Arizona Health Education Centers
10th Annual Interprofessional RHPP Conference
Poster Presentation

A Community Assessment of Asylees in Arizona

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AHEC Undergraduate Scholars 2020-2022

PURPOSE & METHODS:

Purpose:

The purpose of our poster is to report the results of a team based assessment of the underserved community of the population of asylees living in Arizona.

Methods:

We will be using internet exploration to determine the following information about those granted asylum in Arizona:

- Demographics
- Barriers to care
- Health disparities
- Community assets & Resources

BACKGROUND:

Defining the community: Asylees in Arizona

- Immigrants living in Arizona who have been granted asylum status by the United States government because of the immigrant's inability to return to their country of origin due to fear of persecution.
- Persecution based on; race, religion, nationality, social group, or political opinion [1]

Demographics:

- 200% increase in asylees requesting services since 2016 [2]
- Top three countries of origin: China, Venezuela, El Salvador [3]
- 83% of affirmative asylees from 2009-2018 were granted legal permanent resident (LPR) status [4]
- In 2018, there were 146 asylee approvals in Arizona [5]
- 63% of asylees were age 18-44 in 2019, making them younger than average US population [6]
- 55% of adults are married [6]

FINDINGS: BARRIERS TO CARE

Economic barriers

- Population outnumbers the governmental allocated resources [5]
- Food insecurity [7]
- Unemployment [8]
- Unstable housing [8]

Access barriers

- Limited of knowledge of the U.S. healthcare system [9]
- Limited access to medical screenings and vaccinations in country of origin [8]
- Limited free dental services [5]

Cultural barriers

- Language barriers [10]
- Stigma (e.g. treatment of mental illness, low mental health literacy) [11]
- Perceived discrimination [5]

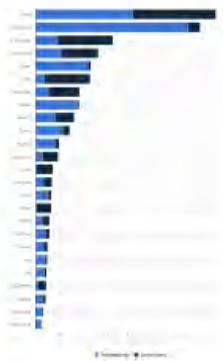

Fig 1. Number of individuals granted asylum (affirmatively or defensively) in the U.S. in 2019, by country of nationality [1]

Fig 2. Image asylees in healthcare setting [2]

FINDINGS: KEY ASSETS AND RESOURCES

- The Arizona Resettlement Program [4]
- Arizona's Federally Qualifying Community Health Centers [4]
- Resettlement agencies
  - 4 in Tucson, 4 in Phoenix [4]
- Refugee Cash Assistance program [4]
- The International Rescue Committee in Phoenix provides:
  - food, shelter, clothing, sanitation products, toys, etc.[2]
- Rights of those granted asylum:
  - Medical coverage for 60 days, preventative health screening within 60 days, case management & medical services that are culturally and linguistically appropriate [12]

Fig 3. Resources for asylees

Fig 4 & 5. Image Arizona Resettlement Program [3]

Fig 6. Table of basic needs for all humans [1]

Fig 7. Barriers to care chart, three main categories for Asylees

HEALTH DISPARITIES:

- PTSD, Depression and Anxiety in pediatric asylees [11]
- HIV/AIDS [13]
- Tuberculosis [13]
- Hepatitis B Susceptibility [13]
- Heavy metal presence [13]
- Parasitic infections [13]
  - Schistosomiasis
- Mental health trauma [14]
- Dental health issues [5]
- Existing and long-standing health conditions untreated [5]

Summary:

- Since 2016, there has been a 200% increase in asylees requesting services.
- PTSD, TB, Hepatitis B, HIV/AIDS, dental health issues and untreated health conditions are common health disparities among asylum seekers.
- Asylees face many barriers including food insecurities, unemployment, lack of housing and language barriers.
- Arizona has many resources such as the Arizona Resettlement Program and the Refugee Cash Assistance program.
- Asylees have the right to medical coverage and this includes coverage for 60 days and case management.

ACKNOWLEDGEMENTS AND REFERENCES

Special thanks to the AZ AHEC Undergraduate Cohort mentors, Patty Nolan Goldsmith MS, RN, PHNA-BC and Denise Muesch Helm, RDH, Ed.D., for supporting our research and professional poster creation.

THE UNIVERSITY OF ARIZONA
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Area Health Education Centers

A Community Assessment of People Experiencing Homelessness in Arizona

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PURPOSE AND METHODS

Purpose: The purpose of this presentation is to report the findings among the community of people experiencing homelessness in Arizona through a team-based assessment.

Methods:
- Key Informant Interviews
- Internet Research
- Observations

BACKGROUND

This population includes all homeless people in Arizona. Homelessness can occur due to a multitude of reasons, including the pandemic being a major cause. Arizona ranks #12 for the highest homeless population in the U.S. [1]

11,000 PLWH

DEMOGRAPHICS

- As of January 2020, roughly 580,000 people were experiencing homelessness in the U.S. In Arizona nearly 11,000 people experience homelessness. [2]
- Minority groups typically experience homelessness at a much higher rate than others. African Americans make up 13% of the overall population, but nearly 40% of the homeless population. This may be attributed to higher unemployment rates with lower incomes and less access to healthcare. [3]
- Over 24,399 students in enrolled in public schools in Arizona are experiencing homelessness. This is an annual increase of 5% in the number of students since 2005.

FINDINGS: KEY ASSETS/RESOURCES IN AND FOR COMMUNITY

Arizona has worked with community partners to fund services and programs with the goal of ending homelessness. Resources available to those living with homelessness include:

- Case management services
- Health care services [4]
- 277 current soup kitchens [5]
- Supportive services for veteran families[5]
- Employment programs
- Veteran Affairs Support Housing [6]
- Short-term rental assistance

Circle the City
a time and place to heal

ACKNOWLEDGEMENTS

Patricia Goldsmith MS, RN, PHNA-BC
Denise Muesch Helm RDH, MS, EdD

FINDINGS: BARRIERS TO CARE FOR THOSE EXPERIENCING HOMELESSNESS

- Putting off healthcare due to psychological barriers like self-consciousness about hygiene and appearance[7]
- Language barriers make communicating more difficult
- Transportation is difficult to obtain[7]
- Low health literacy makes it more difficult to access resources
- Bus stops can be far away, or do not have stops near the destination
- Transportation access can be expensive
- A higher risk of being uninsured[7]
- A likelihood that they are not able to afford medical care
- High cost of healthcare
- Many do not know where they can get treated

HOMELESSNESS & HEALTH DISPARITIES (In US)

- 3.4% of homeless population are HIV positive,3 times higher than the general population. [8]
- 53% of toothless homeless individuals have complete sets of dentures, compared with 91% of the general population. [9]
- Risk of Hepatitis C virus is 29 times higher compared to the general population. [8]
- Homeless persons are 12 times more likely to have dental problems than individuals with stable housing.[9]
- More than 500 people experiencing homelessness died from preventable causes including, overdose, heatstroke, and malnutrition. [1]

Summary

Homelessness is a major concern throughout Arizona. Research shows that although there are resources available, there are still many barriers to care for the homeless population. Therefore, lessening the significant health disparities for those experiencing homelessness can only be achieved through minimizing barriers and making resources more convenient and beneficial.

References

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A Community Assessment of Prescott City

CAAHEC Scholar 2021-2023 Cohort | Adrian Acuna, Katherine Barlow, Kayla Berry, Marian Brock-Andersen, Karen Chan, Meagan Coomer, Deya Dewalt, Nicole Galvan, Sara Hurst, Nathan LeNguyen, Isabelle Lovato, Jalonna Ohr, Stephanie Quach, Michele Roberts, Lidia Azurdia Sierra, Jenna Vasquez, and Maximilian Vuong

INTRODUCTION

President Abraham Lincoln signed legislation leading to creating the Arizona Territory

Gold was discovered by Joseph Reddeford Walker in the Bradshaw Mountains This convoy began a cascade that resulted in the founding of Prescott on May 30, 1864.

The city was named after William Hickling Prescott, a historian.

Prescott became a beacon for new beginnings, transforming it into a booming town with many resources, including schools, a row of saloons called "Whiskey Row," businesses, a town plaza.

After downturn in local mining many residents began to raise cattle.

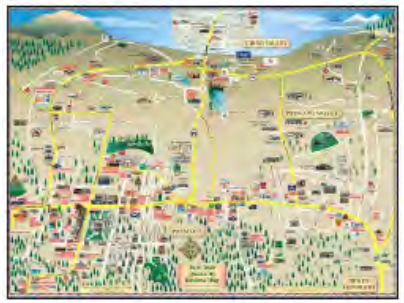
Arizona Central Railway drew in new dry goods and mining supply businesses (Prescott, 2021)

2013- Yarnell Hill Fire burned the villages surrounding shrubland and grassland and claimed the lives of 19 Granite Mountain Hotshot firefighters.

Today, Prescott has both changed and preserved the history and culture of the city

PURPOSE

The purpose of this presentation is to report the results of a team-based field experience in the Prescott Community.



METHODS

Primary data sources

Interview of community stakeholders

Engage in a virtual community introduction and walkthrough

Engage in an in-person community introduction and walkthrough

Attend interprofessional seminars about social determinants of health and then used the applicable concepts to the windshield survey

Secondary data sources

Prescott government website

National census data

WINDSHIELD SURVEY

Yavapai College

House located near downtown Prescott

Recreation Center

Rehabilitation Center in Prescott

House located 7 miles outside of downtown Prescott

FINDINGS

Demographics

Population: ~42,785
- White- 92.2%
- Hispanic/Latino- 6.8%
- Asian- 1.7%
- American Indian/Alaskan Native- 1%
- Black/African American- 0.7%

Age Breakdown
- Over 65 yrs - 37.3%
- Under 18 yrs - 11.9%

Economics

Median Income $55,734

Population below poverty line 11.5%

Primary Industry: Mining, quarrying, oil and gas extraction

Transportation

Regional bus service linking Prescott to Prescott Valley and Chino, but limited stops and hours

Lack of sidewalks and bike lanes for residents without automobiles

No Greyhound bus stops in Prescott area

Lack of easily accessible public transportation to health centers, grocery stores, etc.

Nutrition

Multiple grocery stores

WIC office located near community health clinic

Prescott Farmers Market that accepts EBT/SNAP benefits

Multiple food pantries and food banks

Physical Environment & Electricity

High elevation, cooler than larger cities south of it.

Several state parks and lakes

Well maintained roads.

Lack of proper bike lanes and sidewalks

Limited public transportation

Utility assistance programs available for residents.

Major assistance program is located in Flagstaff, AZ

Minimal assistance due to overwhelming requests

Safety

Crime rate is below the national average

Property crimes more common than violent crimes

Drug related crime rate and vandalism make up the largest proportion of reported crime

City resources are available for reporting crimes and accidents and for vitem support

Local fire response services maintain wildfire safety and prevention information readily available and runs a fire cadet program as well as five local stations

OUTCOMES

Strengths

Outdoor recreation

Five fire stations: Fire Cadet training organization, fire mitigation efforts, and wildfire resources

Educational opportunities: Embry-Riddle, Yavapai College, and Prescott College

Weaknesses

The lack of transportation in the forms of bike lanes, sidewalks, and public options.

High-rate drug use and vandalism.

Public safety– delayed emergency response times, inadequate availability of ambulance and fire services

The main hospital has limited services in specialty areas.

Opportunity's

Strong willingness of community partners to meet local needs

Community gardens or back yard gardens

CONCLUSIONS

Community programs work hard to ensure access to services but have many unfilled needs and barriers to be addressed to provide for their residents. Access to social services is limited, transportation is scarce, high incidence of drug and alcohol abuse and low health literacy are common challenges. Additionally, the Prescott community focuses a lot of its public health efforts on fire safety and prevention due to the environment.

