNP, RN, ANP-BC, CWNS

INTRO

People who inject drugs (PWID) are at high risk for developing skin and soft tissue infections. Due to high rates of stigmatization, PWID often delay or self-substitute wound care leading to poorer health outcomes.

BACKGROUND/SIGNIFICANCE

- PWID are 16.3 times more likely to develop methicillin-resistant Staphylococcus aureus (MRSA) infections
- From 2002-2012, the number of hospitalizations doubled with associated costs reaching over $700 million
- Literature shows strategies delivered by peers with lived experience is effective in reaching PWID due to:
  - Already established relationships with hard to reach people
  - Peers are perceived as credible sources
  - Information can be delivered when high risk behavior is most likely to occur

METHODS

- Project implemented at a rural harm reduction agency site in Northern Arizona
- Participants were 18 years or older, English speaking, were current/former injection drug user, friend/family of injection drug user, community educators, or healthcare volunteers
- Received a PowerPoint basic wound care educational intervention, wound care pamphlet, and a wound care kit.
- Confidence was measured by Likert scale pre & post intervention and again at weeks 2 and 4
- Teaching performance accuracy was measured by a checklist post intervention and at weeks 2 and 4

RESULTS

- Average total confidence scores significantly increased from 31.32 to 38.86 over 4 weeks, p < .001
- Teaching performance accuracy increased by 29%
- Participants delivered wound care education to 89 peers
- Participants delivered 66 wound care kits to peers

DISCUSSION

- Significantly increased confidence levels are an effective harm reduction strategy
- Limitations: project attrition, participant language and race
- Project sustainability is feasible due to significantly increased levels of confidence and multiple locations of harm reduction agency offices
Opiate Community Health Assessment of Marana, AZ

Tommie Lee Butler BSN, RN, PMHNP-DNP Candidate

Opiate History & Marana Background

As of 2017, 1.9 million United States (U.S.) residents have prescription analgesic Substance-Use Disorders (SUD), $86,000 of which resulted in heroin addiction (Ali et al., 2017). From 1999 to 2017, opiate overdose death rates have increased yearly to claim over 700,000 American lives (CDC, 2018). The economic aftermath of this threat is no small burden either, costing the U.S. $78.5 billion annually (USCB, 2018).

• Town Origins: Marana’s culture is abundant, originating from the Hohokam Indians that settled along the Santa Cruz River from years 550-850 (Marana AZ, 2020a).
• Important Dates: “Marana” appeared on the Southern Pacific Railroad map in 1890, and Marana Health Center opened in 1957 (Marana AZ, 2020a).
• County: Pima County, Arizona.
• Town’s Census: 47,007 residents with the following graphic breakdown: (USCB, 2017).

Town Characteristics

Demographics

- 15,936 households contain Marana’s thriving population with 2.70 persons per house (USCB, 2016).
- Population per square mile reaches 287.8 for the rural desert location, 121.47 square mile tow (US Census Bureau, 2019).
- Median household income is $84,491 per year from its 60.0%, 16 years plus labor workforce (US Census Bureau, 2017).
- Unemployment is a low 3.3%, and 6.5% of residents fall below the poverty line (Cty-Data, 2018; USCB, 2017).

Culture

- Marana is modern and progressive, being “the fastest growing community in Southern Arizona” (Marana AZ, 2020a).

Opiate Treatment Focused Perception

• Pros: Marana has a robust and expansive medical infrastructure that can be called upon in times of need and a competent local government to gain the town people’s support.
• Cons: Marana’s lack of resources and substance addiction specialized personnel makes the area’s populace susceptible to inadequate opiate dependence treatment.
• Recommendation: Incorporate the Addiction Severity Index (ASI) as a standardized opiate screening practice in the Marana 16 healthcare center network to strengthen addiction treatment services.

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

History and Multi-Level County Classification

History
• In 1877 an abundant number of United States army members and cavalrymen were sent to the Mule Mountains to find and search for Apaches. Instead, the members found the city of Bisbee that presented with signs of mineralization that indicated the presence of silver, gold, copper, and lead. The civilians then soon occupied the town, hoping to become rich by finding the treasured minerals. Mining proved to be successful in the Mule Mountains, as millions of gold, silver, copper, and zinc were found, causing Bisbee to thrive in the mining industry. Due to its success in the 1900s, Bisbee became the largest city between St. Louis and San Francisco, with a population of over 20,000 people. Unfortunately, in 1917 a horrendous anti-labor crime took place, causing about 1300 minors and 2000 supporting citizens to be illegally kidnapped and deported out of Bisbee. Bisbee remained active in the minor industry until the 1970's when it closed. After the 1970's a tremendous amount of people left the city looking work employment elsewhere (DiscoverBisbee, 2019).

Multi-Level County Level Classification
• County: Cochise
• Population: 5,209 (U.S. Census Bureau, 2019).
• Rural Urban Continuum Code: 3; Metro; Has fewer than 250,000 populations (USDA ERS, 2013).
• Urban Influence Code: 2; small with fewer than 1 million residents (USDA ERS, 1999).
• Natural Amenity Rank: 7; high amount of natural resources (USDA ERS, 1999).
• County Typology Codes: metro, federal/state government dependent for 14% or more of county’s earnings, low employment (USDA ERS, 2017).

Community Demographics

Education Attained

Employment Status

Community Subsystems

• Physical: Bisbee is located inside the Mule Mountain range in the southeastern corner of Arizona. It is approximately twelve miles from the United States border with Mexico. In the west of the town, the San Pedro River, a pivotal source of water, runs through the town (Waterways, 2018).

• Environment Health: The environment health division (EHD) provides many resources in Cochise county to ensure a safe and healthy environment for its residents (Cochise County, 2019). Some of the health programs that the EHD is involved with includes:
  • Food safety
  • Wells
  • Recreational health (e.g., swimming pools)
  • Public accommodation (e.g., hotel. Motel. RV)
  • Vector control

• Education: There are a total of six public schools and zero private schools (Town Charts, 2019). In Bisbee, there are a total of:
  • 15 students per teacher
  • 887 students per librarian
  • 887 students per counselor

• Transportation: is available though (Bisbee, 2015):
  • Bus (6 AM to 6:30 PM Mon-Fri; 9:30 AM to 4:00 PM on Saturday)
  • Private vehicle
  • Taxi
  • Train

• Safety and Annual Crime (Bisbee, 2019b):
  • Bisbee: 3,413
  • Arizona: 3,423
  • United States: 2,756

• Politics and government (Bisbee, 2019a):
  • Mayor: David M. Smith
  • Council Member WARD I: Bill Higgins, Leslie Johns
  • Council Member WARD II: Joni Giacomino; Joan Hansen
  • Council Member WARD III: Anna Cline; Louis Pawlik

• Health and social services (Health Management Associates, 2017):
  • Most important health problem: Substance abuse, mental health, aging problem, cancer social isolation, Diabetes
  • Most risk behaviors: Drug abuse, alcohol abuse, overweight, unsafe sex, lack of exercise
  • Top three health issues: Good job/healthy economy, drug abuse, mental health.

Reference Available upon Request

(World Population Review, 2019)
Purpose of the Project

This paper provides a background on hypercholesterolemia, discusses the clinical significance of the topic to primary care and poses a PICOT question regarding the efficacy of generic atorvastatin vs. brand name Lipitor.

Clinical Question

In patients determined to be in a statin benefit group as defined by the 2013 American Heart Association (AHA)/American College of Cardiology (ACC) guidelines and using brand name Lipitor or generic atorvastatin statin medication therapy, what is the difference in effect on total cholesterol (TC) after six months?

Problem

Elevated lipid levels present the greatest correlation to development of coronary artery disease (CAD), which is a common type cardiovascular disease (CVD). Approximately one in three deaths can be attributed to CVD. Lifestyle modification in conjunction with medication therapy with statins is recommended as first line management. Generics are significantly cheaper than brand name medications, but concerns regarding their efficacy have been raised.

Setting

Settings which manage hypercholesterolemia, typically primary care or cardiology

Patient Population

Patients determined to be in a statin benefit group as defined by the 2013 American Heart Association (AHA)/American College of Cardiology (ACC) guidelines and using brand name Lipitor or generic atorvastatin statin medication therapy. Statin benefit groups include the following:
1. patients with clinical atherosclerotic cardiovascular disease,
2. patients with LDL 190 mg/dL or higher,
3. patients age 40-75 years with diabetes (but without atherosclerotic cardiovascular disease) and LDL 70-189 mg/dL and
4. patients without clinical atherosclerotic cardiovascular disease or diabetes with LDL 70-189 mg/dL with an estimated 10-year risk of atherosclerotic cardiovascular disease of 7.5% or higher.

Review of the Literature

- Rather than basing risk off of LDL-C alone, the goal should be to identify patients whose clinical characteristics (including LDL-C) place them at higher vascular risk, and increase the use of statins and other beneficial therapies in this population (Tonelli, 2015).
- In Canada, a mandated substitution of atorvastatin for Lipitor prescriptions was implemented after generic atorvastatin was approved in 2010. This caused Ontario’s public formulary atorvastatin costs to drop 74%, reducing atorvastatin expenditures from $316 million in 2009–2010 to $83 million in 2012–2013 (Jackevicius et al., 2016).
- A randomized control trial of 376 Korean patients requiring statin therapy showed that “the generic formulation of atorvastatin 20 mg was not inferior to the branded formulation of atorvastatin 20 mg in this 8-week treatment of hyperlipidemic patients” (Lee, et al., 2017).
- A cross-sectional, retrospective cohort study was conducted at the University of Malaya Medical Centre consisting of 266 patients requiring statin therapy which showed that “substituting proprietary atorvastatin for its generic formulation atorvastatin calcium does not result in a less effective management of hyperlipidemia” further supporting the “approach of lowering health care costs by switching patients from branded drugs to their less expensive generic analogues” (Loch et al., 2017).

Proposed Best Practice

In patients requiring statin therapy, the use of generics is a safe and cost-effective alternative to brand name Lipitor for treatment of hyperlipidemia. The use of generics should be discussed with patients as the decreased cost may improve medication compliance.

Conclusion

No clinically significant difference has been appreciated between atorvastatin and Lipitor on TC control or tolerability, thus indicating that it is a safe and cost-effective alternative to brand name Lipitor for the treatment of hypercholesterolemia.
A Community Assessment of Flagstaff, Arizona

Carly Deal, Kristina Galbreath, Joshua Kassner, Danielle Koreny, Denise Lallo, Calvina Nez, Marissa Paz, Dasy Resendiz, Courtney Routson, Maryssa Spires, Margaret Towers, Analuisa Welch, Theresa Allison DNP, FNP-BC, Christy Pacheco, DNP, FNP-BC, Bridget Wicks MSN, CNP

**Purpose**
The purpose of this presentation is to report the results of a team-based field experience in Flagstaff community.

**Objectives**
Analyzing Flagstaff community health and wellness through completion of a Windshield Survey and community needs assessment.

**Methods**
Data collection:
- **Primary**
  - Walking and public transport-based windshield survey
  - Groups evaluated East and West Flagstaff individually
- **Secondary**
  - Publicly available data analysis including US Census Bureau

**Demographics**

**Racial Composition**

**Age & Gender Breakdown**

**Household Income**

---

**Community Description**
- Flagstaff, Arizona is a rural city located in Coconino County, the second largest county in the United States.
- Population: 73,964 (cited US Census)
- Located in the northern portion of Arizona, and spans over 64 square miles
- It is located about 250 miles north of Tucson and 250 miles east of Vegas

**Community Assets**
- Many health & social services available including traditional healers
- Easily accessible homeless shelters
- Trail systems
- Public library with community resources
- Public parks and recreational centers

**Community Challenges**
- Limited public transportation bus system, including few bus stops near medical care and community outreach programs
- Some public support resources had limited signage and were difficult to locate (e.g. St. Mary’s Food Bank)
- Community members were unsure of more widely publicized resources (e.g. Visitor Center staff)
- Lack of free available water through public fountains in public spaces, especially in downtown area

**Summary**
- Provided opportunity to talk with local community members
- Gave students the ability to seek out community resources
- Allowed students to grapple with transportation difficulties
- Challenged students to negotiate purchasing food on a limited budget
- Limited access to transportation might make it difficult to arrive for appointments at designated times
- May limit ability to pick up prescriptions
- May limit ability to maintain healthy practices such as adequate exercise or obtaining healthy foods
- Provided a better understanding of the Flagstaff community and their resources
- Served as an empathy building tool for future healthcare professionals to acknowledge the barriers patients may have that make it more difficult to live healthy lives

**Recommendations**
- Improved transit schedule & routes
- Plan for population growth while maintaining community sanitation
- Address services for ≤15% below poverty threshold

**References**
Background

Objective: To identify key health needs and issues through comprehensive data collection for Pinon, AZ

Community Description:
- Pinon is in Northeast Arizona and they are governed by the Chinee Agency in the Navajo Nation. It spans about 6.4 square miles and holds a population of 830. This is -7.85% decline from 904 that was collected in the 2010 Census.
- Per Arizona Department of Health Services, 96.8% are American Indian, 2% white, and 1.8% Hispanic.
- In the Navajo Nation Health Survey Update 2013 & 2015, about 58.3% of the Chinee Agency surveyed reported an income of less than $15,000 a year.

Demographics:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>700</td>
</tr>
<tr>
<td>1990</td>
<td>800</td>
</tr>
<tr>
<td>2000</td>
<td>800</td>
</tr>
<tr>
<td>2010</td>
<td>800</td>
</tr>
</tbody>
</table>

Methods

- Our team collected data over the time period of May 13th to July 3rd of 2019.
- Primary data was collected through key informant interviews, opinion surveys, observations, and windshield surveys. Key informant interviews included questions such as: “What is the quality of life on the Navajo Reservation?” etc.
- The secondary data was collected from major websites containing relevant health data and statistics.