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REFERENCES

City of Prescott. (n.d.). Retrieved March 15, 2022, from https://www.prescott-az.gov/services-safety/fire/programs-services/

Central Arizona Fire and Medical Authority. (n.d.). Retrieved March 19, 2022, from https://www.cazfire.org/ambulance-response/get-informed/

2021-2023 SAAHEC Scholars Present

A COMMUNITY ASSESSMENT OF SOUTH TUCSON

Daniel Saldaway, Raleigh Addington, Raegan Winder, Manqing "Mandy" Ba, Rambo Dang Le, Carrie Anderson, Sandra Olson, Ryan Mette, Mary Vejnoska, Hannah Berve, Acascia Collins, Jasmin Diaz, Noushin Emami, Katrina Garcia, Mercedes Romero, Ermilo Hurtado, Hunter Loring, and Kristin Mungarro

Purpose

The purpose of the community assessment of South Tucson is to identify problems, issues, or gaps related to the **well-being** and **quality of life** of its residents.

Background

"The Pueblo within a city"

- Established in 1939 and surrounded by the City of Tucson
- An area heavily influenced by Mexican culture
- Strong Catholic presence

Santa Cruz Church

Demographics

- Population: 4,613
  - 76.4% identify as Hispanic
- Median age: 32.6 years
- Median income: $24,967
- Poverty rate: Approximately 43.7%
- Lacking health insurance: 12.2%
- Median gross rent: $630
- Home ownership rate: 33.8%

Methods

- In addition to direct observation, we searched books and internet resources to learn more about the **history, demographics, & statistical data.**
- Members of our group participated in a walking tour with local guides and stakeholders and met with residents who shared their **lived experiences, perceptions, concerns and hopes** for *South Tucson.*
- Attended an immersion weekend in Tucson and heard from **local organizations** working in the community on transportation, food banks, pediatric health and cycling activism

Findings

Physical Environment:

- Mexican restaurants, food vendors, and mobile stands seen throughout the community
- Rustic, colorful architecture and murals are visible throughout the community.
- Few green spaces, mostly housing and business structures

Health Status:

- **Over half** of the adult community members use public insurance
- Most **common causes of death** in South Tucson are **heart disease** and **diabetes**
- South Tucson has **higher rates of suicide** and is more medically underserved than most of Arizona

Health and Social Services:

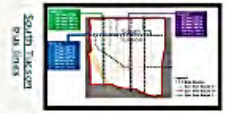
- There are few health resources within the area; most clinics, hospitals, and emergency centers are located just **outside the boundaries**
- Residents state that adequate **health care services are difficult to obtain** due to lack of resources in the city and insufficient transportation to locations outside of it

Economy:

- Service sector with historic and/or tourist locations
- Small businesses such as bike repair, mechanics, tortilla shops, and clothing retailers.

Transportation:

- Few bus lines enter the northern most area of South Tucson
- The ride share and other public transport does not cover the whole of the city of South Tucson



South Tucson Bus Routes

Safety:

- There is a fire department and police station within the boundaries of South Tucson

Education:

- High school graduation rate: 57.6%
- Bachelor's degree or higher: 5.4%
- Strong desire for more after school programming such as tech or trade skill building

Recreation:

- Community library
- Most parks are inaccessible, locked by the city to prevent drug distribution

Politics & Government:

- Mayor: **Bob Tezo**
- Acting Mayor: **Akanni Oyegbola**
- In addition to Mayor and Acting Mayor, South Tucson has a Vice Mayor and a City Council consisting of 4 members

Community Perceptions:

- Residents voice frustration over locked parks as children are forced to play in the streets instead
- Gang violence and homelessness has become an ever-present safety concern
- Rents have skyrocketed due to gentrification

Summary

Strengths:

- Deep relations, ties, and roots to a shared culture.
- Passion to serve and support each other
- Strong leadership and community groups rising to combat the challenges faced within their community
- Multiple non-profits assisting with food distribution for many of the residents living with food insecurity

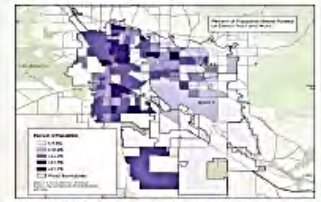
Casa Maria Soup Kitchen

One of many murals throughout South Tucson

Community Organization providing free food boxes

Limitations:

- Rising house prices and limited affordable housing options
- Community safety concerns stemming from various factors
- Median income that is significantly lower than the state average and poverty rates that are significantly higher than the state average
- Adequate health care services are difficult to obtain due to lack of resources within the city
- Limited public transportation options
- Few recreation and outdoor activities opportunities, especially for local children



Over half of South Tucson's residents are living in poverty

Recommendations

- Expand access to medical care
- Expand affordable housing options
  - Potential to form a coalition/community board to push back for fair housing and development of South Tucson for its residents
- Enhance connections with local community organizers and organizations
- Consider implementing a **Community Health Representative** to help connect residents with proper healthcare resources

Dancing in the Streetz Performing Arts Center

Las Abuelitas Affordable Rental Housing

References

For references, email Hunter Loring.

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- We would like to thank the following individuals for their help and participation in this community assessment:
  - Marc Verhougstraete,
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  - Casa Maria Soup Kitchen,
  - All the members of the South Tucson community that spoke with us and shared their experience living and working in the community

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Arizona **AHEC**
Area Health Education Centers

A Community Assessment of Yuma, Arizona

Stokes, R., Williams, L., Boyd, K., Platzbecker, E., Pei, H., Everhart, K., Kramer, M., Nichols, B., Palma, A.,Tovar, J., Vodicka, M., Migliore, Z., Shatto, R., Madrid, S., Rodriguez, F., WAHEC Scholars 2021-2022 & Schwarz, J. (Mentor).

Introduction

The purpose of this document is to highlight the strengths and resources of the city of Yuma along with its healthcare needs as identified by community leaders and Western Area Health Education Center (WAHEC) scholars of Arizona.

History and Culture

Yuma, Arizona was founded at a strategic crossing point of the Colorado River, a place long important to the native Quechan people. It became a thriving Old West port town during the 1800s, bringing together Americans, Mexicans, and Indigenous peoples. Today Yuma is an important agricultural and military hub, housing U.S. service members and families and providing the bulk of the U.S.'s winter cabbage crop.

Source: USC Libraries

Methods

Data collection came made use of various municipal and federal resources. This includes census data, past community needs assessments, and the Yuma county health department.

Demographics

Population: 93,704 in 2019

Race	Percentage
White	70%
Hispanic/Latino	69%
Other	20.13%
Mixed Race	3.67%
Black	3.34%
Asian	1.85%
American Indian	0.79%

Residents Living in Poverty		
Yuma: 18.3%	Arizona: 12.8%	United States: 11.4%
Median Household Income		
Yuma: $47,990	Arizona: $58,945	United States: $62,843
Residents under the age of 18		
Yuma: 26.4%	Arizona: 22.5%	United States: 22.3%
Residents over the age of 65		
Yuma: 15.2%	Arizona: 16%	United States: 16.5%

Economics

- The major industrial players include agriculture, military and defense, and tourism.
- The largest private employer in Yuma is Yuma Regional Medical Center.
- Approximately 60% of Yuma City's population is within workforce age, defined as the ages 19 to 64, a figure that compares favorably to the County's 54%.
- As of November in the year 2021, the unemployment rate in Yuma (not seasonally adjusted) was 11.1% compared with Arizona's 3.9% (U.S. Bureau of Labor Statistics, 2022).

Communication

- Community sources: Yuma-specific television channels (Channels 72, 73), E-newsletter: *It's Happening, Yuma Sun* newspaper, social media, etc.
- Four main post offices: U.S. Post Office, Yuma Post Office, Yuma Foothills Post Office, and Yuma Marine Corps Air Station Post Office
- Limited DSL internet providers with bi-annual coverage report of only 57,909 local connections

Community Health Resources

- **Yuma Regional Medical Center:** Developed an expansion of their services to meet the healthcare needs of the community, including Foothill and East County residents who have voiced the desire for better access to primary care services, closer to home
- **Health Center Program:** Provides healthcare services and funding to Sunset Community Health Center to address the healthcare provider shortage need. In return there has a been a corresponding growth in overall medical services and staff.
- **Exceptional Healthcare:** A Texas-based hospital group recognizing Yuma's shortage of healthcare facilities and professionals are strengthening the community's overall healthcare infrastructure by building a state of the art healthcare facility planned for Spring of 2022.

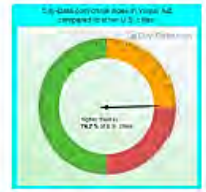
Health and Nutrition

- Over half of Yuma County is a food desert, meaning it has limited access to affordable and nutritious foods.
- In 2012, the obesity rate of Yuma County was 33.6%, a 40% increase from 2002.
- Yuma has a WIC program available for pregnant, breastfeeding, and postpartum women, infants, and children. It provides nutrition education, support, and supplemental foods.
- Yuma School District received a waiver from the United States Department of Agriculture allowing them to give all students free meals during the 2021-2022 school year, ensuring that all students will have two healthy meals every weekday.
- The school district has a nutrition & fitness website with resources for students, teachers, and parents. Students are encouraged to choose healthy foods through games and parents are encouraged to reinforce lifelong nutrition and fitness practices.

Environment

- Yuma is located in a rural area on the borders of California and Sonora, Mexico which lies South of the Gila River and east of the Colorado River.
- The agriculture industry represents an annual gross economic return of $3.2 billion, or more than one-third of Arizona's yearly total, where 230,000 acres of land are utilized for agriculture.
- Yuma air quality is impacted by international emissions as a rural border region. According to one case study, Yuma County has 95% less population, 91% fewer emissions, and 95% fewer vehicle miles traveled than Maricopa County. However, the City of Yuma has an average 74 ppb ozone design value nearly equal to that of Phoenix, Arizona, at 77 ppbv.

Safety and Transportation



While the crime index remains higher than 74.7% of other US cities, Yuma has demonstrated consistent improvement to crime rates in the last 10 years

Summary, Analysis and Results

Areas of Opportunity:

- Availability of mental health & healthcare services
- Reliable public transportation
- More resources in winter months with influx of snowbirds and migrant workers
- Healthy and affordable food
- Affordable housing
- Resources for those suffering from substance use disorder
- Increased obesity & diabetes
- Poverty & unemployment
- Safe drinking water
- Air quality division needed to reduce pollution and emissions

Strengths:

- Yuma Regional Medical Center
- Strong sense of community
- Infrastructure supporting outdoor activities
- Yuma Medical Center expansion to include women's services, pediatrics, & family health
- Local medical discount network CAPAZ-MEX
- WIC
- Health center program to to provide healthcare services & funding to Sunset Community Health Center
- Exceptional Health planned for establishment
- First multi-modal transportation center coming soon
- Free meals to children in school for the 2021-2022 school year

Conclusion

Due to its racial and economic disparities, lack of public transportation, and limited healthcare resources, Yuma needs assistance to improve its population health and create health equity. Increased access to healthcare services must be made available to Yuma residents. Through the assistance of grants, programs like WAHEC, and government funding, it is the hope of WAHEC that healthcare providers and services will be made available to mitigate the racial and economic disparities causing the gap in access to healthcare that plagues Yuma.