Results

Lack of Transportation
- Per windshield surveys, there were no bus routes.
- Patients could hire drivers to pick up their prescriptions.
- Per Navajo Fatal Car Crashes Report, 2006-2009 motor vehicle injuries and pedestrian injuries account for 10.6% of all Navajo deaths.

Lack of Recreational Parks
- Per windshield surveys, there were no accessible parks to the public. The Pinon Unified School District does have basketball courts and a football field.
- Per interviews, the public utilizes walking or hiking trails as a form of exercise.

Lack of Healthy Food Options
- Pinon is considered a food desert by the United States Department of Agriculture.
- There is one Bashas store in the area, a Subway and a Pizza Edge restaurant.

Lack of Higher Education Opportunities
- Pinon Unified School District contains an elementary school, middle school, and a high school. On the graph below, it shows the Chinee Agency has 22.2% of the population with less than a High school degree, and 45.4% with a high school degree or GED.
- There are no colleges or higher education schools in Pinon, Arizona.

Limited revenue
- The unemployment rate for the Navajo Nation is 18.7%, compared to Arizona’s rate of 7.1%, and the US 3.5%.

Abandoned Uranium Mines
- During the 1940-1980s, the Navajo Nation was under lease by the Americans to extract over 300 million tons of uranium. Cancer is the second leading cause of death and many blame the open uranium mines that are still unattended on the Navajo Nation.

Health Promotion

Physical/ Nutritional Health:
- Unfortunately, the health outcomes for Navajo Nation are poor, as it is estimated that 1 in every 4 Navajo has diabetes. The local nutritionist at PHC uses worksheets to educate people on healthy foods to eat as well as culturally appropriate portion sizes.
- Through the spirit of family and community, the Navajo Nation, hand in hand with the Indian Health Services has created the “Just Move It” program.
- A JK run/walk, the “Just Move It” is held all over Navajo Nation; the more the community members do it the more points they can earn and get prizes for.

Cultural/Behavioral counseling:
- Integration of traditional Navajo practices and mental health services has begun to hold as a way of reconnecting youth with the culture of their parents and community elders.
- Traditional prayer rituals and ceremonies, such as the sweat lodge, have been attempted as a way of reducing the risk of important community health factors such as teen pregnancy and suicide.

Opportunities for Community Interventions

- Investment in Regional Economy & Infrastructure
- Adolescent Health
- Development of Navajo Role Models
- Improvement of Health Literacy

Limitations

- Limited current data and reporting of data on Pinon, AZ.
- Anecdotal stories from key informants which is considered lower quality of information.
- The data collection was limited to a month long, and a longer duration would have allowed us to collect more data.

Pinon Health Center

The Pinon Health Center (PHC), acts as the local health clinic serving the Navajo people, has services such as laboratory services, Pharmacy, Native Medicine, Optometry, Physical Therapy, Nutrition, Women’s Health, Dental, Counseling Services, Outpatient (OPD)/ Urgent Care, Podiatrist

Pain Contract:
- The opioid epidemic in Navajo Nation is growing, and to help stop the spread, PHC-pharmacy has created a pain contract for the patients currently taking opioids. Most patients are taking “weak opiates” such as Tramadol.
- The pain contract states that patients must have the drug in their system through a urine analysis to keep their prescription in the system. To ensure adherence, the pharmacy has the right to call the patient and verify how many pills are at their disposal.

Community Assets

Internal
- N/A

External
- IHS System
- Humility
- Community
- Rich, vibrant culture
- Respect for nature, fellow man
- Creativity
- Natural resources (Sun, wind)

More Information and References

https://pharmacy.arizona.edu/THEUNIVERSITYOFARIZONA/TheUNIVERSITYOFARIZONAt/OscarDiaz%20NicoleDrabik%20ShriyaThakrar%20SanjeevBiswas%20UniversityofArizona%202022THEUNIVERSITYOFARIZONApaper.jpg

Acknowledgements: We would like to thank the Pinon community, our preceptor Karen Ems()][ Bang, the providers, and the staff at the Pinon Health Center for making this 3PPC rotation a great educational experience. We would like to acknowledge Dr. Hali-Upas for aiding us on our community assessment project and paper.
Clinical Skin Examination for Melanoma in Underserved Patients: Educating Providers
Kyla J Diesner, DNP, FNP-C; Delaney B Stratton, PhD, DNP, FNP-BC; Lois J Loescher, PhD, RN, FAAN

Purpose
To educate primary care providers (PCPs), including family nurse practitioners (FNPs), about clinical skin examination (CSE) for melanoma in underserved patients using a digital video intervention

Background
- Skin cancer is the most common cancer in the U.S. and melanoma is the deadliest type
- The U.S. Preventative Services Task Force recommends that PCPs conduct a thorough skin examination during patient examinations to detect melanoma early
- Little information on how PCPs learn about CSE for melanoma or perform it in practice for their underserved patients

Theoretical Framework
The Information Motivation Behavioral Skills Model (IMB)

Methods
- Quality Improvement (QI) Project
- Setting: Healthcare organization in Southern Arizona serving homeless, low income, Medicaid-eligible, Native American, migrant farmworkers, and rural populations
- Sample Eligibility: Any PCP (FNP, MD, DO, PA) working for the healthcare organization:
  - Intervention: four brief (<7 minutes) videos previously tested for feasibility and delivered digitally. Videos covered melanoma in underserved populations and the CSE components
  - Measures: Participants completed an: 1) online pretest measuring CSE information (8 items), motivation (9 items), behavior skills (16 items), and CSE behavior change (1 item); 2) identical online posttest two weeks postintervention
  - Data were self-reported and analyzed using descriptive statistics

Results
Six (42.9%) enrolled: all were FNPs (mean age = 39.83 years) and new to primary care (mean years = 3.3)

<table>
<thead>
<tr>
<th>IMB Concept</th>
<th>Pretest Mean (SD)</th>
<th>Posttest Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE Information (Knowledge items correct)</td>
<td>62.5%</td>
<td>81.2%</td>
</tr>
<tr>
<td>Motivation (1 = completely disagree ; 5 = completely agree)</td>
<td>3.81 (1.10)</td>
<td>3.98 (1.27)</td>
</tr>
<tr>
<td>Behavioral Skills: Skin lesion assessment (items correct)</td>
<td>70.8%</td>
<td>71.9%</td>
</tr>
<tr>
<td>Behavioral Skills: CSE steps in correct order</td>
<td>16.7%</td>
<td>50%</td>
</tr>
<tr>
<td>Behavioral Change: Number of times conducted CSE in practice during past 2 weeks</td>
<td>1.33 (2.16)</td>
<td>9.50 (10.23)</td>
</tr>
</tbody>
</table>

Implications
- Video interventions may aid in improving FNPs’ CSE skills and potentially motivate use of those skills while caring for underserved patients
- Skin lesion assessment may be a challenging skill for PCPs
- Future directions considered by the organization are: 1) showcasing the videos at upcoming provider meetings; and 2) integrating the videos into PCP orientations
- Possibly conducting a feasibility trial to examine the impact of the intervention on CSE outcomes and to further inform evidence-based practice for FNPs
- Possibly securing continuing education credits for the intervention

References

Funding: 2019 Mary Opal Wolanin Doctoral Award
Adverse Childhood Experiences and Maternal Education

Melissa Gohlke, BSN, RN-BC

INTRO
- Adverse childhood experiences (ACEs) are associated with physical, mental, and behavioral health problems and negative health outcomes. (Felitti, Anda, Nordenberg, Williamson, Spitz, & Edwards, 1998)
- ACEs have an intergenerational cycle (Layton, 2008; Lipton et al., 2016; Lerner et al., 2012)
- ACEs have an intergenerational cycle (Layton, 2008; Lipton et al., 2016; Lerner et al., 2012)
- Parenting education is an intervention that may reduce the negative impact of ACEs (McKinney, 2019)

METHODS
- IRB
- Approved by the Arizona State University Institutional Review Board prior to implementation

Population & Setting
- 10 adult, English speaking mothers who reside at the community residential recovery program center
- A city community residential program for women seeking recovery from abuse, incarceration, chemical dependency, and other life controlling problems

Interventions
- Six hour-long parenting workshops
- Delivered over six weeks Fall 2019
- Included slide presentations, workshop activities, discussion, and homework
- Participants given a workbook to follow along and reference

Data Collection & Analysis
- Pre & Post Parenting Sense of Competence Scale (PSOC), demographic questionnaire, ACE scores, and satisfaction
- Paired t-tests and Pearson’s correlations were used for data comparison

RESULTS
- Maternal ACE scores were 2-9; 80% with 4+
- Maternal ACE scores were 2-9; 80% with 4+
- Paired t-tests and Pearson’s correlations were used for data comparison
- The post PSOC self-efficacy scores was significant for the subgroup who fully attended all six workshops, t(4) = -2.50, p < .05
- All participants attended at least 50% of the workshops
- 100% of participants agreed that the workshop content would assist them in parenting
- No other significant correlations were found

DISCUSSION
- Parenting education can increase parenting knowledge and self-efficacy, and may reduce the negative impact of ACEs.

Future Projects
- Consider comparing multiple rounds of workshops
- Consider comparing multiple rounds of workshops
- Consider using a different measuring tool – some wording in the PSOC is difficult

WORKBOOK CONTENTS

ACEs Defined:
Traumatic experiences during childhood that can lead to toxic stress, and an increased risk for negative health outcomes.

ACEs

Problems in Childhood

Problems in Adulthood

Maternal ACE Scores

Prevalence of Children with ACEs

80%

Prevalence of Children with ACEs

20%

ACEs (Modest)

9-15 ACEs (High)

80%

ACEs (Minor)

2-3 ACEs (Low)

20%

- Maternal ACE scores were 2-9; 80% with 4+
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20%
Application of Resilience Theories with American Indian Adolescents
Christine Hodgson, MSN, RN, CPNP-PC, PhD student; Michelle Kahn-John, PhD, RN, PMHNP-BC, GNP; Tracy Crane, PhD, MS, RD

Background
• Reservation-dwelling American Indian (AI) adolescents experience greater health inequity compared to their white peers¹
• AI leaders and communities emphasize strength based and traditional values-based approaches to address inequities²
• Adolescent developmental stage-important consideration
• Resilience research has five decades of evidence-based application globally²
• Resilience theory emphasizes protective factors (PFs)

Purpose
Evaluate and integrate two existing resilience models to create an applicable nursing model for AI youth on a Northern Plains reservation

Logic Linking to Research Problem
• Complex contributors to AI health disparities: Historical trauma, discrimination, forced assimilation, family fragmentation, loss of culture²
• Adolescence is a pivotal time to strengthen resilience and promote healthy behaviors
• AIYR model: culturally tailored model, contributes to mid-range nursing theory development

Method
• Fawcett’s Framework⁴ used to evaluate HRM and MRM
• Refinement of concepts
• Literature and cultural experts consulted
• Integration of new and relevant concepts
• Culturally relevant model developed

Description of Contributing Models
Hózhó Resilience Model (HRM)⁵,⁶
• Kahn-John, Diné nurse researcher. HRM specific to the Diné & has inter-tribal relevance
• 3 domains of PF-relationships, respect, spirituality

Masten Resilience Model (MRM)³,⁷
• Developmental Systems Framework
• Transdisciplinary use
• Eleven evidence-based PFs related to resilience

American Indian Youth Resilience (AIYR) Model
Individual: Problem-solving, motivation to adapt, routines, subjective well-being
• Family: Nurturing and skill caregiving
• Community: Community based participatory research, school-based health centers
• Theory: Resilience, social justice, decolonization, integrative health
• Critical AI Youth Themes: Harmony, respect and spirituality

Conclusion
AIYR, a novel model designed for AI adolescents from the Northern Plains. Culturally specific nursing research and practice can help alleviate disparities.

References
Community Health Assessment of Green Valley, Arizona
Ashley Holton, MSN, FNP-C, PMHNP-DNP Candidate

**Background**

Objective: To evaluate the community health needs of Green Valley, Arizona

Community Description:
- Founded in 1964
- Located approx. 25 miles south of Tucson,
- Located approx. 40 miles from Nogales
- Surrounding cities:
  - Sahuarita (N)
  - Amado and Tubac (S)
  - Arivaca (SW)
  - Corona de Tucson (E)

**Methods**

- Primary Sources: Windshield survey
- Secondary Sources: United States Census Bureau Green Valley Chamber of Commerce); Pima Maps; Internet pages for community resources

**Demographics**

<table>
<thead>
<tr>
<th>Race</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>21,391</td>
</tr>
<tr>
<td>Black or AA</td>
<td>111</td>
</tr>
<tr>
<td>American Indian</td>
<td>150</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,691</td>
</tr>
<tr>
<td>Asian</td>
<td>39</td>
</tr>
</tbody>
</table>

Population: 21,391 (U.S. Census Bureau)

**Education**

- 96% have at least a high school diploma
- 4% have dropped out of high school
- 43% bachelor’s degree or higher
- 32.1% some college or associate’s degree
- 20.8% high school or GED
- 3.7% less than high school
- 0.4% no schooling

**Findings**

**Physical Environment:**
- Retirement Community
- Area is well manicured.
- Clean air quality
- Gated entries to some neighborhoods
- Neighborhood watch programs
- Privacy walls - the climate is currently mild.
- Clean streets with sidewalks and bike lanes

**Economy:**

<table>
<thead>
<tr>
<th>Source</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Security</td>
<td>33%</td>
</tr>
<tr>
<td>Retirement/Investments</td>
<td>50%</td>
</tr>
<tr>
<td>Wages</td>
<td>20%</td>
</tr>
<tr>
<td>Self Employment</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Health & Social Services**

- 96% insured
  - 78% Medicare
  - 37% Employer-based
  - 35% Direct Purchase Health Insurance
  - 5% Medicare or Public Coverage
  - 3% No coverage
- Hospital (1)
- Urgent Care
- Multiple clinics (Caremore, Carondelet, Northwest Clinic, United Community Health Centers, Arizona Community Physicians, VA Clinic, Valley ENT, Pain Clinic, Community Health Associates)
- 9 Country Clubs and Golf Courses
- Green Valley Recreations (GVR)

**Health & Social Services Continued**

- Transportation & Safety:
  - Local Community Services (Free)
  - Casa Community Services
  - Friends In Deed
  - United Community Health Centers
  - Valley Assistance Services
- Public Transports (regular fees apply)
  - Sun Shuttle
  - Sun Shuttle Dial-A-Ride
- Medical Transportation Providers (fees may apply)
  - Arizona Medical Transit
  - Arizona Senior Transport
  - HandiCar
- Taxi/Limo Services (fees apply)
  - Arizona Stagecoach
  - Class Act Transportation
  - Discount Cab

**Communication**

- HOA billboards
- Mail
- Green Valley News & Sun

**Strengths**

- Close nit communities with frequent gatherings
- Recreational activities available
- Shops, hospitals & clinics and entertainment within short driving distance

**Limitations**

- Limited availability to specialty care
- Limited transportation available for those who can’t drive

References available upon request
Community Health Assessment of Tubac and Tumacácori-Carmen, Arizona

David Johnsrud, BA, MAc, DiplAc, BSN, RN, DNP Student

History & Physical Environment

- Tubac is the site of San Ignacio de Tubac Presidio, established in 1752 in New Spain following conflict with local Pima Native Americans (National Park Service, 2018).
- Carmen is named for Carmen Zepeda (1874-1968), owner of Carmen’s Store (Tubac Historical Society, n.d.).
- Tumacácori is known for Mission San Jose de Tumacácori, founded in 1761 (National Park Service, 2016).
- Section of original trail exists from Tumacácori to Tubac along the Santa Cruz River from 1775-76 expedition of 240 Spanish colonists led by Lt. Col. Juan Bautista de Anza 1800 miles from Culiacan, Mexico to San Francisco, CA to establish a new settlement there in then-New Spain (National Park Service, 2018).
- The three communities are mostly contiguous from 1752 to today (Retrieved from Maplogs.com, 2020).
- The Santa Cruz River runs alongside the communities, situated within the Sonoran Desert and the Coronado National Forest.
- Tumacácori-Carmen coordinates: Lat 31.56 N, Long 111.05 W; Tubac coordinates: Lat 31.61 N, Long 111.05 W (maplogs.com, 2020).
- Tubac CDP total 2018 population: 218. 23.9% under age 5. All others, 18 and older 2017 median household income: $46,992, with 9.6% below federal poverty line (CityData.com, 2020).

Demographics, Health, & Economy

- Santa Cruz County is in Rural-Urban Continuum Code 4; Nonmetro-Urban population of 20,000 or more, adjacent to a metro area (2020, 2018).
- Tubac CDP total population: 1230. 53.7% male, 46.3% female. 30 persons under the age of 5. All others, 25 and older (US Census Bureau, 2018).
- Tumacácori-Carmen CDP total 2018 population: 218. 23.9% under age 5. All others, 18 and older (US Census Bureau, 2018).
- Tubac 2017 median household income: $46,992, with 9.6% below federal poverty line (CityData.com, n.d).
- Tumacácori-Carmen 2017 median household income: $50,136, with 7.4% below federal poverty line. March 2019 unemployment rate: 7.5% (CityData.com, n.d).
- Tubac unemployment rate: 9.3% (CityData.com, n.d).
- Tumacácori-Carmen unemployment rate: 7.5% in March 2019 (CityData.com, n.d).
- The Mariposa Tubac Regional Health Center at 2399 E Frontage Rd since March 2016 is a Federally Qualified Regional Health Center (CDC, 2019). Staffed by one ARNP full-time and a physician on Wed. afternoons and Thursdays 8am-5pm (MariposaCommunityHealthCenter.com, n.d).
- Carondelet Holy Cross Hospital; Nogales AZ. 25-bed critical-access hospital 22 miles south on I-19 (Carondelet.org, 2020).
- Santa Cruz Valley Regional Hospital; Green Valley AZ. 49-bed hospital 15 miles north on I-19 (Carondelet.org, 2020).

Government, Education, & Safety

- US Border Patrol Checkpoint in northbound lanes of I-19 approximately 3 miles north of Tubac.
- Public education under auspices of Santa Cruz Valley Unified School District No. 35, which has 5 schools total, from K-12. All schools located in Rio Rico, AZ to the south (tubacfiredistrict.org). No currently operational schools with Tubac-Tumacácori-Carmen area.
- Tubac Fire District. Four stations: 1 in Tubac and 3 within Rio Rico. Governed by a 5-member board. Serves 10,000 residents in a 166-sq-mi area. 4 total vehicles, including one ALS/BLS ambulance (tubacfiredistrict.org, 2020).
- Governance is through Santa Cruz County Board of Supervisors over 3 districts. District 3 contains these communities. District 3 Chairman: Bruce Bracker. County Manager: Jennifer St. John (santacruzcountygov.org, 2019).

Strengths/Weaknesses

Strengths:
- Rich history. Strong tourist draw, particularly to Tubac.
- Vibrant arts community in Tubac.
- Tubac Golf Resort and thriving retail art market in central Tubac.

Weaknesses:
- Very limited local health care services. Closest ED 21 miles away.
- No schools located within communities. Students must attend schools in Rio Rico.
- Limited grocery options. Most people drive to Green Valley to a supermarket.
Community Health Assessment of Sells, Arizona
Gurpreet Kaur, PharmD Candidate, Class of 2021¹

¹University of Arizona, College of Pharmacy, Tucson, AZ

Objectives
The purpose of the assessment is to identify and evaluate the issues within the community which can impact the health status of Sells residents.

Community Description

Geography and Climate
- Sells is a census-designated place located south centrally in Pima county, Arizona.
- Mid-sized city, 60 miles north of the Mexican border.
- Sunny and warm; winter temperature can go as low as 38.2°F

History
- Originally known as Indian Oasis, the settlement took its present English name in 1918 to honor Indian Commissioner Cato Sells.
- Sells is the capital of Tohono O’Odham Nation which is the second largest reservation in Arizona.

Demographics
- Total Population (2016): 6,340 residents
- Gender Distribution: Females (53%), Men (47%)
- Median Age: 26.4 years

Methods
The assessment was carried out in 2018 using the following instruments:
- Primary Data
  - Windshield Survey
  - Key informant interviews
- Secondary Data
  - Online resources: City of Sells website, Tohono O’Odham Nation website, Arizona Department of Education, US Climate data, United States Census Bureau and other statistical websites

Community Assets
- Sells Indian Hospital
- 2 Elementary Schools, 2 Middle Schools, 2 High Schools, and a Community College
- The tribe’s Himdag Ki: Cultural Center & Museum
- The Kiit Peak National Observatory
- Recreation Centre
- Local grocery store and eateries
- The tribe’s Desert Diamond West Casino
- Annual Rodeo show and sports tournaments

Community Concerns
- Low household income and educational status
- High poverty rates and crime rates
- Lack of infrastructure: Running water and telephones
- Lack of healthcare facilities and transportation
- High incidence of obesity, diabetes, and teen pregnancy
- Lack of pedestrian crossings, and accidents caused by stray animals on roads
- Geographic proximity to US-Mexico border which leads to narcotraficking

References
- Sells official website, 2018: https://www.sellsaz.com/
- United States Census Bureau, 2018: https://www.census.gov/quickfacts/az/

Limitations
- Small sample size was used for key informant interviews.
- Majority of the published data is not specific to Sells, but rather to the Pima County as a whole.

Intervention Opportunities
- Re-evaluate diabetes and obesity education programs for adaptability and accessibility.
- Encourage early screenings/health fairs in the community.
- Increase number of employment opportunities.
- Increase incentives for health-care professionals to serve the residents.

Acknowledgements
This project would not have been possible without the support of my Introductory Pharmacy Practice Experience Preceptors Christina Reding and Cody Elmer along with the pharmacy team at Sells Indian Hospital, Arizona.

For more information, please contact: Gurpreet Kaur

Windshield Survey
Comprehensive Medication Review Completion in Medically Underserved Areas and Populations

Lisa Le, PharmD Candidate; Isabel Rose Paulk, MPH Candidate; David Rhys Axon, PhD, MPharm, MS; Jennifer Bingham, PharmD, BCACP

1The University of Arizona, 2Tabula Rasa Healthcare

BACKGROUND

- The national shortage of healthcare providers has resulted in a deficit of patient care delivery and inequality between rural and urban areas.1
- Using telehealth technologies, pharmacists can serve patients in medically underserved area/population (MUA/P) with primary care physician (PCP) shortages to help address healthcare access inequalities.1
- Pharmacists, working as part of an interprofessional team, have helped patients improve long-term medication adherence and establish positive health outcomes for chronic disease management.2
- However, little is known about the proportion of comprehensive medication reviews (CMR) completed for patients living in different MUA/P counties with different rural status.

OBJECTIVES

- To compare the association among: age, gender, rural status, language preference, and behavioral health medications in proportion of CMR completions with patient versus caregiver/beneficiary prescriber.
- To compare the association among adherence barriers and rural status in proportion of CMR completions with patient versus caregiver/beneficiary prescriber.
- To provide insight of health disparities in MUA/P with community health assessment.

METHODS

Study Design

This retrospective study was approved by the University of Arizona Institutional Review Board and included 25,962 de-identified CMRs from 2018.

Data Collection

- Researchers utilized SPSS and SAS to generate chi-square, frequencies, post-hoc, and logistic regression.
- A non-rural and rural county were identified to conduct a community assessment to determine health disparities.

RESULTS

Table 1: Descriptive Statistics of Patients Eligible for MTM Services (2018) (N = 19,655)

<table>
<thead>
<tr>
<th>Variable</th>
<th>CMR Relationship</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 - 74</td>
<td>6,550</td>
<td></td>
</tr>
<tr>
<td>75 - 89</td>
<td>6,305</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3,772</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Female</td>
<td>9,083</td>
<td></td>
</tr>
<tr>
<td>Rural Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Rural</td>
<td>12,628</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Partially Rural</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Language Preferences</td>
<td></td>
<td>0.1105</td>
</tr>
<tr>
<td>English</td>
<td>83</td>
<td>0.29</td>
</tr>
<tr>
<td>Non-English</td>
<td>12,772</td>
<td></td>
</tr>
<tr>
<td>Behavioral Medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1,571</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11,284</td>
<td></td>
</tr>
<tr>
<td>Adherence barriers</td>
<td></td>
<td>0.5707</td>
</tr>
<tr>
<td>Yes</td>
<td>9,147</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>3,708</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Reasons why comprehensive medication review alerts did not escalate to providers.

Table 2: Logistic Regression Among Variables to Comprehensive Medication Review (CMR)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted Odds Ratio (95% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), 65-74 vs 75-88</td>
<td>1.850 (1.737, 1.971)</td>
</tr>
<tr>
<td>Gender, Men vs Female</td>
<td>0.674 (0.631, 0.719)</td>
</tr>
<tr>
<td>Non-rural vs Partially Rural</td>
<td>7.214 (5.740, 9.066)</td>
</tr>
<tr>
<td>Rural vs Partially Rural</td>
<td>0.637 (0.474, 0.855)</td>
</tr>
<tr>
<td>Language Preferences, English vs Non-English</td>
<td>1.424 (0.923, 2.198)</td>
</tr>
<tr>
<td>Behavioral Medications, Yes vs No</td>
<td>1.283 (1.156, 1.435)</td>
</tr>
<tr>
<td>Adherence Barriers, Yes vs No</td>
<td>0.686 (0.187, 2.523)</td>
</tr>
</tbody>
</table>

Figure 2. Behavioral Risk Factor Surveillance System (BRFSS) 2016 Health Domains in Sullivan County, NY.

DISCUSSION

- The findings of this study showed an impact of providers/caregivers completing CMRs than the patients alone to build a therapeutic alliance amongst interprofessional teams as an essential in managing chronic conditions.
- Linking rural communities to innovative health services can maximize underutilized primary and secondary disease prevention services.

LIMITATIONS

Despite the large sample size, data were predominantly from New York State Medicare patients, thus the findings are not generalizable to the general United States population.

CONCLUSIONS

- The findings of this study suggest that the public health sector has the ability to collect and analyze relevant data to assess the implementation of comprehensive secondary and tertiary healthcare prevention strategies.
- Integrative telehealth MTM services are an innovative approach that could benefit rural communities such as Sullivan County in managing chronic conditions and behavioral health outcomes.
- Future work is warranted to investigate trends in comprehensive medication review completions among MUA/P and the association with health markers over a longer time period.

REFERENCES

3. Behavioral Risk Factor Surveillance System (BRFSS) Health Indicators by County and Region. (2019). Retrieved 21 February 2020, from https://healthdata.gov/ny/health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H 5y4u7/6v4x9jVv2k53y73d/7k/2q4/4P01\7\3cL/92v08o0x9a\22?fbclid=IwAR1ECRQwQVG3daywhpqRP4qPDqws_CqW4cV46bC9v7/5zyaJ53sG7qD.

ACKNOWLEDGEMENTS

The authors would like to thank Lukas Oglesby, Ann Taylor, and Dr. Sheila Parker for their contributions to the project.

DISCLOSURES

Dr. Axon has received funding from Tabula Rasa Healthcare, Arizona Department of Health Services, Pharmacy Quality Alliance, Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc. Dr. Bingham has disclosed an outside interest in Tabula Rasa Healthcare. Conflicts of interest resulting from this interest are being managed by The University of Arizona in accordance with its policies. The remaining authors have no conflicts of interest to disclose.
Reducing the Epidemic of Hepatitis C in the Adult Population by Awareness and Prevention

College of Health & Human Services  
School of Nursing  
Esmeralda Lopez  
Faculty Sponsor: Dr. Lindstrommette, Ambur

Purpose of the Project
To bring awareness about hepatitis C virus (HCV) to reduce the numbers and the spread. Increasing the number of HCV screenings and timely treatment will help reduce detrimental complications. Studies have shown the necessity of health providers raising awareness by the usefulness of visual educational materials such as posters, flyers, pamphlets, and incentives to increase numbers of screening.