References

SCAN ME

Acknowledgements

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Burnout Rates in Third Year Medical Students Across Medical Education Models

THE UNIVERSITY OF ARIZONA College of Medicine Phoenix

C. Maryssa Spires, MSIV, University of Arizona College of Medicine, Phoenix
Jonathan Cartsonis, MD, University of Arizona College of Medicine, Phoenix

Introduction

- Burnout is a significant problem in the medical community and is present **throughout medical training, including** medical school. Estimates of medical student burnout place the rate at 50%.
- Implications for burnout on quality of patient care, including increased patient safety issues, poor patient satisfaction, and reduced physician engagement are well established.
- Burnout also contributes to reduced number of practicing physicians, with higher rates linked to early retirement and poor retention, with important implications for rural and underserved patient populations.
- Newer medical education models, including longitudinal integrated clerkships (LIC) and rural training show promise with increased student support and improved wellbeing.
- LICs are becoming more prevalent, with the University of Arizona College of Medicine – Phoenix LIC accepting its inaugural class in 2020.
- Given the ongoing shortage of U.S. medical providers and the physical and mental health consequences of burnout, understanding the development of burnout including potential risk and protective factors may improve the ability to remedy components of medical training that contribute to burnout.

Research Question

Do differences in medical education models (rural, urban, or LIC experiences) correlate with third-year medical student self-reported burnout rates using the standardized Maslach Burnout Inventory (MBI) student survey?

Primary outcome:
Burnout scores

Materials and Methods

- In this case-control study, all third year medical students (n=80) at the University of Arizona College of Medicine – Phoenix (UA COMP) were invited to participate in the study via email for a survey period of November to December 2021.
- Based on power analysis for this pilot study, we hoped to enroll 20 participants.
- Self-reported burnout rates were assessed via MBI Student Survey and demographic characteristics (race, ethnicity, gender, age) were collected using an electronically administered survey.
- The MBI Student Survey scores burnout using three component categories: academic efficacy, emotional exhaustion, and cynicism. Survey questions are grouped into each of these categories and scored with graded responses on a Likert scale, from "never" to 6 "every day".
- Lower academic efficacy and higher emotional exhaustion and cynicism scores combine to form a higher burnout score.
- Higher MBI survey values correlate to higher burnout rates although there is not a **definitive value that indicates the presence** or absence of burnout, which is graded on a continuum.
- Results were then analyzed to examine differences in burnout characteristics, demographic characteristics, and urban, rural, and LIC training experiences.
- The two-sample *t*-tests was used to compare overall and average scores for emotional exhaustion, cynicism, and academic efficacy between rural and urban students. Based on the equality of variances, we used pooled *t*-tests. The alpha level was 0.05.

Results

Study Population

The study population was the class of third year medical students at the University of Arizona College of Medicine –Phoenix. The class is 52% female and 48% male, with mean age at matriculation of 25 (range: 21-33). The class self-identified as 46.3% White, 27.5% Asian, 13.8% Hispanic/Latino, 2.5% African American or Black, 2.5% Native American, 5% Other. 2.5% did not report their race.

Survey Respondents

Of 80 invited students, 8 rural or rural LIC (38%) and 13 urban students participated (62%), for a response rate of 26%. Seven male and fourteen female students completed the survey, with respondents ages between 24 and 35 (SD = 3.00). The majority of participants identified as White (66%), while a minority identified as Asian or Pacific Islander (24%), African American or Black (4.7%), and more than one race (4.7%). 14% identified as Hispanic or Latino.

Burnout Characteristics

- There is no significant difference between emotional exhaustion, academic efficacy, or cynicism scores between rural and urban students (p=0.9679) (Figure 1).
- In one sample question investigating frequency of "feeling drained from their studies," 57% of respondents reported feeling drained from their studies at least once a week and 23.8% reported feeling drained from their studies every day, an indication of emotional exhaustion (Figure 2).
- Nearly 57% reported they feel emotional exhaustion every day and 43% reported cynicism every day to at least one of these questions. Conversely, 76% indicated seeing value in their role as students and their career development every day in at least one question response (Figure 3).

Additional Considerations

This study was conducted during a time of additional stressors including the COVID-19 pandemic and survey collection began a few months after the loss of a peer, which may contribute to the overarching burnout trends seen within survey responses.

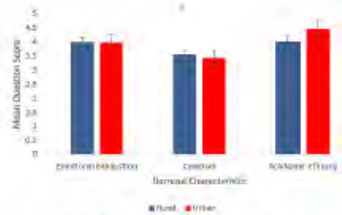


Figure 1: Mean question score by burnout characteristic in third year medical students trained in rural or urban areas. Higher emotional exhaustion and cynicism and lower academic efficacy scores are associated with higher burnout rates.

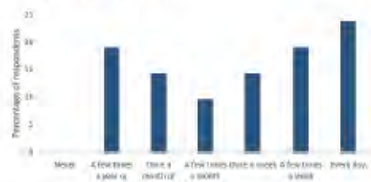


Figure 2. Percentage of respondents, across training category, in each Likert category for question "I feel emotionally drained from my studies."

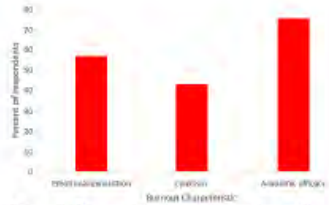


Figure 3. Percent of students responding with "Every day" category in at least one emotional exhaustion, cynicism, or academic efficacy category question. Higher emotional exhaustion and cynicism scores and lower academic efficacy scores correspond with higher likelihood of burnout.

Conclusion

- 61.9% of surveyed third year medical students reported experiencing at least one characteristic of burnout daily and 85.7% reported experiencing at least one characteristic of burnout nearly every day.
- Small sample size or survey timing may contribute to the lack of statistically significant differences in student burnout rates based on medical education models.
- This study will continue over at least the next 4 years and may provide additional information about potential impacts of rural and LIC training on medical student self-reported burnout.

Summary

Although there was no significant differences in self-reported burnout rates in medical students based on their training model, the majority of medical students reported burnout in at least one of the three categories scored: emotional exhaustion, cynicism, and academic efficacy.

Acknowledgements

We would like to thank:

- Arizona Area Health Education Center (AHEC) for providing funding for MBI license acquisition
- Dr. Matthew McEchron (UA COMP Director of Scholarly Projects) for his guidance in project timeline development
- Dr. Robb Most (President of Mind Garden, Inc.) for his help with survey design and MBI specific questions
- Dr. Eahsan Shahriary (UA COMP Research Office Biostatistician) for his assistance with statistical analysis

Flagstaff Transportation as a Social Determinant of Health

AHEC Scholar 2021-2023 Cohort: Loren Begay, Angela Beltran, Erin Burgess, Laney Brown, Stefany Calderon, Jake Edwards, Lauren Erdelyi, Stephanie Farina, Emily Healy, Colin Hurkett, Milka Kalajdzic, Sabrina Lamere, Marissa Marzella, Audrey Meggitt, John Wilcox

Lead Mentor: Dr. Violet Siwik

COLORADO PLATEAU CENTER FOR HEALTH PROFESSIONS AT NORTH COUNTRY HEALTHCARE
Northern Arizona's AHEC

THE UNIVERSITY OF ARIZONA Arizona AHEC Area Health Education Centers

Purpose/Methods

The purpose of this assessment is to explore an overview of the Flagstaff community and the gaps in transportation that persist. Our aim is to evaluate the correlation between the community's social determinants, such as funding, access, safety, and their access to transportation.

Primary Method: NAHEC Immersions - Windshield survey

Secondary Method: Online Resources

Background/History

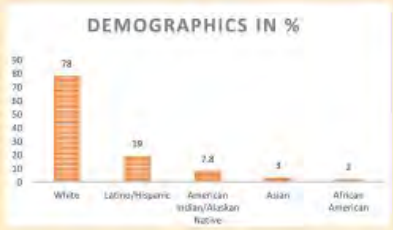
- **Derived from a flag-raising ceremony held on July 4, 1876**
- **Located in Northern, Arizona and home to many tourist spots such as Lowell Observatory, Sunset Crater, Walnut Canyon**
- **In 1880s, Flagstaff became the largest city on the railroad line**
- **Establishment of Northern Arizona University in 1899 attracted more people to the community**
- **Through a community needs assessment, several concerns were found such as increasing traffic and emissions, lack of availability of transportation resources, housing, and bus stop shelters remodeling.**

Transportation Issues/Barriers

- **Overcrowding, Population Growth, Traffic**
  - 2010-2017: 10% population growth; 30% of population are college students
- **Limited/No car access**
  - 2.6% of population have no vehicles; walking and biking are utilized more
- **Outlying communities and access to transportation**
  - Mountain Line bus system has 9 active routes, but lack services that cater around the Flagstaff Pulliam Airport, Ft. Tuthill County Park, or past the Flagstaff Mall
- **Hospital Relocation**
  - Flagstaff Medical Center Campus relocation north of Ft. Tuthill County Park, yet lack bus routes in this area as of this time
- **Bus stops**
  - Lack of availability of shelters which poses a problem especially during wintertime or summer
  - Location of bus stops: mainly between driveways
- **Formula Grants for Rural Areas (FTA 5311) barriers**
  - Provides planning and assistance for support of public transportation in rural areas
  - Mountain Line relies heavily on funding from federal, state, and city resources
  - Recent bill to increase tax transit was denied

Demographics

- **Income:**
  - Median household: $58,748 (in 2019) with per capita as $26,954
  - 18% below the poverty level, with 13% of children falling into this category
- **Median gross rent: $1,265**
- **Monthly owner cost with mortgage: $1, 737**
- **Persons without health insurance < 65: 10.4%, with disability 7.7%**
- **Mean travel time to work: 15.4**



Transportation and Impact on Social Determinants of Health

- **Transportation affects several aspects of an individual's life. Inadequate transportation contributes to health disparities and inequities. This may involve:**

- **For example, the Flagstaff community has planned to move the only hospital to an outer edge location off the I-17 freeway making it almost unaccessible to those using public transit.**
- **New partnerships among healthcare organizations, social services agencies, and public sectors all play a significant role in improving the social conditions that affect this community.**
- **Increasing accessibility to public transportation can drive better care and improve health outcomes for individuals reliant on public transit in this community.**

Available Resources

- **Mountain Line-Mountain Line Go!**
  - Day pass for $2.25/day with unlimited rides or monthly pass
- **AHCCCS-Transportation to and from AHCCHS covered services**
- **Medicare: 80% ambulance reimbursement**
- **Flagstaff Urban Trails System: non-motorized city-wide trail system**
  - 56 miles of paved/hard-packed paths, connected to neighborhoods, shopping centers, schools, or work
  - At least 50% of population use as means of transportation
- **Ride Share: Taxis, Uber, or Lyft**

Conclusion

- **Flagstaff community continues to face transportation challenges despite the available resources**
- **Affordable and accommodating transportation system should be emphasized**
- **Housing near public transit is increasingly inaccessible for lower income individuals**
- **Hospital relocation poses a huge issue for people who rely on bus systems**
- **Transportation needs must be balanced with logistics and funding to provide equitable transportation**

References

Guide to Delivering Inclusive Sex Education to Adults with Intellectual and Developmental Disabilities

Jennifer M. Sadler, BAN, RN

ASU Edson College of Nursing and Health Innovation
Arizona State University

Background

Problem

- **People with Intellectual and Developmental Disabilities (IDD)** often DO NOT receive comprehensive sex education (Tracy et al., 2018)
- **Comprehensive Sex Education** protects from abuse, exploitation, and unintended pregnancies (Tracy et al., 2018)
- **Special Olympics Arizona (SOAZ)** developed a grant funded Sexual Education and Healthy Relationships (SEHR) program for adults with IDD to be taught by caregivers, educators, parents/ guardians, and SOAZ coaches

Figure 1. Athlete photo (SOAZ, 2021)

Significance

- American Association on Intellectual and Developmental Disabilities (2013) supports the need for sex education

Evidence Synthesis

- Sex education for people with IDD is successful in a variety of settings
- People with IDD included in program development (Corona et al., 2019; Dekker et al., 2015; Finlay et al., 2015; Hannah & Stagg, 2016; Graff et al., 2018; McCann et al., 2019; Murray, 2019; Pask et al., 2016; Visser et al., 2017; Ward et al., 2013)

Project Purpose

To evaluate the impact of the training on **facilitators' knowledge and confidence** in the delivering the SEHR program.