Clinical Question
For the adult population (P), does the use of visual educational material (e.g. posters) and community-based programs (I) increase Hep C awareness and screening (O) compared with traditional recommendations during clinic visits (C)?

Review of the Literature
The qualitative research study done by Lin et al. (2019) had a total of 50,909 adult participants that got screened for HCV from 74 different Liver Foundation’s Nationwide community-outreach programs. The study demonstrated inconsistencies between what the participant believes having awareness of HCV is and what awareness truly means.

The randomized control trial done by Bottero et al. (2015) had a total of 324 participants, representing mainly African immigrants that got screened for hepatitis B virus (HBV), HCV, and human immunodeficiency virus (HIV) at a free clinic. The individuals that tested positive for any of the hepatitises were unaware of being infected, as it is common due to the majority of infected individuals with HCV being asymptomatic. In summary, this research proved that screening improved the outcome of those that tested positive for HCV by linking them to care. Free clinics for hepatitis screenings lead to awareness and increase the number of HCV screenings.

Proposed Best Practice
Raising awareness with visual educational material and outreach programs will have an outcome of reducing the increasing number of HCV in the adult population. If the number of individuals infected with HCV can be identified by screenings, the spread will be reduced. The use of visual educational material and outreach programs are interventions that increase HCV screenings and awareness in the adult population.

Conclusion
The adult population needs to be educated about risk factors, the pathophysiology of HCV, and treatment that is available. Visual educational material can capture the adult population interest and inquire about HCV screenings. Visual educational material should not have medical terms or cluttered writing so it can be easy for the community to understand and more appealing to read.

Aisyah et al. (2018) research study was aimed to estimate the prevalence of HCV in high risk adult populations. A total of 1207 participants were recruited during the study period, including 511 from prison, 491 from homeless hostels, and 205 from drug treatment centers that were tested for HCV. The research concluded that it is important to identify settings such as prisons, homeless hostels, and drug treatment services where at high risk groups can be located and screened to prevent the spread of HCV.
Immunization coverage levels and financial impact of vaccine preventable diseases in Arizona

Nancy Lopez M.S., University of Arizona College of Medicine, Phoenix
Jennifer Tinney, Program Director, The Arizona Partnership for Immunization

Introduction

Vaccine preventable diseases (VPDs) are becoming more common in the United States, as demonstrated with increasing numbers of measles and whooping cough outbreaks. This trend is driven by several factors, including the anti-vaccination movement and waning efficacy of certain vaccines.

In Arizona, millions of dollars are spent to treat VPDs in children. These costs could be reduced or eliminated if more children received lifesaving vaccines. Investigating the annual cost of care attributed to VPDs provides the opportunity to demonstrate gaps in coverage as well as data to aid policy makers to support adequate child vaccine coverage in Arizona.

Research Question

Is there an association between hospital costs for vaccine-preventable diseases individuals under the age of 18 and school vaccine exemption rates between 2016 and 2018 in Arizona?

Materials and Methods

Services from the Arizona Partnership for Immunization (TAPI) and the Arizona Department of Health Services (AzDHS) were used for data collection. Data was collected utilizing the National Immunization Survey (NIS) data from the Centers for Disease Control, Arizona State Immunization Information System (ASIIS) data, Arizona Department of Health Services (AzDHS) School Exemption and Coverage Rates and Disease Data and Statistics Report, Medicaid Immunization Coverage Rates (AHCCCS), internal United Healthcare Claims Data, and the Maricopa County Department of Public Health Services.

Hospitalization cost and cases for VPDs between 2016 and 2018 were obtained using customized ICD9 and 10 code report from Bureau of Public Health Statistics (Table 1). Data was analyzed by Paul Kang at the University of Arizona College of Medicine Phoenix statistician.

Table 1: Customized ICD9 and 10 Code Report

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>ICD9 Codes</th>
<th>ICD10 Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Influenza B</td>
<td>481.0, 482.2</td>
<td>B96.3 G00.0, G09.14</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>239.3, 322.3, 228.1</td>
<td>A36.0 A36.1, A36.2, A36.3 A36.9</td>
</tr>
<tr>
<td>Measles</td>
<td>050.0, 055.1</td>
<td>B05.0 B05.1 B05.2 B05.3 B05.4</td>
</tr>
<tr>
<td>Mumps</td>
<td>072.0, 072.1, 072.2, 072.3</td>
<td>B26.1 B26.2 B26.3 B26.8</td>
</tr>
<tr>
<td>Pertussis</td>
<td>033.0, 033.1, 033.8, 033.9</td>
<td>A37.0 A37.9</td>
</tr>
<tr>
<td>Tetanus</td>
<td>037</td>
<td>A33 A34 A35</td>
</tr>
<tr>
<td>Polio</td>
<td>45.1, 45.9, 45.2</td>
<td>A05.0 A05.1 A05.2 A05.3 A05.8</td>
</tr>
<tr>
<td>Rubella</td>
<td>069.0, 069.1, 069.2</td>
<td>B06.0 B06.1, B06.2, B06.3</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>70.2, 70.3</td>
<td>B18.0 B18.1 B18.9 B18.0</td>
</tr>
<tr>
<td>Congenital Rubella</td>
<td>7710</td>
<td>P00.0</td>
</tr>
<tr>
<td>Varicella</td>
<td>021.0, 021.9</td>
<td>B01.0 B01.1 B01.2 B01.8, B01.9</td>
</tr>
<tr>
<td>Influenza</td>
<td>487, 487.1, 487.8, 488.0</td>
<td>J10.0 J10.1 J10.2 J10.3 J10.9</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>481.0, 482.3, 481</td>
<td>J13 A40.3 B95.3, G00.1, G00.2</td>
</tr>
<tr>
<td>Meningococcal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td>090, 091, 092</td>
<td>B24.0 B24.1 B24.2</td>
</tr>
<tr>
<td>Pertussis</td>
<td>018.0, 018.1</td>
<td>A37.0 A37.9</td>
</tr>
</tbody>
</table>

Table 2: Percentage of kindergarten, 6th/7th grade public school students, and children in childcare that are exempt from school required immunizations, as reported through the 2015-2018 Immunization Data Report by the AzDHS.

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>2015-2016</th>
<th>2016-2017</th>
<th>2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Exemption</td>
<td>0.3</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Personal Exemption</td>
<td>4.5</td>
<td>4.9</td>
<td>5.4</td>
</tr>
<tr>
<td>Total Exemption</td>
<td>4.8</td>
<td>5.2</td>
<td>6.2</td>
</tr>
<tr>
<td>6th Grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Exemption</td>
<td>0.4</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Personal Exemption</td>
<td>4.4</td>
<td>5.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Total Exemption</td>
<td>4.8</td>
<td>5.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Childcare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious Exemption</td>
<td>3.6</td>
<td>3.9</td>
<td>4.3</td>
</tr>
<tr>
<td>Medical Exemption</td>
<td>0.5</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Total Exemption</td>
<td>4.1</td>
<td>4.4</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Results

Where the Exemptions Are:

Top 10 Urban Hotspots in the US for school exemptions and the number of kids at risk

Phoenix, AZ 2,941

Over the past 3 years, there has been an 1.4%, 1.5%, and 0.7% increase in total vaccination exemptions in kindergarten, 6th grade, and childcare children, respectively (Table 2).

Between 2016 and 2018, summative hospital and emergency room costs for VPD in AHCCCS pediatric patients increased by more than $10 million (Figure 1).

Similar trends were observed in both urban and rural Arizona counties. Considering the increased vaccination school exemption of Yavapai County (12.5%) versus Yuma county (1.3%), although population growth needs to be accounted for prior to additional analysis (Figure 2).

Summary

- There is a need for accurate and up to date information about vaccinations in Arizona, which can be attributed for the recent increase in VPDs outbreaks.
- Overall, more exemptions lead to increased illness and hospital costs
- Emphasizes on public health measures to lower exemption rates in Arizona will help to decrease preventable hospitalizations and overall medical cost.

Acknowledgements

I wish to thank my mentor Jennifer Tinney and The Arizona Partnership for Immunizations (TAPI) for giving me the opportunity to help advocate for patient health in Arizona. I would like to thank Dr. McEchron for his support connecting with TAPI and Paul Kang for his assistance with data analysis.
BACKGROUND
Interprofessional education, often implemented through simulation education, has become a primary strategy to improve clinical communication and health outcomes. Telesimulation may provide a new modality to expand interprofessional education to more learners by addressing the key barriers of cost and facilitator deficit within traditional simulation education.3, 4

This pilot study was designed to evaluate the effectiveness of remote facilitation in comparison to live facilitation for interprofessional education.1, 2

METHODS
This study was conducted at two sites:

- Arizona Simulation Technology and Education Center (ASTEC)
- Northern Arizona Area Health Education Center (NAHEC)

Participants:

- 5 first year medical students – ASTEC
- 2 second year osteopathic students – NAHEC
- 3 fourth year pharmacy students – NAHEC

The two locations were equipped with a high-fidelity patient simulator, all necessary medical supplies, and live telemedicine visual/audio connectivity. The learners completed four cardiopulmonary resuscitations (CPR) scenarios, two scenarios per site, that were each followed by a debrief. At each site, students were provided with one debrief led by the on-site facilitator and one debrief led by the remote facilitator. Students completed a survey at the end of the training, evaluated on a 5-point Likert scale.

RESULTS
The survey was completed by all learners (n=10) and returned within a week of the simulation training.

Survey Question:

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Average Score ± Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I could see who was speaking at the remote site.</td>
<td>4.5 ± 0.7</td>
</tr>
<tr>
<td>I could follow along as the simulation scenario unfolded with relative ease.</td>
<td>4.5 ± 0.7</td>
</tr>
<tr>
<td>I could easily identify what each learner was doing throughout the scenario.</td>
<td>4.3 ± 0.8</td>
</tr>
<tr>
<td>I could hear the discussion between participants clearly.</td>
<td>3.9 ± 0.6</td>
</tr>
<tr>
<td>I could hear the facilitator clearly.</td>
<td>5.0 ± 0.0</td>
</tr>
<tr>
<td>As a remote learner, the objectives for this session were adequately addressed.</td>
<td>4.9 ± 0.3</td>
</tr>
<tr>
<td>The facilitator was able to provide a valuable simulation training experience using distance learning technologies.</td>
<td>4.9 ± 0.3</td>
</tr>
<tr>
<td>The remote facilitation was just as effective as the live facilitation.</td>
<td>4.2 ± 0.6</td>
</tr>
<tr>
<td>I would recommend using tele-simulation (distance learning using simulation technology) for locations with low resource and low facilitator availability.</td>
<td>4.7 ± 0.6</td>
</tr>
</tbody>
</table>

Learner post-simulation surveys scored on a 5-point Likert scale (1 – Strongly Disagree; 5 – Strongly Agree).

CONCLUSION

- The pilot study suggests that telesimulation, with remote and live facilitation, is an effective strategy to provide interprofessional simulation education.
- Improvements can be made to standardize the set-up of audio/visual technology for telesimulation education.
- Additional orientation can be done to encourage more verbal interaction between sites in future studies.

REFERENCES

BACKGROUND

Interprofessional education utilizing simulated pandemic exercises has shown many advantages, primarily improved interprofessional (IP) problem solving, IP communication, pandemic preparedness, and IP perception.

Despite these advantages, large scale IP events are often limited by student engagement, high demand on facilitator time, and poor accessibility to students in rural areas, online programs, or unavailable on the scheduled date.

In order to address these limitations, a novel pandemic IP event was designed and evaluated.

PANDEMIC DESIGN

SET UP
- IP teams of 4-8 students
- Laptop/tablet for viewing videos and Zoom video conferencing
- Introduction to the event format, supplies, and learning objectives

VIDEO SCENARIO (12 Minutes)
- Global swine flu outbreak over a year timespan
- News clips and press releases preface and contextualize discussion breaks
- Display of global map, infected areas, total cases, and total deaths
- US Surgeon General discusses the pandemic event

DISCUSSION BREAKS (104 Minutes)
- 8 Discussion Breaks (13 minutes each)
- Team discussion (8 minutes); Large group all teams discussion (5 minutes)
- Topics: local response, border closure, vaccine priorities, rural response, maintaining societal order, Olympics, economic instability, mandated quarantines, resource scarcity, and vaccine distribution

EXPERT PANEL
- Minimum of 1 IP facilitator onsite to supplement team discussions
- Virtual expert professions included: doctor, nurse, lawyer, public health, first responder, border patrol, emergency operations manager, and former US Surgeon General

METHODS

The pandemic event was evaluated during two separate events. After each event, students were asked to complete a post-training survey to evaluate the pandemic event using a 5-point Likert scale. Pre- and post-event activities were compared using a two-tailed, paired Student’s t-test.

RESULTS

POST EVENT SURVEY:

<table>
<thead>
<tr>
<th>EVENT 1</th>
<th>EVENT 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post survey completion rate</td>
<td>71%</td>
</tr>
<tr>
<td>Agreed the event was engaging</td>
<td>96%</td>
</tr>
<tr>
<td>Agreed the event was overall effective</td>
<td>82%</td>
</tr>
<tr>
<td>Agreed the event met IP learning objectives</td>
<td>91%</td>
</tr>
</tbody>
</table>

PRE/PRE-EVENT ACTIVITIES COMPARISONS:

EVENT 1: Significant increase in the number of professions (p<0.001) and ratio of non-healthcare professionals (p<0.001) included in pandemic response after the event.

EVENT 2: Could not be compared due to insufficient activity completion rate.

CONCLUSIONS

This event format provided an effective and engaging method to meet IP learning objectives. The virtual experts provided IP learning without a burden on facilitator time. Lastly, the combination of a video based scenario, virtual experts, and a video conferencing platform allows this event to be more accessible and reproducible.

Future directions for this project include recruiting additional virtual experts and adapting the event to use for health sciences outreach for high school and undergraduate students.

REFERENCES

Community Health Needs Assessment Payson, Arizona

**Background**

Demographics/ Ethnicity
- Payson is located in Gila County
- Population 15,245
- Males 47%, females 53%
- Median age 57.7 years
- Az median age 37.5 years
- 85% Caucasian
- 9.5% Hispanic
- 2.5% Native American
- Black alone 0.2%
- Asian 0.5% (city data, 2019)

Rural Classification- Gila County
(via census and urban continuum code)
- Census: Gila County population 53,597, median age 48.9, Poverty rate 21.2% (United, 2014)
- Median household income $40,593, employees 18016 (Gila county , Az/data USA)
- Rural Urban Continuum Code 4 non metro
- Urban population of 20,000 or more,
- Adjacent to a metro area
- Population 15,245
- 1 Middle School
- 2 Elementary Schools (town of Payson)
- Named after ILL Rep. Joseph Payson
- Banne Hospital Payson Roundup.com
- Small community hospital 45 beds (Banner, 2019)
- Walmart Supercenter
- online research

Value Beliefs and Ethnicity
- Catholics 8519
- Protestants 5416
- Other 4756 (mypayson.com)
- High sense of community
- Numerous churches and faith based organization (city-data, 2019)

**Methods**

Community Health Assessment methods:
- A windshield survey of Payson
- Key information interviews
- Online research

**Results**

Physical Environment

Water - The critical resource
- Payson has gained water-rights to
  - CC Cragin Reservoir
  - Assured water for next 100 years
  - 3,000 acre feet per year (Az dept, 2018).
- Elevation 4952

Climate
- 23 inches rainfall/ year avg
- Avg. high temp July 90.9 F
- Avg. low temp Jan. 25.3 F
- 286 sunny days per year

Recreation
- Green Valley, fishing walking trail
- 3 golf courses ( 2 private, 1 public)

Transportation
- Senior Center bus
- No public transportation
- 5 minute drive to anywhere
- 2 fire stations
- Police and Sherriff depts (Payson Rim, 2014)

**Health/Social Services**

- 1 Regional Hospital Banner
- 2 long term skilled Nursing facilities (Rim Country Health, Payson Care)
- 2 assisted living facilities (Powell House, Majestic Rim)
- 2 psychiatric outpatient facilities
- Davita Dialysis Center
- 3 Hospices (palliative end of life care)

**Economy**

- Medium Household Income
- Payson $47,563  AZ $53,551
- Employees 5301 (city-data, 2019)
- 2 grocery stores (Safeway, Bashas)
- Walmart Supercenter
- Home Depot
- New home construction (stable)

**Government**

- An elected mayor
- 6 council members (Town of Payson, 2019)
- Police and Sherriff depts (Powell House, Majestic Rim)
- Home Depot
- New home construction (stable)

**Transportation**

- Senior Center bus
- No public transportation
- 5 minute drive to anywhere
- 2 fire stations
- Police and Sherriff depts (Payson Rim, 2014)

**Strengths of Health Care Continuum**

- 2 long term skilled nursing facilities with 100 plus beds
- 2 psychiatric out patient facilities
- 2 assisted living facilities

**Limitations of Health Care Continuum**

- Small community hospital 45 beds (Banner, 2019)
- Currently no orthopedic surgeon
- No heart cath lab limited acute care (patients need to be air vac’d to Phoenix)
- Limited primary care physicians for population demands

Recommendations for strengthening Health Services

- Payson has been trying to lure Arizona State University (or any university) to build a 4 year satellite facility for 15 years with no success. They have the land and spent a million dollars on the entrance. This will help educate future healthcare professionals and expand the population base. The community is too small and does not attract top physicians both primary and specialists. The local community college has a shortage of Masters educated nursing instructors who are willing to teach future nurses at the very low level of salary offered. Gila Community College is a satellite of Eastern Arizona College in Thatcher Az. Gila Community College needs to become independent of Eastern Az. but needs adequate community support and funding.

References Available
A Novel Approach to Reducing Implicit Bias: An Organizational Intervention
Jennifer T. May, MSN, RN, ANP-BC, PhD Candidate; Janice D. Crist, PhD, RN, FWAN, FAAN; Jeff A. Stone, PhD

Purpose
The purpose of this ongoing project is to test direct care worker use and sexual and gender minority (SGM) older adult satisfaction, well-being and health after taking an organizational approach to SGM older adult implicit bias training

The goals are to evaluate whether:
• Long-term care (LTC) healthcare workers use the skills learned in SGM older adult implicit bias training and
• SGM older adult resident satisfaction, well-being, and health are improved after implementation of SGM older adult implicit bias training attended by LTC healthcare workers

Methods
• 9 LTC facilities within one LTC chain will be recruited from a southeastern state
• LTC facilities randomly assigned into three groups:
  Group 1: No implicit bias training
  Group 2: Implicit bias training without facility “buy-in” strategies
  Group 3: Implicit bias training with organizational “buy-in” strategies
• The PI will meet with leadership to discuss “buy-in” strategies
• Acceptance of “buy-in” verified through a “manipulation check”

Measures
LTC healthcare workers:
• Pre/post implicit association test
• Pre/posttest survey of perceptions of bias
• Likert scale questionnaire to assess explicit attitudes
• Post survey evaluation of implicit bias training

LTC Residents:
• Pre/posttest Short Assessment of Patient Satisfaction
• POMS-Short Form
• Somatic Symptom Scale-8

Implications for Practice/Further Research
The outcomes of the proposed research will guide future efforts to:
• Create increased awareness of implicit bias in the healthcare setting
• Reduce implicit bias through an effective organizational intervention
• Improve health and well-being of SGM older adults in LTC facilities

References
Survivorship of Loss by Suicide
Becky M. McDaniel, MSN, RN-BC, PhD Candidate; Patricia Daly, PhD, FNP-BC, ENP-BC, FAANP; Janice D. Crist, PhD, RN, FWAN, FAAN; Pamela G. Reed, PhD, RN, FAAN; Christy L. Pacheco, DNP, FNP-BC

Purpose
To describe suicide loss survivors’ (family and friends left behind after the loss of someone to suicide) experiences and barriers to accessing support and/or mental health care.
1. Explore physical and mental health experiences related to suicide.
2. Identify potential barriers to accessing support or mental health care.

Background
• Suicide is the 10th leading cause of death in the U.S.
• Suicide and suicide attempts in the older adult population tend to occur more often in the rural areas than urban.
• For every death by suicide, an underestimated number of grieving family members are left behind.
• Suicide is a complex and tragic community problem in which the literature supports concerns with under-reporting.
• There are twice as many suicides as homicides in the U.S.
• Suicide loss survivors are at an increased risk of suicide and will often report the desire to take their own life.

Conceptual Framework on Experience of Loss by Suicide

Methods
• A qualitative descriptive methodology will be utilized for this study.
• Five to ten participants will be recruited through the American Foundation for Suicide Prevention and suicide loss support groups.
• Participants will be asked broad open-ended questions to elicit meanings, feelings and stories.
• Prompts will be used as needed during the interview to further elicit and expansion of what has been said.
• Example Questions include:
  • Tell me about your life after your loss by suicide.
  • After the loss of a loved one, did you feel supported? What was that like?
• Interviews will be audio recorded, transcribed verbatim and coded for themes.

Results
Data will be analyzed using qualitative content analysis.

Implications of Practice
Increasing the understanding of suicide loss survivors’ experience may facilitate health care providers support by:
• Identifying at-risk suicide loss survivors’ and facilitating access to receiving appropriate mental health care.
• Developing effective interventions to decrease suicide rates and health care risks and costs.

References
Lifestyle and Factors that Affect Health in Wickenburg, AZ
By: Amanda Mikhail and Lacey Oscarson

Background
- Wickenburg became part of the United States following the Mexican American War in 1848
- Wickenburg is a town located at the junction of US 60 and US 93 in Maricopa County, Arizona
- The elevation of Wickenburg is 2,100 feet above sea level with an average monthly temperature of 80 degrees Fahrenheit
- Wickenburg contains 7,840 people as of July 2018. 77.4% of the population is considered white, 10.5% as other, and 6.3% as two or more races
- The median age in the town is 56 years, with a high majority that are seniors. 53% of the population are females and 46% are males.

Methods
- Primary data
  - Two, four-week community immersions in Summer 2019
  - Key informant interviews
  - Windshield survey to assess the Town of Wickenburg.
- Secondary data
  - Town of Wickenburg website
  - Other online sources

Key Results/Findings

<table>
<thead>
<tr>
<th>Factor</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise</td>
<td>Average sedentary hours: 6.1 35.7% of residents do moderate intensity exercise regularly</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Good access to food via grocery stores, food pantries, fast food, and farmer's markets Over half of residents eat out weekly 60% K-8 are food- insecure</td>
</tr>
<tr>
<td>Income</td>
<td>Average income: $42,752 Employment rate: 43.9% Poverty Level: 14.2%</td>
</tr>
<tr>
<td>Education</td>
<td>Four-day school week Graduation Rate: 76% Most common degree: Bachelors</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Marijuana use: 65.4% Alcohol: 78.1% Cigarettes: 46.3%</td>
</tr>
<tr>
<td>Maternal Health</td>
<td>Limited access to OB-GYN specialists</td>
</tr>
</tbody>
</table>

Prevention and Health Promotion
- Building more affordable gyms in the area will promote citizens to participate in physical activity for their health
- Providing citizens with educational sessions by healthcare professionals in the area about overall health
- Recruiting more healthcare providers in various specialties to meet the needs of citizens
- Expand Farmer’s Market season to promote variety
- Expand promotion of activity and resources available to low income families. Most information is on the town website.

Conclusion
- Wickenburg, AZ needs more access to specialty physicians based on citizen needs
- Creating more programs for health and wellness will promote physical activity and healthy eating
- More access to OB-GYN specialists will save pregnant mothers time and travel to nearby cities like Phoenix to obtain the proper care

References and Additional Information

Age Pyramid of Wickenburg, AZ
The relationship between H. pylori and gastric cancer

College of Health & Human Services
School of Nursing
Adina Teodora Morris
Faculty Sponsor: Shelley Vaughn, D-NP

Purpose of the Project

The bacterium Helicobacter pylori has been found to be closely associated with gastric cancer incidence. Educate family care providers, MAs, nurses as to the importance of proper diagnostic testing, treatment, and follow up.

Problem

Gastric cancer is the third most common cause of cancer death worldwide. Failure to test post treatment for eradication of H. pylori per guideline increases the risk of acquiring gastric cancer by 50%.

Setting

Rural primary care clinic, Safford, Graham County, AZ. Retrospective chart review of adult patients at a clinic in rural southeast Arizona. Patients who were H. pylori positive were selected and the charts were be searched for proper guideline treatment, then checked for eradication testing per guideline.

Patient Population

Adult patients age 18 or older but will focus on elderly patients as the prevalence of infection peaks over 50 percent in patients over the age of 60. Graham County demographics: 51.0% White, non-hispanic, 33.1 % Hispanic, 13.6 % Native American and Alaskan Native, 1.8% Black or African American.

Clinical Question

(P)Are adult patients (I)who receive education and proper treatment from H Pylori (O)less likely to be diagnosed with gastric cancer (T)later in life as (C)compared to those without education and treatment?

Review of the Literature

The literature review conducted suggests that proper treatment of Helicobacter pylori reduces the risk of metachronous gastric cancer and colorectal adenoma, therefore primary care providers must ensure that their practice is up to date and follows guidelines when treating patients for H. pylori.

Gastric cancer is the third leading cause of cancer deaths worldwide and H. pylori is one of the most important etiologic factors for gastric cancer. Literature suggests that 78% of gastric cancer cases are attributed to H. pylori infection.

Guidelines for testing, diagnosing, treatment, and follow up of H. pylori are readily available in many literature reviews and the lifetime risk of acquiring gastric cancer of a patient who has been treated is reduced by 50%.

Proposed Best Practice

Eradication of Hpylori - Clarithromycin based triple therapy with amoxicillin which includes Omeprazole 20 mg PO BID, Clarithromycin 500 mg PO BID, and Amoxicillin 1000 mg PO BID. There is no nonpharmacologic management for H. pylori.

Testing: Non-invasive testing for H. pylori includes urea breath testing, stool antigen assay testing, serology, and 13C-urea assay. Stool antigen assay testing should be the first chosen non-invasive test by providers. Proton pump inhibitors should be held for one to two weeks prior to testing as they can cause false negative results.

Eradication of H. pylori must be confirmed in all patients at least four weeks after completion of antibiotic treatment with urea breath test, stool antigen assay testing, or endoscopy testing.

Conclusion

Recommend all providers practice annual data review to note if meeting required eradication testing.

Recommend educating the clinic staff of the risk factors, diagnosis, testing, treatment and follow up for gastric cancer increases the likelihood that gastric cancer rates will likely decrease over the next 10 years.

Recommend that medical assistants take the initiative to order re-test and follow up with patients 30 days post treatment.
### Purpose of the Project
To explore and inform the practice of primary care providers (PCP) on the importance of being culturally competent within the rural communities they serve to overcome barriers of healthcare literacy.

### Problem
12% adults within the United States were proficient in regards to health literacy and approximately 77% had difficulty with following common health tasks. Ultimately, leading to the misunderstanding of the patient’s care, and overall, increased mortality rates.

### Setting
Rural primary care setting

### Patient Population
All patient populations of all racial and ethnic groups with rural communities

### Clinical Question
For PCPs, does their awareness of cultural differences improve healthcare literacy after a one-day cultural awareness course compared to PCPs who did not receive the cultural awareness class within the rural communities they serve?