Methods

Institutional Review Board: ASU expedited status approval

Setting: SOAZ office or Zoom

Population: SEHR Program Facilitators: adults who are caregivers, educators, parents/guardians, and SOAZ coaches

Intervention: 4-hour training on SEHR program led by expert consultants

- SEHR Program topics: Healthy Relationships & Boundaries, Safety & Violence Prevention, and Clinical Topics
- Learning objectives/ activities in participant workbook and coinciding facilitator manual
- Trauma informed communication
- Mandatory reporting
- Facilitate mock lessons

Data Collection: Pre and post training surveys

- Change in confidence and knowledge
- Knowledge self-assessment
- Demographics & feedback

Data Analysis:

- Two-tailed Wilcoxon signed rank tests
- Descriptive statistics

Figure 2. Participant workbook (SEHR Committee, 2022)

Results

Significant change in pre- and post-training responses (n=9) for:

	Pre (mdn)	Post (mdn)	z	p
Clinical Topics	3.5	4.00	-2.04	.041
Learning Objectives	3.00	5.00	-2.16	.031
Trauma Informed Communication	3.00	4.00	-2.21	.027

Discussion

Strengths

- Developed by expert consultants, multidisciplinary committee, and adults with IDD
- Sustainable train the trainer model

Limitations

- Sensitive topic

Figure 3. Athlete couple (SOAZ, 2021)

Conclusions

Summary

- Training feedback: comfortable, inclusive environment, enjoyed mock lessons, and connecting with others
- Equipped facilitators with knowledge & confidence to deliver SEHR program

Implications

- 9 facilitators piloting SEHR program to ~90 adults with IDD in schools, at home, at SOAZ practice, and virtually
- Increases access to sex education

Future Recommendations

- Revisions to be made to facilitator training and SEHR program upon completion of pilot program
- Offer sexual health programs at SOAZ events

Acknowledgements

Thanks to Dr. Debra Ilchak, DNP project mentor, Gianna Zola, SOAZ project site champion, & the SEHR committee.

Contact: jmsadle2@asu.edu

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Housing Assessment and Analysis for Flagstaff, Arizona

NAHEC Scholars 2021-2023 Cohort 2

INTRODUCTION

- 9.3 million Americans benefit from housing assistance. (8)
- Limited access to affordable housing continues to worsen as demand increases due to tourism and an increasing student population.
- Current wait times to access affordable housing can be up to 3 years
- NAHEC Scholars assessed demographics, availability of housing, and social determinants of health within the Flagstaff community.
- This analysis was completed via community assessment and literature review.

PURPOSE

- To identify and assess the current housing insecurity and cost of living concerns in Flagstaff, Arizona.

METHODS

- **Primary Data Sources**: Community member presentations, windshield/walking survey, and the United States Census
- **Secondary Data Sources**: City of Flagstaff 5-year Consolidated Plan and 10-year Housing Plan

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FINDINGS

- Average housing payment is between $1,001 and $2,000 per month
- 45% of households pay more than 30% of their monthly income towards housing
- Nearly half (47%) of Flagstaff residents are low-income, earning $55,350 annually
- Median home sales price in Flagstaff is over $500,000
- Undersupply of 7,976 housing units
- Growing homeless population, especially amongst Native Americans
- Insufficient public transportation leading to long commute times

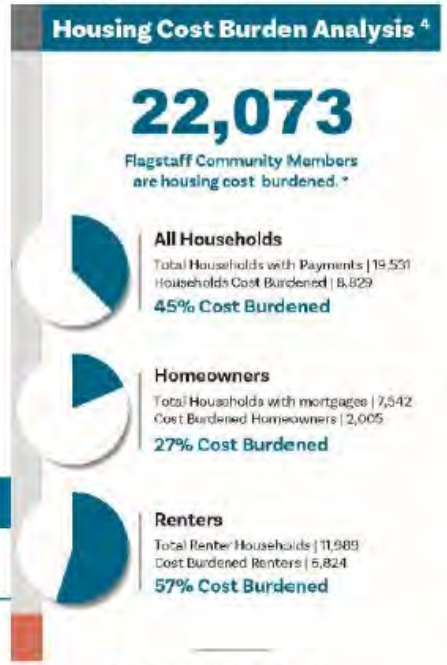
Figure 1
Target areas for increased housing

Figure 2
Income limits to qualify for housing assistance

HUD Flagstaff Area Median Income (AMI) Limits | 2021		
Income Category	**AMI %**	**AMI Income Ranges***
Extremely Low	0 - 30%	$0 - $21,960
Very Low	30 - 50%	$21,961 - $34,600
Low	50 - 80%	$34,601 - $55,350
Low to Moderate	80 - 120%	$55,351 - $83,040
Moderate to High	120% >	$83,041 >

** Income ranges based on three person household*

Figure 3
Housing Cost Burden



** **Cost burdened households** pay more than 30% of their monthly income towards housing.*

DISCUSSION

The findings indicate housing costs in Flagstaff, AZ are almost 30% higher than the national average, even though close to half the households in the area are considered low-income in monthly earnings (2). High cost burden of housing has negative impacts on the health of individuals and the population (1,7). This cost burden can lead to homelessness and poor or substandard living conditions, which in turn can increase emergency room visits and hospital readmissions if patients do not have proper shelter to remain healthy (6) The City of Flagstaff recognizes the crisis of the current housing cost burden to residents and plans to expand programs promoting access to affordable housing. The effects of housing costs have not been assessed in relation to chronic illness, hospital readmissions, emergency room visits, and overall health of the population. Recommendations by this group would be for the City of Flagstaff Housing Section to utilize local resources such as the health department, hospital, and clinics to assess the effect of housing cost burden on the overall health of Flagstaff residents.

CONCLUSIONS

Affordable and low income housing is limited in the Flagstaff area. This can lead to spending significant portions of income on housing, multi-family shared housing, long commute times, and even homelessness. While some resources do exist for those with housing insecurity, it still remains an immense challenge for individuals and families to overcome the burden of rising housing costs. The current proposal by the city of Flagstaff to address this issue is promising, however more resources may need to be allocated to those currently in need.

ACKNOWLEDGEMENTS

We would like to thank and show our appreciation to: AHEC, North Country Healthcare, Courtney Madsen, Victoria Noack, and all who helped us complete this assessment.

REFERENCES

Follow QR code for list of references used in this presentation.

IDENTIFYING BARRIERS TO CERVICAL CANCER SCREENING IN RURAL WOMEN

Edson College of Nursing and Health Innovation
Arizona State University

Lacey Parkman, MSN, RN

Background

Problem

- 93% of cervical cancer cases preventable (Centers for Disease Control and Prevention [CDC], 2020)
- Cervical cancer primarily affects women 35 to 44 years old (American Cancer Society [ACS], 2021)

U.S. Annual Cervical Cancer Cases	U.S. Annual Cervical Cancer Mortality
14,500 (ACS, 2021)	4,290 (ACS, 2021)

Significance

- Federally Qualified Health Center (FQHC) in rural Northern Arizona cervical cancer screening rate is 78%
- Healthy People 2030 National Initiative's target cervical cancer screening rate is 84.3% (U.S. Department of Health and Human Services [USDHHS] & Office of Disease Prevention and Health Promotion [ODPHP], 2020)

Evidence Synthesis

- Evidence shows that identifying socioeconomic barriers unique to rural women can improve cervical cancer screening rates (Akinlotan et al., 2017; Atere-Roberts et al., 2020; Barrington et al., 2019; Binka et al., 2019, Falk et al., 2018; Hall et al., 2018; Liu et al., 2017; McGinnis et al., 2017; Megersa et al., 2020; Moss et al., 2017; Smith-Gagen et al., 2019; Wang et al., 2019; Weng et al., 2020; Yang et al., 2019).

Project Purpose

- Identifying barriers to routine cervical cancer screening unique to rural women

Methods

- **Institutional Review Board**: ASU exempt status approval
- **Setting**: A one-day event called, "See, Test, and Treat" hosted by the FQHC
- **Population:** Arizona women, uninsured, underinsured, 21 – 65 years old, English or Spanish speaking
- **Intervention:** An anonymous written intake survey identifying participant demographics, cervical cancer risk factor knowledge, and perceived socioeconomic barriers
- **Data Collection:** Intake survey
- **Data Analysis:** Descriptive statistics

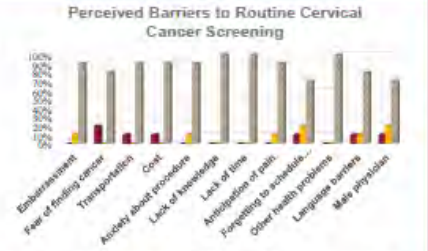
College of American Pathologists (2021) – "See, Test, and Treat" Advertisement Flyer

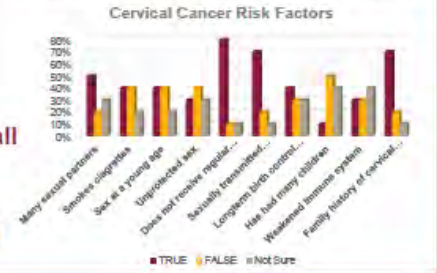
Results

- 18 survey responses, final yield (n = 10), with a mean age of 47.5

Participant Demographics

Variable	n	%
Marital Status		
Single	5	50.00
Married	3	30.00
Living with Partner	2	20.00
Race		
American Indian or Alaskan Native	2	20.00
White or Caucasian	5	50.00
Other	3	30.00
Country		
Cocopino	9	90.00
Yavapai	1	10.00
Education		
College	5	50.00
High School	2	20.00
Vocational College	1	10.00
Middle School	1	10.00
Graduate School	1	10.00
Insurance		
Private Insurance	3	30.00
Uninsured	7	70.00
Primary Language		
English	6	60.00
Spanish	4	40.00
Hispanic or Latino		
No	6	60.00
Yes	4	40.00





- Most participants disagreed with all identified socioeconomic barriers
- A lack of knowledge of cervical cancer risk factors was identified

Discussion

Strengths/Facilitators

- Intake survey applicable for all rural settings
- Surveys provided in-person and collected in one day

Limitations/Barriers

- Inclusion and exclusion criteria was limiting
- Surveys responses were self-reported, possibly influencing accuracy of responses
- Survey language needs revision to be more inclusive

Conclusions

Summary

- Survey identified a lack of knowledge regarding cervical cancer risk factors rather than participant perceived socioeconomic barriers to routine cervical cancer screening

Implications

- Routine well woman exams are an optimal time for healthcare professionals to provide cervical cancer education

Future Recommendations

- Development of evidence-based interventions to evaluate the impact of education on routine cervical cancer screening rates

Acknowledgements

A special thanks to mentor, Dr. Patricia Janicek, faculty, Ren Noorda, site champion, and Kristi Boniella, event coordinator.

Contact Information: ltparkma@asu.edu

Social Ecological Resilience: A Theory for Improving Mental Health Outcomes of Indigenous Adolescents

Christine Hodgson, MSN, RN, CPNP-PC; Ruth Taylor-Piliae, PhD, RN, FAHA, FAAN

Background

- American Indian/Alaska Native (AI/AN) youth plus Canadian First Nations, Métis and Inuit (FNMI) youth are collectively referred to as Indigenous youth for this developing theory
- Mental health disparities for Indigenous adolescents compared to White adolescents in the U.S. and Canada are at a critical level[1,2,3]
- Anxiety, depression, substance use, and suicide are prevalent[1,2,3]
- Compounded by intergenerational physical, emotional, and psychological trauma[4]
- Social determinants such as poverty, discrimination, generations of injustices in federal healthcare policies continue[5]

Ungar's Social Ecology of Resilience (SER) Model

Ungar's SER Model

- Resilience is a strength-based concept that can address mental health disparities[6]
- Resilience = positive outcomes in the face of adversity[6]
- Domains borrowed from Bronfenbrenner's Ecological Model[7]
- Individual, Family, Community, Cultural, Societal[8]

Burnette and Figley (2016) empirically tested Ungar's Model[9]

- American Indian/Alaska Native (AI/AN) children under 18 years
- Data from 51 research articles published before 2014 reviewed
- Risk and protective factors by domain: 13% individual, 41% family, 23% community, 16% cultural, 7% societal

Systematic Review Empirical Evidence Updated

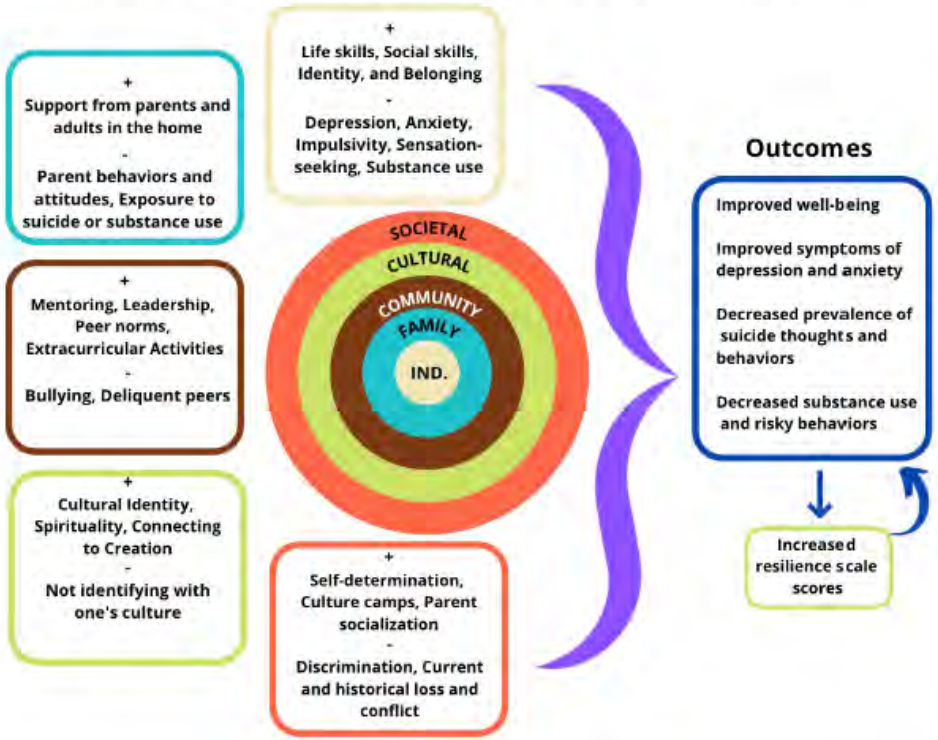
- 80 articles published between 2014 and 2021[10]
- 19 qualitative, 54 quantitative, 7 mixed methods
- Children under age 19 (most were ages 10-19)
- Resilience factors and mental health outcomes
- Majority of studies used community-based participatory research (CBPR)

Findings[10]

- Resilience factors extracted were not mutually exclusive: 86% individual, 53% family, 61% community, 50% cultural, 19% societal

Factors of Resilience for Indigenous Adolescents

+ represents protective factors/ - represents risk factors



Theory Development Strategies

- Grounded by the nursing metaparadigm of person, environment, health, and nursing[11] centered by social justice[12]
- Concept derivation: expanding, explaining, and refining concepts[13]
- Deductive strategies using the work of Ungar[8] and Burnette and Figley[9]
- Inductive strategies using data from the updated systematic review by this author's team[10]
- Integration of research knowledge, clinical experience in a reservation school-based health clinic, and prior theoretical work

Indigenous Knowledge

- IK = An epistemology developed over long periods of time by persons whose interactions with their natural surroundings informs everyday life[14]
- 574 Federally recognized AI/AN tribes in the U.S.[15] and more than 630 FNMI communities in Canada[16] each with different beliefs and values
- Decolonizing health care for Indigenous adolescents may necessitate framing health care in a non-Western way[17]
- The authors realize their privilege as a white, affluent, older nurses
- Refinement of model will be informed by consultation with cultural experts and co-authorship with a Native scholar

References:

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui.

Conclusion

- Growing field of knowledge about the factors of resilience for Indigenous adolescents
- This new multidimensional theory has interdisciplinary application
- Can guide research and clinical practice
- Will challenge healthcare workers to identify and repair the systems that sustain health disparities for Indigenous adolescents

THE UNIVERSITY OF ARIZONA College of Medicine Phoenix

Vaccines for Children providers Hib vaccine ordering practices in rural and non-rural Arizona

Charlotte Archuleta, (MS, MS4), University of Arizona College of Medicine, Phoenix
Jennifer Tinney, Program Director, The Arizona Project for Immunization (TAPI)

Introduction

The Vaccines for Children (VFC) program helps provide childhood vaccinations to patients who are: uninsured/underinsured, Medicaid eligible, American Indian, or Alaskan Native.

With higher-than-average poverty rates (particularly in rural areas) and Hispanic populations compared to the US, Arizona may need more VFC providers.

Research Question

Is there a difference among urban, rural, frontier, and American Indian zip codes in the number of zip codes receiving adequate shipments of VFC Hib (*Haemophilus influenzae type B)* vaccines to cover the estimated number of children eligible for these vaccines born in these zip codes?

Materials and Methods

A population-based study comparing the ratio of VFC Hib vaccines shipped to the birth cohort in Arizona eligible for these vaccines.

2015 VFC Shipment data from TAPI was organized by zip codes, which were given designations of urban, rural, frontier, American Indian, or mixed based on Arizona Primary Care Area designation maps.[1] The number of doses shipped was compared to the estimated number of children eligible for vaccination in the shipment year based on AZDHS birth data.[2]

Fishers Exact Test was used to determine the likelihood of having at least 1:1 ratio of VFC shipments to estimated doses needed and Firth's Logistic Regression was used to compare the odds of having at least 1:1 ratio among different zip code designations.

Results

- **Overall results:** Fisher's Exact Test resulted in a p-value of 0.101 when comparing sufficient VFC shipments among all different zip codes. See Table 1.
- **Differences between urban and non-urban zip codes:** Results comparing non-urban zip code designations (i.e. rural vs. all other designations) and urban vs. non-urban showed non-significant trend towards fewer zip codes with sufficient shipment of Hib vaccines in non-urban zip codes. See Table 2.

The marginally significant difference when comparing all zip codes suggests that at least one of the zip code designations may have a different proportion of Hib vaccines shipped to estimated doses needed, i.e. $Proportion_{Urban} \neq Proportion_{Rural} \neq Proportion_{Frontier} \neq Proportion_{AmericanIndian} \neq Propotion_{Mixed}$. Firth's logistic regression models were then applied to the data which showed a trend toward fewer zip codes with sufficient vaccine shipments in non-urban designations, but these findings were not significant.

Table 1. Comparison of Sufficient VFC Shipments by Zip Code Designation (N = 209)

Zip Code Designation	Zip Codes With Sufficient[a] VFC Shipments	Zip Codes With Insufficient[b] VFC Shipments	P-Value[c]
All zip code designations, N (%)	94 (45.0)	115 (55.0)	
Urban, N (%)	45 (53.6)	39 (46.4)	0.129
Non-Urban[d], N (%)	37 (41.6)	52 (58.4)	
Urban, N (%)	45 (53.6)	39 (46.4)	0.101
Rural, N (%)	29 (47.5)	32 (52.5)	
Frontier, N (%)	2 (22.2)	7 (77.8)	
American Indian, N (%)	6 (31.6)	13 (68.4)	
Mixed[e], N (%)	12 (33.3)	24 (66.7)	

[a]Defined as having at least a 1:1 ratio of VFC shipments to estimated doses needed
[b]Defined as having less than a 1:1 ratio of VFC shipments to estimated doses needed
[c]Fishers Exact Test
[d]Zip code designations: Rural, Frontier, American Indian
[e]Two or more zip code designations assigned to zip code (mixed)

Table 2. Firth's Logistic Regression for Comparison of VFC Shipments by Zip Code Designation (N = 209)

Zip Code Designation	Unadjusted Odds Ratio[a] (95% Confidence Interval)	P-value[a]
Urban	Ref	Ref
Non-Urban[b]	0.620 (0.340-1.131)	0.119
Urban	Ref	Ref
Rural	0.788 (0.407-1.526)	0.480
Frontier	0.289 (0.060-1.389)	0.121
American Indian	0.418 (0.146-1.196)	0.104
Mixed	0.443 (0.196-0.998)*	0.050*

*Indicates statistically significant result for alpha = 0.05
[a]Firth's logistic regression
[b]Zip code designations: Rural, Frontier, American Indian

1. Arizona Department of Health Services. Arizona Primary Care Area Maps: Arizona Interactive. Arizona Department of Health Services Data, Reports, & Maps. https://www.azdhs.gov/prevention/health-systems-development/shortage-designation/designation-mapped/index.php. Published 2019.

2. Arizona Department of Health Services. Resident Births by Zip Code in Arizona: 2017. Population Health and Vital Statistics Various Health Statistics. https://pub.azdhs.gov/health-stats/menu/index.php?pg=births

Conclusion

Trend toward fewer zip codes in the non-urban category having a 1:1 proportion of shipped vaccines to needed doses, though not significant, suggesting:

- Lack of access to VFC providers in non-urban zip codes and need for recruitment.
- Poor provider understanding of VFC eligibility and who may be eligible in their population and need for education.
- Poor patient understanding of VFC eligibility and when to ask for these vaccines and need for education.

Major challenges and sources of error in this project included estimating the number of children eligible for VFC and finding zip code designation as no data set catalogs either. Larger and better characterized data sets might yield more significant findings.

Summary

Better estimates for VFC vaccine eligible populations is needed, especially in non-urban areas.

There may be fewer children with access to VFC vaccines in non-urban areas – suggesting there is a need for:

- **Provider and/or patient education on VFC eligibility and availability**
- **Increased VFC providers in non-urban areas.**
- **More research on VFC vaccines and rural health.**

Acknowledgements

I wish to thank my mentors Jennifer Tinney and Dr. Jonathan Cartsonis as well as Dr. McEchron and the entire SP support staff including Chase Irwin and Paul Kang who assisted with statistics and Kelley Howard who assisted with IRB approval.