### Review of the Literature
- In a descriptive statistics analysis of 13 nurse practitioners (NP) of pre- and post- training assessments and client surveys, data suggests an increase in NPs providing appropriate care and improving client satisfaction.
- A systematic review of 64 studies found that training increased provider knowledge, but did not show any positive effect on patient outcomes, as most studies did not measure patient outcomes.
- A mixed methods study demonstrated an increase in cultural competency by FNPs after a 3 hour cultural education workshop.
- A qualitative study showed positive correlation between providers self-perceived clinical competencies and a cultural teaching program.
- A quantitative/qualitative study utilized patient questionnaires to assess patients’ perceptions of the provider’s cultural competence. It demonstrated that patients have a “fear” of providers across multiple cultures.

### Proposed Best Practice
Utilizing a tool or model, or even a combination of models to implement during a one-day cultural competency course such as Kleinman’s explanatory model to facilitate cross-cultural communication, and the Purnell Model for Cultural Competence, to assess and increase the PCP’s self-awareness related to health, would be very beneficial when training PCPs in culturally competent care.

### Conclusion
The importance of culturally competent care is well documented. The need to communicate across cultural barriers will continue to be an important part of primary care, especially in rural America. Based on the studies, experts agree there is a need for comparison of the approaches within the studies and a more universal tool to measure data consistently that shows the positive outcomes that have been reported to build evidence based on the impacts of cultural competence related to PCPs and the care they provide.
Mitigate Opioid Overdose: Educating Staff to Recognize and Intervene with Naloxone Intranasal at Integrative Outpatient Center

Mercy Omijie, BSN, RN, PMHNP-DNP Student

Purpose

❖ Initiate an opioid overdose intervention program to train staff on responding and administering Naloxone Nasal Spray to mitigate overdose fatalities.
❖ Evaluate changes in staff knowledge, self-efficacy, and willingness to intervene through pre and post educational assessment of baseline knowledge on opioid overdose and administration of Naloxone Nasal Spray.

Background

IN 2017...

❖ 130 People died every day from Opioid related drug overdose
❖ 70,000 People died from Overdosing on opioids
❖ 886,000 People used heroin
❖ 191 million Written opioid prescriptions
❖ 2 million Americans mis-used prescription pain relievers
❖ 2 million People had an opioid use disorder

Opioids in Arizona

More than 2 People die every day from opioid overdose

❖ 51,473 Possible opioid overdose reported
❖ Heroin death Tripled since 2012
❖ Opioid deaths historically ↑ in Men
❖ Estimated $431 million in health care cost in Arizona

First Aid Intervention

Naloxone (Narcan) Nasal Spray

EMERGENCY therapy for suspected opioid related overdose

❖ Reverse the effect of opioid overdose
Not a controlled substance

Formula: 4mg dose; 1 spray

❖ Repeated dose may be necessary
Can be used in children & Adults
• Get medical help (911) right away
No individual prescription needed in Arizona
Easy to use

Evidence Synthesis

❖ There was consensus among the literatures that the use of Naloxone Nasal Spray did save lives in opioid related overdose occurrences by reversing the effects of the overdose.
❖ In contrast, there were literature supporting the idea that the use of Naloxone Nasal Spray may promote opiate abuse and misuse because the opiate users became aware of the overdose remedy.
❖ A final theme in the literature is the success of trained bystander use of the Naloxone Nasal Spray on patients with potential opioid overdose.

Strengths, Limitation & Gap

Community-based overdose education increased participant’s knowledge and results in a high recovery rate after bystanders administered Naloxone.
37 trained responders were able to identify symptoms of overdose, administer Naloxone and resuscitated 45 overdose victims.
Naloxone reversed about 96% opioid overdose, victims.
Having Naloxone nearby resulted in median administration time of 3 minutes.

Substantial knowledge gaps in opioid overdose and naloxone treatment.
Stigma, negative attitude, and perception towards this form of treatment among the general public.
Naloxone administration for reversal of opioid overdose is effective in many delivery models and settings but has been severely underutilized.
Policy and regulation restrictions such as limited access and utilization of this form of treatment.

Conclusion

❖ Evidence indicates that Naloxone Nasal Spray was significantly successful at reversing the effects of an opioid overdose.
❖ The objective to successfully initiate opioid overdose intervention training for clinic staff is a small part of a more massive, national effort to mitigate opioid overdose deaths.
❖ Although there are still ongoing limitations with regards to access and widespread distribution, this clinic will be able to save the lives of its high risk populations.

References Upon Request
The purpose of this project was to explore the evidence of effectiveness in chronic pain management in the primary care setting, focusing on alternative therapies to opioids, and implementing treatments into practice as applicable.

### Clinical Question

In the primary care setting for adult patients with chronic pain, are alternative therapies, as determined by a literature review of proven alternative pain modalities, more effective than opioids in managing pain?

### Problem

25 million Americans suffer from a reduced quality of life and limited daily activity due to chronic pain (Delgado et al., 2014). Approximately 70% of patients with chronic pain do not receive adequate treatment. Medical costs for work absences due to chronic pain near $630 billion (Reuben et al., 2015). Almost eight million Americans are prescribed opioids for long-term pain management, and there are 90 opioid overdose related deaths daily.

Disadvantaged populations are 80% more likely to suffer from chronic pain. Primary care providers are the first line of treatment for this disadvantaged population in treating chronic pain, as the majority of prescriptions and treatment recommendations come from the PCP (Becker et al., 2017).

### Review of the Literature

Current barriers that prevent implementation of non-pharmacologic treatment include:

- Lack of availability of non-pharmacological modalities
- Low patient motivation
- Skepticism regarding effectiveness
- Costs
- Inability to promote non-pharmacologic modalities once opioid therapy has started
- Limited PCP visit time
- Reimbursement that does not support the most effective solutions (Becker et al., 2017).

Alternative medicine therapies to reduce opioid usage for chronic pain patients is effective in decreasing or stopping opioid use altogether with increased quality of life (Mehl-Madrona, Mainguy, & Plummer, 2016).

Mind-body program has been proven to improve short-term functionality and short-term and long-term pain (Morone et al, 2016).

### Proposed Best Practice

1. Increased education for patients and PCPs regarding chronic pain and various alternative therapies (Becker et al., 2017).
2. Increase the availability of specialists and alternative therapies (Becker et al., 2017).
3. Increased research on management of chronic pain and development of evidence-based best practices for alternative treatment modalities (Vallerand et al., 2015).

### Conclusion

A holistic approach that acknowledges biological, psychological, social and cultural factors is the ideal model for chronic pain management in the primary care setting. This model integrates self-care therapies as part of the patient-centered treatment plan. It places the PCP as the overall manager of the multidisciplinary team, which includes pain specialists, psychologists, physical therapists, among other specialties. The model shifts clinical practice away from medications to a broad range of treatment modalities.

Chronic pain affects all ages, cultures, and socioeconomic classes and is more prevalent in people age 65 and older, impacting 53% of this age group (Morone et al., 2016).
Provider-Focused Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) Education: A Quality Improvement (QI) Effort

Amir Raad, RN, BSN, DNP-PMHNP Student

Background Knowledge

The LGBTQ community is vibrant, diverse and embodies individuals from a variety of ethnic, cultural, racial, socioeconomic, and geographic backgrounds. LGBTQ individuals experience a multitude of health disparities resulting in a poor quality of life, violence, abuse, and diminished health outcomes.

Purpose

Implementing an educational competency through an educational that will incorporate cultural sensitivity recommendations alongside information on the health disparities experienced by the LGBTQ community.

Evaluating healthcare professionals on health disparities of the LGBTQ community equips the providers with evidence-based strategies to identify the risks and health behaviors commonly experienced by the LGBTQ community.

Team Milieu

Transformational Leaders: clinic management, psychiatrists and nurse practitioners acquire workforce technological knowledge and shaping patient satisfaction.

The Nursing Team: psychiatric nurses and behavioral health techns play a pivotal role in sculpting support decision tools to maintain an environment of safety (Institute for Healthcare Improvement, 2019).

Strategy Advocates: social workers, care managers, and nursing supervisors form a team aimed at creating sustainable workforce progress and quality improvement to integrate a safe and sustainable organization.

Assessment

- Guided through the implementation of the IHI Model for Improvement, assessing and understanding pivotal LGBTQ health barriers through the development of a health awareness & discrimination training integrates competent strategies, risk clarification and effective safe patient care (Institute for Healthcare Improvement, 2019).

- Measuring change by incorporating the Adult Learning Theory enables team members to reinforce complex change mechanisms by improving LGBTQ health outcomes and increasing community knowledge and understanding.

- The healthcare system is suffering from the lack effective leadership for LGBTQ patients suffering from mental illness, little to no provision for integrated LGBTQ provider education, minimal understanding of LGBTQ individuals, their health and safety needs; and cultural competency for LGBTQ individuals (Gahagan & Colpitts, 2016).

- Addressing LGBTQ needs through the implementation of an educational instrument is led by applying a PDSA cycle which utilizes thorough outcome measures of learning to achieve safer practices, explore risk management implementation, developing a plan, carrying out the test, observing and learning from the consequences; and determining what modifications should be made to the test.

Strengths & Limitations

Implementation challenges include the lack of knowledge, culture and communication on the awareness of evidence-based approaches.

- Specific aims to promote adoption in meeting the unique needs of LGBTQ patients include:

  - Integration of a caring, valuable and a culturally based training for psychiatric mental health providers aimed at exploring and understanding current challenges of the LGBTQ population (Institute for Healthcare Improvement, 2019).

  - Craft techniques to educate and advocate for LGBTQ community members.

  - Promote understanding regarding prevalence and effects of health disparities.

  - Provide effective health service support and engagement in active partnerships for improved health promotion (Mcniel & Elertson, 2018).

References Upon Request
Uncovering Demographics of the Sex-Trafficked Victims of Phoenix

Nicole Segaline MSIII1, Maurice Lee MD, MPH, FAAFP2, Paul Kang MPH3, Dominique Roe-Sepowitz MSW, Ph.D3

1. College of Medicine Phoenix, University of Arizona, Phoenix, AZ 85004
2. Medical & Dental Clinic, Virginia G. Piper St. Vincent De Paul, Phoenix, AZ 85003
3. Department of Sex-Trafficking Intervention Research, Arizona State University, Phoenix, AZ 85004

BACKGROUND

“The act of recruitment, harboring, transportation, provision, or obtaining of a person for labor or sexual services through the use of force, fraud or coercion”1

Human Trafficking

• Human Trafficking is the 2nd fastest growing form of crime worldwide and accounts for $32 billion annually2
• Only 2% of victims of sex-trafficking have been identified2
• In 2016, only 2.4% of reported calls from the National Human Trafficking Hotline were made by medical professionals

Project STARFISH

• Sex Trafficking Awareness For Individual Strength and Hope
• Founded by Arizona State University Department of Social Work Office of Sex Trafficking Intervention Research (STIR)
• A biannual drop-in center that provides resources for anyone who has previously been or is currently being trafficked

PURPOSE

• To further understand the demographics and medical needs of the sex trafficked population of Phoenix
• Create strategies for health-care providers to better identify victims of human trafficking
• Foster open communication between community members and victims of human trafficking

RESULTS

Table 1: Demographics of the sex-trafficked population of Phoenix

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All Participants (n=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years (mean, SD)</td>
<td>35.2 (11.4)</td>
</tr>
<tr>
<td>Sex (female, %)</td>
<td>73 (91.3%)</td>
</tr>
<tr>
<td>BMI (n, %)</td>
<td>21 (26%)</td>
</tr>
<tr>
<td>Normal weight: &lt;25</td>
<td>Overweight: ≥25</td>
</tr>
<tr>
<td>Tobacco Smoker (n, %)</td>
<td>24 (30%)</td>
</tr>
<tr>
<td>Primary Care Physician (n, %)</td>
<td>65 (81%)</td>
</tr>
<tr>
<td>Years in the Life (mean, SD)</td>
<td>27 (34%)</td>
</tr>
<tr>
<td>Insured (n, %)</td>
<td>11.5 (10.8)</td>
</tr>
<tr>
<td>Number of pregnancies (mean, SD)</td>
<td>62 (78%)</td>
</tr>
</tbody>
</table>

Figure 1: Statistics of human trafficking in Arizona3,4

RETROSPECTIVE OBSERVATIONAL QUALITATIVE STUDY

• Data is collected via a paper SOAP note (image 2, below) at the drop-in center and deidentified when entered into the data program Qualtrics
• Data from December 2016- May 2019
• Outcomes include demographics and medical needs of the trafficked population

CONCLUSIONS

• 78% of people in this population have some form of insurance
• 25.5% of the U.S. have public insurance, while 69% of sex-trafficked victims in Phoenix have public insurance (AHCCCS)
• Over 1/3 of victims are in contact with a regular primary care physician
• The use of tobacco smoking is more than 6x the national average
• 2 out of 3 people have experienced domestic violence
• Women have an average of 2 children

DISCUSSION

• Victims of sex-trafficking often present with many non-specific somatic complaints and unexplained physical findings, which may cause healthcare providers to label these as Lupus or rare systemic diseases, when in reality they are often psychosocial in etiology.
• Many victims have multiple contacts with the healthcare system each year, however the lack of awareness of providers in the background of these victims, may result in inefficient and incorrect care. Provider education and continuity of care would benefit this population immensely.
• Healthcare education on awareness, epidemiology trends and interventions are needed to provide proper and compassionate care to this vulnerable population.