Chronic Non-Cancer Pain Management with Alternative Therapies

College of Health & Human Services
School of Nursing
Jaskiranjit Hanson BSN, RN
Faculty Sponsor: Dr. Shelly Vaughn, DNP,FNP-BC

Purpose of Project

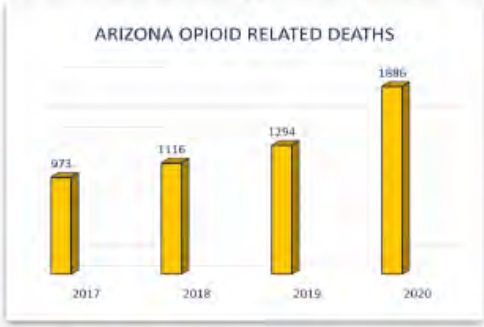
This proposed project aims to encourage alternative treatments to manage non-cancer chronic pain. The goal is to reduce the dependence on opioids and overdose by encouraging providers to educate and promote alternative therapies to patients with non-cancer chronic pain.

Setting and Population

This project focuses on previous patients ages 25 years and older diagnosed with chronic non-cancer pain and treated with opioids from Jan. 2018 to Dec. 2019. The location is in a rural health clinic in Show Low, AZ.

PICOT

P: Adult patients 25 years and older in the primary care setting with non-cancer chronic pain who have been on opioid medication for 3 months or more
I: Patients who received educated and tried alternative therapies for non-cancer chronic pain management before initiating opioid treatment
C: Compared to those patients who did not receive education or initiated opioid treatment before trying alternative therapies for non-cancer chronic pain management
O: To encourage providers to educate and promote alternative therapies to their patients with non-cancer chronic pain to reduce the number of patients on opioid treatment
T: 120 clinical hours or approximately 6 weeks



Review of Literature

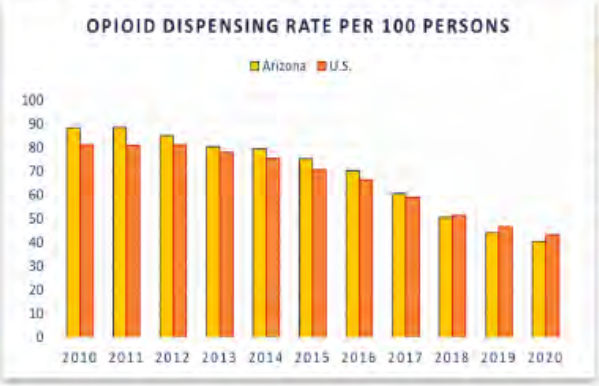
Articles reviewed for this project were level I, II, and V on the levels of the evidence table. The publication date of the articles were from 2016 to the present.

Key Points from articles

- Prescribing opioids can lead to misuse, overdose, and dependency resulting in the increasing fatality rate related to opioid use
- Alternative treatments for chronic non-cancer pain management should be implemented before prescribing any medications
- In one of the studies, only one-third of 588 individuals saw a physical therapist
- Physical therapy has decreased patients' non-cancer chronic pain while improving their function and quality of life
- Alternative therapies can be a financial burden for patients; many insurance companies do not cover alternative therapies
- The researchers found that participants were most motivated to exercise when supervised and held accountable by the health care team

Problem

There has been an increase in opioid prescribing in controlling chronic non-cancer pain in recent years. In the U.S., opioid prescribing has increased from 43.8 million people in 2000 to 89.2 million people in 2010 and continues to rise. Opioids are more often used to manage chronic-non-cancer pain than alternative therapies. Prescribing opioids can lead to misuse, overdose, and dependency resulting in the increasing fatality rate related to opioid use.



Recommendations

1. To achieve maximum treatment adherence, providers should first understand the individual perception of chronic pain, barriers to alternative therapies, and the personal and social context in which they experience pain.
2. A theory practitioners can use to educate patients about chronic non-caner pain is Imogene Kings' Theory of Goal Attainment. Kings' theory can help patients with chronic non-cancer pain grow and develop to attain life goals to manage their pain with these three interacting systems: personal, interpersonal, and social.
3. To reduce financial burdens, suggest affordable alternative therapies such as aquatic PT exercises. Based on the patient's mobility, offer manipulation, manual exercises and trunk coordination exercises that can be performed at home.
4. Providers or medical staff should follow up on patients' adherence and progress on their selected alternative therapy and address any barriers they might encounter.

Referred Patient Data	
Patients Referred	22 (76%)
Patients Not Referred	7 (24%)
Female	14 (48%)
Male	15 (52%)
Ages	42-49
Referred Patient Compliance	13 (59%)
Referred Patient Noncompliance	9 (41%)

Conclusion

Primary care clinics are often the first-place patients with chronic non-cancer receive treatment for their pain. Appropriate use of long-term opioid therapy should be considered within all pain management alternative therapies available. Reducing the prescribing rates of opioids will decrease the dependency, overdose, and fatalities related to opioid use. These goals can be achievable when primary health care professionals encourage their patients to try alternative treatments to manage their chronic non-cancer pain. Discussing the literature, data, and the importance of follow-up with providers will promote and address patients' barriers and adherence to alternative therapies.

REFERNCES

Dismantling Structural Whiteness in Health Profession Education

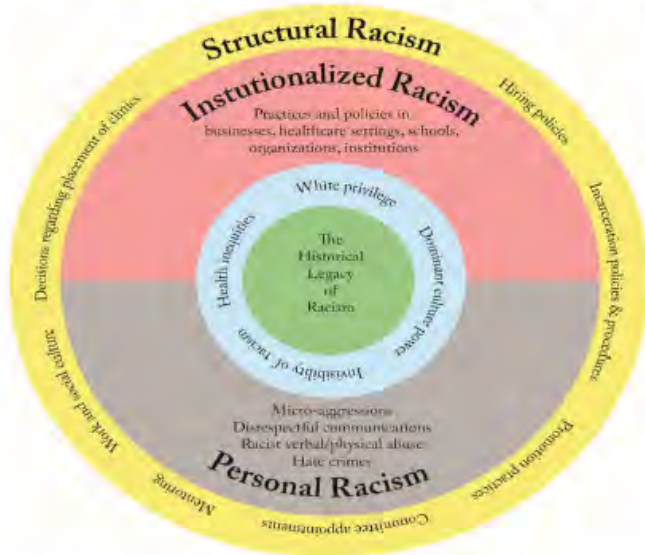
Jose L. Munoz; **Beloved Promise**, BSN student; **Timian M. Godfrey**, DNP, APRN, FNP-BC, CPH

Purpose

The purpose is **to identify theoretical concepts of Whiteness influencing health profession education (HPE) and provide strategies related to undoing, unlearning, and disrupting institutional Whiteness to address racial inequities in HPE.**

Background

- Understanding Whiteness is important to respond to issues related to race and racism in heath care.
- Whiteness refers to practices, policies and perspectives that create and enable the dominance of White people and White systems, and the perceived neutrality and invisibility of this dominance.[1,2]
- By paying attention to Whiteness, health care professionals, educators, policy-makers and leaders can consciously work towards disrupting White supremacy within public health care systems and educational institutions, leading to more equitable, anti-racist approaches and practices in HPE.



Intersectionality of racism in the United States[10]

Methods

A critical literature review of Whiteness in higher education identified the following theoretical concepts:

- **Whiteness and Emotionality**[1-4]
- **Color-Evasiveness**[2,5,6]
- **Whiteness as Property** [2,7,8]
- **White Institutional Presence**[9]

These theoretical concepts informed a literature search for evidence-based strategies in HPE.

Strategies

- Make the history of racism, its role within healthcare, and antiracism a central bioethical principle among all fields of healthcare[10,11]
- Promote racial and cultural literacy that acknowledges racism as a social construct absent of any biological foundation[10]
- Provide BIPOC centered support that addresses the unique needs of minoritized people in pursuit of higher education and entrance into HPE[10]
- Listen to, center, and believe BIPOC people's accounts of racism and white supremacy within and without the healthcare setting[12]

Conclusion

Helpful strategies are emerging in the literature to de-center Whiteness in HPE, however, there are significant gaps related to research and program evaluation for implemented strategies. More research and action is needed to **deconstruct current perceptions of BIPOC and educate on the history or racism and its contemporary effect to achieve a reality of antiracism in healthcare.**[11,13]

References

Does MBSR help Primary Care Providers with Workplace Stress?

College of Health & Human Services
School of Nursing
Daniel M. Collins RN, BSN

Clinical Problem or Concern

Healthcare practitioners deal with a variety of challenges on the job including suffering and even death on a daily basis (Santiago et al, 2019).
Primary care practitioners have additional stress incorporated in dealing with frequent changes to programs, budget cuts, and staffing shortages, the rates turnover have significantly increased and linked to secondary traumatic stress (STS), compassion fatigue and burnout.

Population and Setting

Population- Primary Care Providers (Family Nurse Practitioners, Family Medicine Doctors, PAs, advanced practice students in any of these specialties

Setting- Any setting where primary care providers deliver care

Purpose and PICOT

▪Purpose- Systematically analyze the current research on the effects of the use of mindfulness-based stress reduction (MBSR) techniques by family nurse practitioners (FNP), primary care practitioners, and advance practice students to see if it improves provider satisfaction.

▪ The ultimate goal and rationale is to improve provider satisfaction. Is there is a direct link between provider and patient outcomes in the outpatient setting?

▪(I), Will the use of meditation or MBSR
▪(O)Improve outcomes in burnout and job satisfaction in
▪(P)Primary Care Providers (NPs, PAs, MDs, advanced practice students, ect.)
▪(C) Compared to those do not use the intervention.

Methods (for Literature Review)

EBSCOhost, CINAHL Plus, Medline, and PsychInfo are the electronic databases that were used to search for from 2016 to 2021 were searched. These databases were chosen because of the psychological focus that encompasses mindfulness, compassion fatigue and burnout in healthcare. The initial search terms included: 'mindfulness', 'primary care providers', 'MBSR', 'burnout', 'compassion fatigue'. The search limiters were dates: 2016 to present, full articles, and English language. Inclusion criteria consisted of: publication was academic and peer reviewed study. Publications addressed mindfulness and the compassion fatigue, burnout.

Scope of Literature Examined- Out of 175 potential journals articles, were 40 were evaluated and 6 were ultimately chosen for this review. The biggest challenge faced was finding relevant and credible information conducted in the appropriate time frame

Results of Literature Review

Best et al- The pre and post scores for this study were promising in showing the effectiveness of the mobile application, and impact on mindfulness and stress, although the data can be a bit skewed due to the number of participants.

Santiago et al- This study showed that while MBSR techniques and programs can be beneficial, a strategic approach should be considered before widespread promotion of use.

Magallón-Botaya et al- This study found that while mindfulness was beneficial in reducing workplace stress and is encouraged due to its versatility, that it should not be the only intervention explored and that trust in the work environment is a large contributor as well

Ofei-Dodoo et al- suggests that workplace support may be more important than MBSR in the reduction of stress.

Next Step to Developing Proposed Best Practice

- Collaborate with VA's WHOLE Health Employee Program
- Conduct Hybrid groups to facilitate safe spaces for primary care practitioners to gather and share community without reprimand
- Disperse findings to advanced practice students and programs

Selected References

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Evaluating an Advanced Practice Nurse (APRN) Residency Program via UDS Measures

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Arizona State University

Olivia Sitton, BS, BSN, RN, CMSRN

Background

Problem 1:

- **36,000+ NPs graduated in 2020** and would benefit from a formal transition process from RN to provider role (American Association of Nurse Practitioners, 2021)
- APRN residency programs are being developed and **need feedback**

Problem 2:

- Provider capture rates of Uniform Data System (UDS) measures are down

Connection:

- UDS measures are **quantifiable to evaluate** provider/resident performance

Significance of UDS Measures

- Standardized reporting system for Federally Qualified Health Centers (FQHC) developed by the HRSA that qualifies center for **federal funding**
- Reflects the impact of health centers on patients/communities **via preventative screening and disease management**

Evidence Synthesis

- Residencies offer heightened awareness & increase confidence, knowledge, & provider satisfaction scores (Brooks & Fulton, 2020;)

Project Purpose

- To evaluate an APRN Residency Program for effectiveness and quality improvement (QI) via UDS measures
- To identify if APRN resident satisfaction (measured in another project) impacts UDS measures

Methods

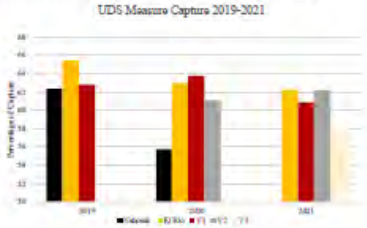
- **Institutional Review Board**: ASU & Federally Qualified Health Center (FQHC) Research Committee approvals
- **Setting**: FQHC in the Southwestern United States
- **Population:** All providers at the FQHC (n~300); All past and present APRN residents (n=18)
- **Intervention:** Data extraction and review capture of UDS measures in the EMR from 2019-2021
- **Data Collection:** UDS data was extracted by the FQHC's Chief Quality/Medical Informatics Officer and Team from the software analysis program Relevant
- **Data Analysis:** Statistical tests via Intellectus using one sample z-tests

(Train International, 2019)

Results

Statistically significant (stat. sig.):

- Residents performed better on **6 out of the 7** stat. sig. measures compared to the non-resident providers at the FQHC (90 total z-tests)
- Residents performed better on **all 19** stat. sig. measures compared to national data (45 total z-tests)



This graph shows the average UDS measure capture by group for each year

- This FQHC performed better than the national averages
- Residents appear to perform better in their second year compared to their first year

Discussion

Strengths/Facilitators

- The APRN residency program director was enthusiastic about a QI project to evaluate the program's effectiveness via UDS measures
- UDS measures are reported annually so the **Informatics team** is experienced with this information

Limitations/Barriers

- Data mining; Determining the most appropriate data for this project
- Limited information
  - Growing program with a **small number** of residents
  - **Missing national** UDS averages for 2021

Conclusions

Summary

- Residents do significantly better capturing UDS measures compared to non-resident providers

Implications

- APRN Residency Programs **offer training and support** that promotes best practices like capturing UDS measures that reflects **quality care for patients**

Future Recommendations

- Continue to trend UDS measure capture
- Identify barriers to capturing UDS measures

Acknowledgements

Thank you, Dr. Moffett for all your time and guidance through this project.

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Evidence-Based Research for Increased for Coronary Artery Disease Disease Among Rural Residing Population with DM2

Joseph Kohout
Northern Arizona University
School of Nursing

Clinical Problem

- The overall prevalence of diabetes is 34.2 million people of all ages,10.5% of the US population. 34.1 million adults aged 18 years or older, 13.0% of all US adults had diabetes ("National Diabetes statistics report, 2020," 2020).
- Undiagnosed diabetes is estimated at 7.3 million adults ages 18 years or older have diabetes but are undiagnosed, 21.4 percent of adults with diabetes ("National Diabetes statistics report, 2020," 2020).
- Effective prevention and intervention methods are needed to reduce diabetes prevalence among US veterans and ultimately improve their health status (Liu et al., 2017).
- The disparity of increasing barriers to care issue is often related to a lack and reach of appropriate medications, treatment and education. The disparity also contribute lack of confidence of healthcare service, and often suppresses veterans inclination to participate in their care (Hunt et al., 2020).

Population and Setting

- Over 34 million Americans affected by diabetes mellitus.
- Seventh leading cause of death.
- In 2017, diagnosed diabetes had an estimated economic burden of $327 billion in the U.S. (Hunt et al., 2020).
- Racial/ethnic minorities face considerable barriers to accessing health services, including living in communities with scarce primary health care providers, they are less likely to have a consistent source of care. (Wong et al., 2019).

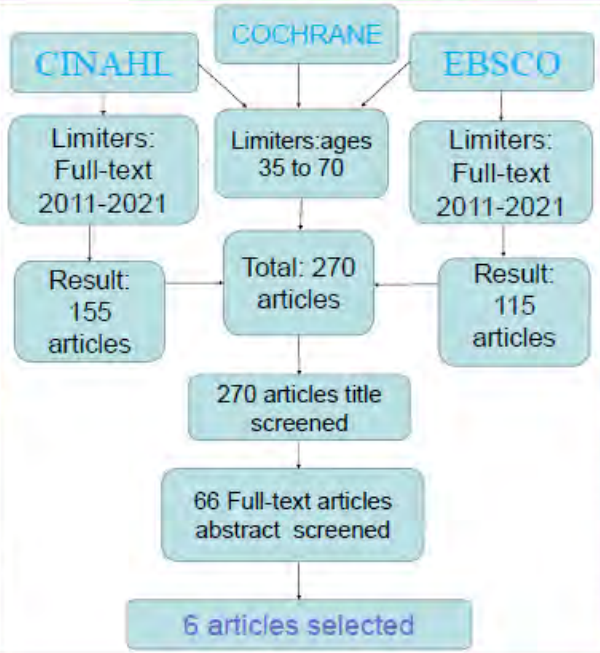
Purpose

- The purpose of this study is to review the literature, examine carefully, present evidence as to how disruption of care (DM2) can lead to cardiovascular issues for rural living veterans, civilians. In addition to find an alternative social reach programs that can augment treatments, but to also provide EBP information to enhance care and treatment compliance.

PICOT

- Are 35 to 70 year old rural residing veterans (**patient population**) who have type 2 diabetes (**Intervention**) compared to those who do not have diabetes (**comparison**) at increased risk for a Coronary Artery Disease (**outcome**)?

Methods for Literature Review



Results of Literature Review

- Rural minorities may encounter, particularly low education attainment, cost barriers, racism, travel barriers, and food uncertainty, may negatively influence patient care-seeking behavior (Brown et al., 2019).
- Female veterans, as with their male counterparts, experiencing chronic disease such as DM2, have also been observed with issues maintaining treatment and compliance, and are often have exclusive secondary coronary health issues. A considerable amount of data cannot be applied for female veterans because NHANES reported few female veterans with inconsistencies (Liu et al., 2017).
- Take into account motivate to participate in their care particularly when facing other stressors, and sometimes are feeling overwhelmed due to having to manage multiple comorbidities remain to a commonality among rural residing veterans with DM2 (Hunt et al., 2020).

Proposed Best Practice

- The review identified data that suggest motivation for enduring personal struggles, especially for veterans, is the bond formed among members (Sweetnam, 2000).
- The findings of the study suggest that The power of influence from other members who share a commonality can provide significant healthcare assets for patients taking closer charge of their care; and, current research appears to validate the properties of peer motivation (William et al., 2016) .
- Veterans who live in rural areas of the US most often have varying complications related to chronic illness; access to quality health has shown improvement treatment for diabetic care, but a lack to healthcare access remains prevalent in rural areas (Brown et al., 2019).
- Establish potential approach to address patient behaviors and encourage self-efficacy in seeking care is peer navigation for people with diabetes (Brown et al., 2019).

Optimum Practice

- Inform/educate LPN/CAN/MSA/MA on the routine of maintaining contact with at risk veterans.
- follow-up would ensure progress and the monitor of adherence to care. All providers should consider instilling all viable options that can benefit the patient in obtaining quality control in their diabetic care.
- Quantified survey would provide feedback and adjustment for optimum practice.

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Improvement of Pediatric Vaccination Rates In a Rural Clinic Setting Amid COVID

College of Health & Human Services
School of Nursing
Sharon Caravetta
Faculty Sponsor: Shelley Vaughn

Purpose of the Project

Implement evidence based clinic practices that will improve the clinic processes and staff confidence to address vaccination hesitancy and vaccination compliance in pediatric patients and contribute to a safer and healthier community by reducing vaccine preventable disease.

Problem

Multiple pandemic related reasons for falling behind on routine childhood vaccinations have been identified and include areas such as overwhelmed healthcare systems, inequalities in healthcare delivery, financial recession and job losses, long-term school closures, disruptions in transportation systems and travel restrictions as well as caregiver concern of exposure to COVID in medical settings (Olusanya, et al., 2021).

Patient Population

Pediatric patients in a rural family practice clinic

Review of the Literature

Clinical Question

Can providing education for clinic staff regarding incorporating practices and resources for chart review, caregiver education and engagement and the use of presumptive commination enhance vaccination compliance and bring patients that are behind up to date on their routine vaccinations?

Conclusion

The implementation of these practice may provide improved protection for the health of these patients individually from vaccine preventable diseases, as well the community via enhancing herd immunity.

A post presentation questionnaire was presented to staff post educational presentation. Key findings are summarized below.

- 100% of the clinic staff identified the correct example of presumptive education.
- 100% of the clinic staff identified correct charting procedures for vaccination refusal.
- 100% of the clinic staff either "agreed" or "strongly agreed" that practices and resources presented will be useful in improving their ability to communicate more knowledgeable with parents/caregivers regarding childhood vaccinations.

Proposed Best Practice

Incorporating Practices for Chart Review

Data maintenance in eClinicalWorks

- Assign a champion
- Delegate monthly queries in eClinicalWorks
- Utilize student resources

Promoting Caregiver Education and Engagement

Caregiver Education

"Vax Fax" binder for quick reference

Encouraging Engagement

- MyIRMobile app.
- Imbedded CDC links on clinic website

Improving Accessibility

- Infection control & cleanliness of rooms
- Drive-up / parking lot vaccinations
- Evening appointments

Patient Reminders

Creating appointments reminders in eClinicalWorks

Presumptive Commination

- CDC algorithm for communication with caregivers
- Refusal after algorithm:
  - CDC handout "If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities" handout
  - "AAP's Refusal to Vaccinate Form" should be signed and scanned into the patient's EMR

Setting

Rural primary care clinic in Payson, Arizona

Improving Colorectal Cancer Screening Rates

College of Health & Human Services
School of Nursing
Felicia Solis-Cummings
Faculty Sponsor: Dr. S. Vaughn

Purpose of the Project

Review the current evidence-based strategies to improve Colorectal Cancer screening.

Problem

- Colorectal cancer rates have increased by at least 15% in the past 16 years (Barzi et al., 2017).
- Colorectal cancer accounts for about 50,000 deaths per year in the United States (Coronado et al., 2017).
- Colorectal cancer screening rates are about 67.3% in the United States (DeGroff et al, 2018).
- It is estimated that 94% of new colorectal cancer patients are over 45 years old (USPSTF, 2021).

Patient Population

Asymptomatic adults between 45 and 75 years old with average colon cancer risk.
Exclusions include those with prior diagnosis of colorectal cancer, adenomatous polyps, inflammatory bowel disease, or those with a family history of colorectal cancer (USPSTF, 2021).

Setting

Primary care providers in rural settings.