REFERENCES

Introduction and Background

Background
- Leading cause of deaths: Cardiovascular disease
- $320 billion annually

Problem
- Risk for cardiovascular disease deaths doubles with
- Systolic Blood Pressure (SBP) of 20 mmHg increase, and/or
- Diastolic Blood Pressure (DBP) of 10 mmHg increase

Purpose and Aims: Conduct a Quality Improvement project (QI) to increase the quality of life of the clinic population
- Improve provider knowledge
- Increase providers’ prescribing dietary prescription
- Evaluate participants’ satisfaction with content of intervention

Local Problem
- 1 in 3 adults in US, Pima County, Central Tucson, AZ have hypertension
- Only 50% controlled
- 25% are obese, 14% smokers, and 17% alcoholics

Methods

Design
- Quasi-experimental, pre- and post-test, single group comparison study with convenience sampling

QI setting: Carondelet Medical Group -Central
- Serves: low to middle upper class income patients
- Medicare/Medicaid and/or with private insurance or both
- urban and rural population patient
- Native American population

Participants: Inclusion- providers who manage patients; Exclusion criteria- those who do not manage patients
- 15 providers invited to participate
- Medical Doctors, Advanced Nurse Practitioners, Physician Assistants

Data Collection
- Convenience sampling
- Pre-test Survey
- Post-test Survey

Types of Questions
- Multiple choice
- Likert Scale
- True and False
- Yes and No
- Quantitative Data
- Free-write Responses

Intervention: Conduct a brief educational presentation to participants
- Introduction: Disclosure Form
- Background
- Hypertension
- Guidelines & Evidence-Based
- DASH Diet
- Dietary Prescription
- Coding: 3 ICD-10 codes

Results

Comparison of Mean Scores

<table>
<thead>
<tr>
<th>Knowledge questions</th>
<th>Pre-test Mean</th>
<th>Post-test Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>41%</td>
<td>84%</td>
</tr>
<tr>
<td>23%</td>
<td>45%</td>
<td>89%</td>
</tr>
<tr>
<td>45%</td>
<td>68%</td>
<td>86%</td>
</tr>
<tr>
<td>68%</td>
<td>90%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Perception of dietary intervention

<table>
<thead>
<tr>
<th>Pre-test Mean</th>
<th>Post-test Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>84%</td>
</tr>
<tr>
<td>80%</td>
<td>89%</td>
</tr>
<tr>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>89%</td>
<td>84%</td>
</tr>
<tr>
<td>89%</td>
<td>64%</td>
</tr>
<tr>
<td>64%</td>
<td>42%</td>
</tr>
<tr>
<td>42%</td>
<td>70%</td>
</tr>
<tr>
<td>41%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Recommendations

Recommendations #1: Increase distribution of dietary prescription to patients (posters, hard copies, patient portal)

Recommendations #2: Repeat the study at another clinic to confirm findings in this QI
Non-Cognitive Predictors of Student Success: A Predictive Validity Comparison Between Domestic and International Students

Emily Spano BSN, RN

Heart Failure Education in a VA Outpatient Clinic

INTRODUCTION
Management of HF and prevention of exacerbations is highly dependent on self-management. Evidence based education has been shown to improve both the patient’s knowledge of HF and ability to self-manage HF.

BACKGROUND
❖ U.S. spends nearly 30.7 billion dollars yearly on HF
❖ Approximately 6.2 million Americans are suffering from HF
❖ Incidence of HF is expected to increase by 46% by 2030
❖ Ineffective HF self-management including failure to recognize symptoms accounts for 70% of HF hospitalizations.

INTERNAL EVIDENCE
❖ RNs at the VA clinic do not have full understanding of HF
❖ No consistency on how a HF patient is educated

METHODS
❖ Extensive literature review conducted
❖ Non-Research designation from the VA was obtained
❖ ASU IRB approval was obtained
❖ RNs were educated on HF including signs and symptoms of heart failure, the Krames: Understanding Heart Failure educational booklet, the Green Light to Go form, & daily symptom/weight tracking chart
❖ RNs completed a self-assessment questioner evaluating of their perception of knowledge pre and post education.
❖ After receiving the HF education the RNs educated HF patients.
❖ Patients knowledge was assessed prior to receiving the education and at 30 and 60 days after receiving education.

RESULTS
Descriptive Statistics was used to analyze data
❖ RNs self-assessment of HF knowledge & ability to educate patients increased in all areas.
❖ KCCQ quality of life scores all showed improvement at 30 days, however it slightly decreased after 60 days
❖ HFSCI showed improved scores at both 30 days and 60 days

IMPLICATIONS
❖ Providing evidenced based HF education to RNs increased their knowledge and ability to educate HF patients
❖ Larger study is needed over a longer period of time to assess impact on hospital readmissions and same day clinic visits for HF exacerbations

RN education on signs, symptoms, and management of Heart Failure had a positive impact on their ability to educate patients resulting in increased ability of patients to self-manage HF.
Lung cancer screening tools were positively received by a primary care office, and continue to be utilized.
The Impact of Motivational Interviewing on Cardiovascular Risk Reduction

Alexus Stephens, RN, BSN

INTRO

Problem Statement: Cardiovascular disease is a significant problem worldwide.

Background/Significance:
- Cardiovascular disease (CVD) is the leading cause of death in Arizona.1
- During 2015–2016, the prevalence of hypertension in the United States was 29.0% and increased with age.2
- Targeting one or more of these risk factors would make a significant impact on the $320 billion spent yearly on cardiovascular diseases.3

Population: Rural school teachers in Maricopa County, Arizona

Incidence/Prevalence: unknown, not tracked

METHODS

Data collection process: anonymous pre and post-surveys via SurveyMonkey. Data analysis: Descriptive statistics were used to compare pre and post-surveys for differences.

- The Wilcoxon Signed Rank test was chosen to assess for significant differences between nominal variables that can be matched. A significant result for this test means that the two matched variables are reliably different from each other.4
- The Quality of Well-Being-Self Administered Scale was selected for its responsiveness to clinical changes in a variety of populations, such as those with headaches, cystic fibrosis, diabetes mellitus, chronic obstructive pulmonary disease, and cochlear implants.5
- The General Self-Efficacy Scale was also utilized.

RESULTS: In this population, a motivational interviewing intervention aimed to impact cardiovascular risk reduction was insignificant.

DISCUSSION: Further research is needed on Motivational Interviewing strategies. Previous studies on motivational interviewing have shown mixed results in terms of success, likely due to the holistic properties that are involved with behavior modification.
- Motivational interviewing worked in some studies but not in others.
- Motivational interviewing has been largely studied in chronic disease management.
- Population, length of intervention, implementation strategies, instructor skill level and resources available may impact outcomes.

key words: Motivational interviewing, cardiovascular disease, harm reduction, risk reduction, hypertension, stroke, stress, behavior modification

Motivational interviewing has the ability to positively impact cardiovascular risk reduction, including hypertension and stroke.
Introduction

- Wickenburg is a rural city located about 30 miles northwest of Phoenix.
- Was founded in 1863 by Henry Wickenburg who discovered gold in what is now called Vulture Mine.
- Wickenburg had a rough start with Indian wars, mine closures, drought, and a flood from the collapse of Walnut Creek Dam.
- The arrival of the railroad in 1895 help set the stage for what Wickenburg is today.

Methods

Primary: Windshield survey
Secondary: Data from USCensus.gov and other City-Data.com

Results

Demographics: (compared to Arizona)
- Median Age: 60.5 (37.7 Arizona)
- Median Income: $43,509 ($56,581 Arizona)
- Median house value: $236,368 ($223,400 Arizona)
- High School Graduate: 89.6% (86.8% Arizona)

Community Resources

Recreation:
- 10 local parks, skate park, splash pads, golf course, pools, sports fields, dog park, shooting range, exercise stations

Quality of Life:
- Low Crime rate, public library, art galleries, museums, senior center, organized walking tours

Medical:
- Wickenburg Community Hospital
- The Meadows (Addiction, trauma, eating disorder)
- Rosewood (Eating Disorder)
- My Father’s Retirement Ranch: Assisted Living

Education:
- Hassayampa Elementary School
- Vulture Peak Middle School
- Wickenburg High School

Public Services:
- Fire Department, police department, court, utilities

Strengths: Safety, culture, recreational amenities, world-renowned addiction treatment facilities
Weaknesses: No public transportation, hospital with limited resources, high housing cost with lower median income

References available upon request.
Prescott, Arizona Community Needs Assessment
Margaret Towers, PharmD. Candidate, Class of 2022
University of Arizona College of Pharmacy- Phoenix, Arizona

Background and Introduction

Objectives:
The purpose of the Community Assessment was to identify and evaluate the need and concerns of Prescott, Arizona.

Description of the community:
Prescott is in Yavapai County; the seventh largest county based on size, and the fourth largest based on populations size in Arizona.
Prescott is surrounded by the Prescott National Forest.
Prescott is located 100 miles from Phoenix, 610 miles from Salt Lake City, Utah, and 255 miles from Las Vegas, Nevada, respectively.
Population Size: 43,314

Geographic location:

Methods

Data Collections

Primary Data:
The Windshield Survey was completed from the 13th of May through the 7th of June of 2019.

The data collection about the health disparities were collected through the perspective of a retail pharmacist.

The community data was collected from personal interviews of the community and key informant interviews.

Secondary Data:

Data was collected from the Yavapai Regional Medical Center: Community Health Assessment 2016, Yavapai County Community Health Assessment 2017, Arizona Department of Health Services, United States Census Bureau, World Population Review, Other internet Sources

Results

Demographics

Table 1: Age and Gender Breakdown of the Prescott Area

<table>
<thead>
<tr>
<th>Age and Gender</th>
<th>Prescott, AZ</th>
<th>Phoenix, AZ</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children &lt;16 years of age</td>
<td>24.8%</td>
<td>7.5%</td>
<td>8.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Adolescents 16-18 years of age</td>
<td>12.5%</td>
<td>26.8%</td>
<td>22.4%</td>
<td></td>
</tr>
<tr>
<td>Retirement &gt;65 years of age</td>
<td>27.5%</td>
<td>10%</td>
<td>16.0%</td>
<td></td>
</tr>
<tr>
<td>Percentage of Females</td>
<td>52.9%</td>
<td>50.2%</td>
<td>50.8%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: Poverty by Ages and Gender

Table 2: Comparison of Race/Ethnicity in Prescott, Phoenix, Arizona, and the United States

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Prescott, AZ</th>
<th>Phoenix, AZ</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alone</td>
<td>91.6%</td>
<td>75.9%</td>
<td>82.8%</td>
<td>76.5%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0.6%</td>
<td>6.9%</td>
<td>5.1%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.1%</td>
<td>2.0%</td>
<td>1.5%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Asian</td>
<td>7.9%</td>
<td>42.5%</td>
<td>31.6%</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

Figure 3: Comparing graduation rate of Prescott, to cities in Arizona, and the United States

Table 3: Morbidities comparison between Yavapai County, Arizona and the United States

<table>
<thead>
<tr>
<th>Morbidity</th>
<th>Yavapai County</th>
<th>Arizona</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>157.1</td>
<td>149.1</td>
<td>168.3</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>146.1</td>
<td>147.7</td>
<td>175.0</td>
</tr>
<tr>
<td>Lung Disease</td>
<td>48.6</td>
<td>43.5</td>
<td>42.2</td>
</tr>
<tr>
<td>Stroke</td>
<td>32.2</td>
<td>30.5</td>
<td>37.9</td>
</tr>
<tr>
<td>Unintentional Injury</td>
<td>98.2</td>
<td>46.6</td>
<td>38.6</td>
</tr>
</tbody>
</table>

Figure 4: Causes of mortality in Yavapai County

Figure 5: Suicide Rate per 100,000 in Yavapai compared the United States

Community Needs

• Increase the number of affordable rehabilitation centers
• Reduce the number of 55+ communities and increase the amount of affordable housing options
• Incentivize more Primary Care Providers to accept a wider variety of insurances
• Add public transportation to the area

Prevention and Health Promotion

Yavapai Regional Medical Center:

• 206 staffed beds and is a level IV trauma center
• Services Provided: cardiovascular, birthing, neurosciences, oncology, orthopedic, wound care, and radiology

Available Health Care options:

• 17 licensed pharmacists
• 268 primary care providers
• 20 dentist offices
• 42 physician assistants
• 774 registered nurses
• 4 skilled nursing facilities
• 4 licensed home health agencies
• 0 certified ambulance services

Facilities:

• 3 elementary schools, 3 middle schools, 1 public high school, 6 charter schools, and 3 private schools

Community Concerns

• Lack of resources for patients seeking addiction treatment
• The high prevalence of drug and heavy alcohol use
• The growing homeless population
• Lack of affordable housing
• Access to Medical Specialists
• Lack of Public transportation
• Minimal resources for children

References


Contact Information
Margaret Towers
Mbtowers@pharmacy.arizona.edu
A Community Health Assessment of Superior, Arizona
Christina Wellman, BSN, RN, DNP Student

Community Introduction
Superior is a town in Pinal County, Arizona. It is located 70 miles east of Phoenix, AZ along the US-60. Established in 1882, by W. Tuttle and P. Swain, Superior was a mining town known for gold, silver, zinc, and copper-ore between 1904-1952.

Rural Class (U.S. Dept. of Agriculture, 2020).
- Rural-Urban Continuum Code: 1, metro-counties in metro areas of 1 million population or more
- Urban Influence Code: 1, large in a metro area with at least 1 million residents or more
- The county typology code: 1- non-specialized, low employment county, retirement destination

Geographic (U.S. Dept. of Agriculture, 2020).
- Superior is in northeastern Pinal County, AZ
- Superior sits 70 miles East of Phoenix and 100 miles North of Tucson, AZ
- Superior has a total area of 1.9 square miles, all land

Methods
Information about Superior was obtained via:
- Windshield Survey conducted February 27, 2020
- United States Census Bureau Reports, online
- United States Dept. of Agriculture reports, online
- Superior Chamber of Commerce, online

Results
Community Profile (U.S. Census, 2010)
- 2010 Census Superior population 2,837
- Hispanic/Latino (68.5%), White (28.9%), Black (0.3%), Native American (0.8%), Asian (0.4%)
- Median age of residents in 2010 was 45 years
- 42% of Superior residents speak Spanish at home

- Superior Municipal Airport- E81
- Superior Senior Center, Community Center, library
- 4 grocery markets, 7 worship facilities
- Little League fields, 2 parks serving the community

Education (Chamber of Commerce, 2020)
- Superior Unified School District #15 consists of 3 schools, serving 362 students, K-12
- Superior Head Start Preschool
- 76.1% of residents have a H.S. diploma

Health and Wellness (Chamber of Commerce, 2020)
- Cobre Valley Superior Clinic is the only local medical service provider for Superior residents
- CV Superior clinic offers, physical exams, specimen collection, OB/GYN, preventative and industrial medicine, simple surgical procedures, acute and chronic illness management
- CV Regional Medical Center (Globe, 24 miles East) for acute care

Housing (U.S. Census, 2010)
- Mostly comprised of single-family (80.3%) and mobile homes (14.1%)
- 1,550 total housing units, 72.8% occupied, 27.2% vacant
- 66.8% owner-occupied, 33.2% renter occupied

Transportation and Safety
- No public transportation system
- Superior Fire Department emergency services
- Superior Police Department (5.1 police officers per 1,000 residents)

Recreation
- Boyce Thompson Arboretum
- Hiking, mountain biking
- World’s Smallest Museum

Superior’s Weaknesses
- Lack of public transportation
- Lack of mental health clinics, services and providers
- Lack of job opportunities outside of mining
- Lack of undergraduate learning facilities
- Lack of technical colleges

Superior’s Strengths
- Strong sense of community (Windshield Survey, 2020)
- Retirement destination
- Close-proximity to Phoenix metropolitan area
- Beautiful desert landscape and mountain views

Recommendations
- Develop public transportation
- Encourage small business growth
- Provide mental health care via telehealth or as an addition to the CV Superior Clinic
Introduction

- Benson is a rural city in Cochise County, Arizona, located 45 miles east-southeast of Tucson.
- It was founded in 1880 as a rail terminal when the Southern Pacific Railroad came through the region.
- As silver, copper and gold flowed from the mines at Tombstone and Bisbee, Benson was in the perfect position to transport the ore.
- It was named after Judge William S. Benson, a friend of Charles Crocker, president of the Southern Pacific.
- Today, the city is best known as the gateway to Kartchner Caverns State Park.
- It is also home to the renowned Singing Wind Bookshop, known for books about the Southwest.

Objective

To conduct a rural community health assessment to identify strengths and weaknesses

Methods

Primary: Windshield survey
Secondary: Data from websites of US Census, Data USA, Desert USA, and City of Benson site

Results

Demographics: Benson (Comparison- Arizona)

- Median Age: 56.53 (Arizona- 38 years)
- Median Income: $43,509 (Arizona- $59,246)
- Median property value: $84,400 (Arizona- $241,100)
- High School Graduate: 89.6% (Arizona- 86.8%)
- Poverty Rate: 17% (Arizona-25.9%)
- Diversity: Benson is predominantly a white community, followed by Hispanics and African Americans

Community Resources

Transportation:

Benson’s Municipal Airport is located 5 miles from the city center. I-10 connects Benson to Tucson and other cities close by. There is no public transportation system.

Recreation:

The Coronado National Forest and the San Pedro Riparian National Conservation Area provide areas for hiking, camping, and picnicking. Kartchner Caverns State Park is a renowned tourist location Benson also has three public park facilities, 21 RV parks, hiking trails, a championship Golf Course, Senior Nutritional Center, Public Library, Arts and History Museum.

Medical:

Benson Hospital 22-bed facility with a 24-hour emergency services. Specialists visit the hospital various days of the month to provide specialty care. Nursing Home: Quiburi Mission Samaritan Center Regional psychiatric health care facilities

Public Services:

Fire Department, Police department, Parks and Recreation Department, Animal Control, Courts, City Council, Utility Departments

Strengths: Moderate climate, 11 degrees cooler than Tucson in the summer; low crime rate, lower poverty rate than other parts of the State, Ingrained culture of Old West and its traditional Railroad heritage

Weaknesses: Lack of public transportation, healthcare facilities with limited resources with no trauma, advanced cardiac care or home health services, low population, abandoned neighborhoods.
Type 2 Diabetes Self-Management in the Rural Health Population

Debra S. Witthar MSN, RN
Jonathan Helman, DNP, FNP-C

PROBLEM
✓ Diabetes is challenging to manage for the rural patient who typically has less resources available for disease treatment and self-management.

BACKGROUND AND SIGNIFICANCE
✓ Diabetes (all types) increased from 108M in 1980 to 422M in 2014 (WHO, 2018)
✓ 7th leading cause of death in US; annual expense of $327B (CDC, 2017)
✓ Research supports
  ➢ Education
  ➢ Exercise
  ➢ Appropriate diet
✓ Challenges for rural patients
  ➢ Limited resources
  ➢ Access to care
  ➢ Socioeconomic considerations

PURPOSE
✓ Provide education via text messaging that empowers patients with type 2 diabetes in the rural health community to be successful with self-management of their disease

METHODS
✓ Intervention Project implemented in a Family Health Clinic in Payson, AZ over an 8-week period
  o Twenty-three type 2 diabetes patients voluntarily enrolled
  o Skills, Confidence, and Preparedness Index (SCPI) tool used as pre and post questionnaire
  o Chronic Care Model and Rosswurm and Larabee’s (1999) models used to guide this project

IMPLICATIONS
✓ The cost savings associated with DSME include
  ➢ Average health care costs reductions by 39% (Powers, 2016)
  ➢ Reduced hospitalizations
  ➢ Decreased office visits
  ➢ Reduced complications of diabetes
  ➢ Patients that manage their diseases are more productive, happier and are a decreased burden on an already strained health care system (Branch and Lindholm, 2019)

PROJECT RESULTS
✓ Twenty-three adults aged 52 to 78 years (M = 64.91, SD = 6.96) participated, 56.52% (13/23) were female.
✓ The median years with T2DM was M = 13.78 years (SD = 14.52) shown in Figure 1.
✓ The result of the two-tailed paired samples t-test was significant based on an alpha value of 0.05, (t(22)) = -8.90, p < .001, indicating the null hypothesis can be rejected. This finding suggests the difference in the mean of Pretest score and the mean of Posttest score was significantly different from zero.
✓ The mean of Pretest score was significantly lower than the mean of Posttest score. The results are presented in Figure 2.
✓ The ANOVA was examined based on an alpha value of 0.05. The results of the ANOVA were not significant, (F(2, 21)) = 0.14, p = .717, indicating the differences in Pretest score among the levels of Gender were all similar (Figure 3).
✓ The ANOVA was examined based on an alpha value of 0.05. The results of the ANOVA were not significant, (F(2, 21)) = 0.14, p = .717, indicating the differences in Posttest score among the levels of Gender were all similar (Figure 4).

RECOMMENDATIONS
✓ Continued use in the rural health setting for patient education
✓ Text messaging can be utilized for diabetes and other chronic diseases as cost-effective, individualized care

Acknowledgements
❖ Special thank you to Deborah Nichols, FNP owner and provider at High Country Family Care. Without your continued support this project would not have been possible.
❖ To Jonathan Helman, thank you for your support and guidance.
What is an LIC?

A Longitudinal Integrative Clerkship (LIC) is an innovative approach to the clinical years that places medical students in a rural site for an average of nine months. The intention is to provide a panel of patients to each medical student, allowing them to follow patients and their disease processes for extended amounts of time, which is nearly impossible with the traditional hospital-based rotation (TBR) system. There are other approaches to LIC curricula, but the most common is the "Comprehensive" LIC, which is an integrative approach to the third year of medical school that favors patient-centered experiences over extended exposure to inpatient specialty care [1].

Evidence Behind LIC Curricula

- Over 30 studies demonstrate similar or superior test performance for LIC students compared to TBR students, with only one study demonstrating inferior performance. Additionally, LIC programs have measured increased patient-centeredness, sense of responsibility, and citizenship in their respective communities, helping to avoid "ethical erosion" associated with the 3rd year of medical education [2].
- Feedback from physicians teaching in these programs is fantastic, with 82.6% rating their professional life to be more satisfying as a result of participating in these programs [3].
- Data from existing programs demonstrate the ability of LICs to increase the number of physicians who practice in a rural setting [4].

Payson LIC Specifics

- The first rendition of the Payson LIC through the University of Arizona College of Medicine – Phoenix will begin in June 2020 with three 3rd year medical students.
- By participating in the LIC, students will obtain clerkship credit equivalent to the outpatient internal medicine, outpatient pediatrics, surgery, family medicine, ambulatory care, OB/GYN, and emergency medicine rotations that students in the TBR system will complete (see above figure).
- Four weeks of inpatient internal medicine, three weeks of inpatient pediatrics, and six weeks of psychiatry in regular Phoenix rotations will be required of LIC students to complete the 3rd year curriculum.
- This LIC is categorized as “Comprehensive” and modeled after the majority of successful established LIC programs
- Partnerships with Payson physicians, the MHA Foundation, and the Eastern Arizona AHEC have been vital for the establishment and continued planning of this program.

Factors and resources required for the LIC

Future Directions

- The number of LIC students is planned to increase to six in 2022 and ultimately increasing to nine students in 2023.
- The logistics and specifics of student housing and preceptors’ evaluations of students will be determined in the coming months.

References

Pharmacological and Complementary Medicine for Diabetic Peripheral Neuropathy

College of Health & Human Services
School of Nursing
Jessica Young, BSN, RN, FNP Student and Megan Youngstead, BSN, RN, FNP Student
Faculty Sponsor: Shelley Vaughn, DNP, FNP-BC

Clinical Question
In diabetic patients with neuropathy, does the use of Lyrica (Pregabalin) along with acupuncture have a greater reduction in self-reported neuropathy symptoms as opposed to using Lyrica (Pregabalin) alone within 6 months?

Review of the Literature
• Dimitrova et al. (2017) conducted a systematic review and meta-analysis regarding acupuncture in the treatment of peripheral neuropathy. The study showed that acupuncture is beneficial for certain peripheral neuropathies, however, more rigorously designed studies using sham-acupuncture control are needed to characterize its effect and optimal use.
• Bailey, Wingard, Allison, Summers, and Calac (2016) conducted a non-randomized control study to assess the effectiveness of acupuncture for DPN and lower extremity circulation among American Indians with type 2 diabetes. The study concluded that DPN symptoms were responsive to acupuncture over a 10-week period as reported by the participants.
• The study by Meyer-Hamme et al. (2018) conducted a randomized, placebo-controlled, partially double-blind to determine the effectiveness of needle acupuncture and laser acupuncture for treatment of DPN through patient questionnaires and objective nerve conduction studies (NCS). The study proved that needle acupuncture and laser acupuncture improved clinical and subjective symptoms along with objective NCS parameters related to DPN compared to the placebo.
• A multicenter, randomized, assessor-blinded controlled trial by Shin et al. (2018) discusses electroacupuncture (EA) for the treatment of painful DPN in patients with type 2 DM. The results showed participants in the EA group had an improvement on the PI-NRS by a 50% reduction in their score versus the control group. In conclusion, “the results of this study demonstrate that EA treatment is effective for reducing pain and improving sleep disturbance and quality of life in DPN” (Shin et al., 2018, e142).

Purpose of the Project
Lyrica (pregabalin) is a gabapentinoid that was initially developed as an antiepileptic agent, however, after more than a decade of experience, it is shown to be well tolerated for the management of neuropathic pain (Toth, 2014). In the United States, acupuncture is growing in popularity as well as gaining acceptance among the public and community (Dimitrova, Murchison, & Oken, 2017). With this, it has prompted more research into integrative therapies for the challenging treatment of neuropathic pain (Dimitrova et al., 2017).

Proposed Best Practice
The research has shown that acupuncture can be a very beneficial treatment option for individuals suffering from DPN, therefore, suggesting acupuncture for an alternate therapy would be appropriate and recommended.

Conclusion
Even though acupuncture has been determined to be beneficial for DPN, more research needs to be conducted regarding which specific types of acupuncture has the greatest effect for DPN.

References
References available upon request

Problem
Diabetic peripheral neuropathy (DPN) occurs in approximately 25% of patients with DM. Currently, Lyrica (Pregabalin) is one of the only medications that has been approved and is considered a first-line agent. While Lyrica (Pregabalin) has been shown to be effective, acupuncture is also on the rise for the treatment of DPN as well as an array of other conditions.

Setting
Primary Care

Patient Population
Patients with DM who experience DPN and have tried Lyrica (Pregabalin) and are interested in trying acupuncture for DPN.
Rural Health Quality Improvement Project: Mindfulness-Based Interventions for Patients in Medication Assisted Treatment
Paulina Zapata, BSN, RN, DNP-PMHNP Student

Problem Background
• Since 2013, opioid-involved deaths have increased by 76% in Arizona (National Institute on Drug Abuse, 2019)
• Arizona had 928 opioid-related deaths in 2017 (National Institute on Drug Abuse, 2019)
• 22-fold increase in deaths involving fentanyl & other synthetic opioids from 2002 to 2017 in America (American Psychiatric Association, 2019)
• 1 in 12 adults are diagnosed with Substance Use Disorder in America (National Council for Behavioral Health, 2018)

What is Mindfulness?
• Nonjudgmental, present moment awareness
• Does not fixate on the past or future

What are Mindfulness-Based Interventions?
• Meditation
• Gratitude journals
• Raisin exercise

What are the Benefits for MAT patients?
• Reduces drug/alcohol cravings
• Relieves stress/anxiety
• Lowers blood pressure
• Improves sleep
• Reduces obsessive-compulsive behaviors
• Mindfulness meditation increases activity in the prefrontal cortex and anterior cingulate cortex

Supporting Evidence
Treatment programs based on mindfulness:
• Mindfulness-based relapse prevention (MBRP)
• Mindfulness Training for Smokers (MTS)
• Mindfulness-oriented Recovery Enhancement (MORE)
• Mindfulness-based cognitive therapy (MBCT) for depression and eating disorders
• Mindfulness-based stress reduction (MBST)

QI Proposal
• Educational in-service for healthcare providers in a rural health clinic about the benefits of mindfulness-based interventions
• Site: MHC Healthcare in Marana, Arizona

References Available Upon Request