Clinical Question

PICO question:
P- asymptomatic patients between 45 and 75 years old
I- find evidence-based strategies to get patients to complete screening
C- patients completing screening or no screening
O- percentage of patients compliant with screening guidelines

Review of the Literature

A search was performed utilizing the CINAHL search engine for "colorectal cancer screening and patient compliance" for full text, English language, 2016-2021, peer reviewed articles. This search yielded 81 results, of which 15 were chosen for review based on their relevance to the topic.

Proposed Best Practice

- Using motivational interviewing when discussing screening with patients (Hussain et al., 2021).
- Live phone call reminders (Coronado et al., 2017).
- Screening champion in every clinic (DeGroff et al., 2018).
- Utilize EHR to "flag" patients needing screening (DeGroff et al., 2018).
- Training all staff members how to discuss screening and providing visual reminders in the clinic regarding screening (Hussain et al., 2021).
- Explaining the options and risks to the patients before offering testing (Brenner et al., 2016).

Conclusion

It is vital to include all clinical staff in this process for consistency, to provide visual reminders to patients, and explain the options and importance of screening to the patients. This will enable patients to understand that screening for colorectal cancer increases their chances for finding it at an earlier stage with better outcomes.

Lung Cancer Screening in Rural Primary Care

College of Health & Human Services
School of Nursing
Laura Marburger
Faculty Sponsor: Dr. Tanya Tillman-Hatch

Purpose of the Project

- Educate providers, nurses, and medical assistants about the current lung cancer screening (LCS) guidelines and the importance of early detection of lung cancer (LC).
- Enhance the clinic screening workflow and ordering process that is used to identify LCS eligible patients.

Problem

- Most patients have no symptoms until the late stages of LC, when treatment is more difficult and survival rates are lower[6,12].
- Only 15 percent of LC cases are diagnosed at an early stage[1] while approximately 70% are diagnosed at an advanced stage[18].
- Recognizing LCS eligible patients in primary care is challenging. Unlike colon, cervical, and breast cancer screening; LCS requires a complex risk-based screening model[3].
- Uptake of ordering low dose computed tomography (LDCT) for LCS are particularly low in rural underserved populations[9,11].

Setting

A rural primary care clinic in Apache County, AZ.

Patient Population

Adults ages 50-80 that are either current smokers or have quit within the last 15 years.

Clinical Question

Does modifying the screening questions and/or PCP ordering process for (I) adults ages 50 to 80 (P) for LCS current USPSTF recommendations expand the number of high-risk patients identified and increase the number of LDCT scans ordered (O) in rural health compared to the current primary care practices (C)?

Review of the Literature

High level evidence:

- LDCT screening significantly reduces both LC and all-cause mortality in high-risk individuals[7].

Moderate level evidence:

- Patients state that having a PCP recommendation is a major facilitator for deciding to screen with LDCT[13].
- Shared decision making is vital for patients to decide about LCS[4].

Low level evidence:

- Clinical barriers to LCS are lack time, resources, competing priorities, system obstacles, and no organized LCS protocol or order set in place[10,14].

Patient perspectives

- Many LCS eligible patients state that their provider did not propagate a LCS discussion[10].
- Most patients would rather get a LDCT scan and endure the screening risks over the possibility of missing cancer[10].

Proposed Best Practice

- USPSTF current recommendations are for annual LCS with LDCT in adults ages 50 to 80 years who have a 20 pack-year smoking history, and either currently smoke or have quit within the past 15 years[8].
- LDCT screening is more beneficial than harmful in high-risk patients and is the only available screening strategy recommended for LC prevention [16,17].

Conclusions

- Despite the expansion of AZ's Medicaid to cover patient's LCS cost, AZ's rate of identifying high-risk LC population is a low 2%, which is significantly inferior to the national rate of 6%[2].
- The national LCS with LDCT rate was 4.5% in 2015. The national goal is 7.5% by 2030 [19].
- Recommend the facility to use point-of-care reference materials about LCS to increase patient knowledge of the benefits and harms of LCS, and to decrease burden on the provider[14].
- Recommend delegating medical assistants to ask screening questions to reduce provider burden.
- Recommend adding LCS to the Azara, along with the other cancer prevention screenings.
- Recommend creating a reminder system and/or prompts within the EHR for nurses to remember to collect and complete smoking history on a specific subset of patients[5] and alerts the patient as "high-risk" in the EHR.

References: [1](AHRQ, 2016), [2](American Lung Association, 2021),[3](Armstrong et al., 2016), [4](Bittner Fagan et al., 2019), [5](Brenner et al., 2018), [6](Dunphy et al., 2019),[7](Usman Ali et al., 2016), [8](USPTF, 2021), [9](Li, Chung, Wei, & Luft, 2018), [10](Lowenstein et al., 2019), [11](Mukthinuthalapati et al., 2020), [12](Quaife et al., 2016), [13](Shiffelbein et al., 2020), [14](Triplette et al., 2017), [15](Usman Ali et al., 2016), [16](Meza et al., 2021), [17](Jonas et al., 2021), [18](NCIN, 2015), [19](ODPHP, 2022)

PARENTING SKILLS EDUCATION: PARENTS CAN PREVENT ADOLESCENT SUBSTANCE USE

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Arizona State University

Amber Allen, BSN, RN, CPN

Background

Problem

- Substance use and its collision with the opioid epidemic has become a forefront cause of unintentional injury and death in teens

Significance

- Substantial national increases between 1999 - 2019 in teen, opioid-related:
  - Emergency room visits
  - Hospital and intensive care stays
  - Deaths (Hudgins et al., 2019; National Institute on Drug Abuse, 2014)

[redacted]	Increase in drug use among 8th graders between 2016 & 2020
[redacted]	Of teenagers in 12th grade have abused alcohol
[redacted]	Of teenagers have misused a drug at least once

(National Center for Drug Abuse Statistics, 2022)

Evidence Synthesis

- Strongest predictors of youth substance use
  - **Adverse childhood experiences** (ACEs)
  - **Poor mental health** (CDC, 2020a)
- Interventions that show the **most significant prevention effect** are family-focused such as:
  - Parent-child communication
  - Parental monitoring
  - Increasing child resilience
  (Fowler & Schoeny, 2017; Ijadi-Maghsoodi et al., 2019)
- Prevention efforts in teens should focus on **total substance abstinence**, not merely opioid use prevention (Hudgins et al., 2019)

(SAMHSA, 2021)

Project Purpose

To facilitate a parenting course for parents of adolescents living in high-risk circumstances that statistically contribute to substance use

Methods

- **Institutional Review Board**: ASU exempt status approval
- **Setting**: A transitional shelter for families in an urban area
- **Participants:** Parents of a teen between 11 and 16 years, who have experienced family homelessness
- **Intervention:** Teen Triple P Online- an evidence-based online positive parenting course delivered through six 30-to-60-minute interactive modules. Participants completed modules from home over a 6-week period with weekly text and email supports from program facilitator.
- **Data Collection:** Each parent completed:
  - Demographic Questionnaire
  - Pre-and post- Conflict Behavior Questionnaire (CBQ) (r=.86)
  - Pre-and post- Depression, Anxiety, and Stress Scale (DASS-21) (r =.71–.81)
- **Data Analysis:** Two-tailed paired sample t-test

Results

Participants Recruited	Completed 2+ Modules	Completed All Modules
6	4 (66%)	2 (33%)

	Pre-Test	Post-Test
N= Completed All Modules	2	2
Mean CBQ Score	7	1.5

DASS-21	Pre-Test	Post-Test
Mean Depression Score	5	3
Mean Anxiety Score	12	2
Mean Stress Score	10	8

α=0.05	p=0.44	p>0.05

Fail to reject all null hypotheses

α=0.05	p=0.50	p>0.05
α=0.05	p=0.13	p>0.05
α=0.05	p=0.70	p>0.05

Discussion

Strengths/Facilitators

- Parenting program facilitated is evidence-based with 35+ years of studies and trials confirming efficacy
- Online format was easy to deliver and accessible to participants from anywhere
- Sustainable intervention that has individual, family, community, and national impact

Limitations/Barriers

- Small sample size (6 participants)
- 66.6% Attrition Rate
- No follow-up

Conclusions

Summary

- Interventions that decrease conflict and mental dysfunction of parents directly impacts major family factors that contribute to adolescent substance use.
- A decrease was found in every negative indicator in the CBQ and DASS-21, unfortunately a small sample size did not allow for significant results to be reported.

Implications

- Broader implications for clinical practice, healthcare professionals, and organizations are that substance use prevention starts in adolescents, and at the family level.

Future Recommendations

- Implement in a larger population and including longitudinal follow-up of substance use variables in adulthood

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Pre-Diabetes: Lifestyle Changes Vs. Metformin

College of Health & Human Services
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Jorge Barboza
Faculty Sponsor: Shelley Vaughn, DNP

Purpose of the Project

- The purpose of this project is to compare progression to Type 2 DM after treating pre-diabetes in adult patients with Metformin versus lifestyle changes.
- Pre-diabetes is an A1C value between 5.7% to 6.4%
- Education provided to providers and medical assistants on pre-diabetes and on the current treatment guidelines for pre-diabetes. A survey was completed post presentation.

Problem

Approximately 88 million American Adults have prediabetes (CDC, 2020), 2,387,000 people have prediabetes between Arizona and New Mexico (ADA, 2021). In Graham County, AZ 9.9% of adults are formally diagnosed with diabetes (da Silva et al, 2019).

Setting

- Literature review is of adult patients in and out of the United States
- Chart review Adult patients at the Gila Valley Clinic (GVC) in Safford, AZ

Patient Population

- Literature Review: Adult patients diagnosed with pre-diabetes.
- Chart Review: 434 adult patients at GVC

Clinical Question

In adult patients diagnosed with pre-diabetes, does prescribing metformin lower A1C values compared to only doing lifestyle changes?

Review of the Literature

- Participants from the original Diabetes Prevention Program Study (DPPS) were followed from 2002-2014: 27% DM reduction in the lifestyle prevention group, 18% reduction in the metformin group (DPPS, 2015).
- After a 15 year follow up, the groups that benefitted the most with the use of metformin to prevent Type 2 DM were individuals with higher fasting blood glucose and A1C values and individuals with a history of gestational diabetes (DPPS, 2019)
- 137 adult participants with pre-diabetes explored the long-term effects of exercise during a 2-year period (Dai et al, 2019). Results found a 74% reduction in the progression to Type 2 DM, all types of the exercise were effective in achieving the results (Dai et al, 2019).
- Teng et al (2019) looked at a wide variety of factors that lead diabetes prevention in adult patients with A1C values ranging from 5.9-6.6 from the upper North Island of New Zealand, there were 14,043 participants. Main findings of this study included progression to Type 2 DM was lower with metformin use and that higher education and working full-time or part-time are protective factors (Teng et al, 2019).
- A chart review was completed at the Gila Valley clinic which focused on patients who were diagnosed with pre-diabetes. There was many prediabetic patients in this clinic. Results from this chart review included 54 adult patients ages 18-88 with pre-diabetes are on metformin. 380 adult patients ages 19-98 with pre-diabetes are not on metformin

Proposed Best Practice

- Per the American Diabetes Association (2022) metformin should be considered especially in patients aged 25–59 years with BMI ≥35 kg/m2, higher fasting plasma glucose (e.g., ≥110 mg/dL), and higher A1C (e.g., ≥6.0%), and in women with prior gestational diabetes.
- Lifestyle changes encouraged for patients who don't meet the above criteria, goals are 150 min exercise/ week, 7% weight loss initially (ADA, 2022).
- Standards of Medical Care in Diabetes—2022 Abridged for Primary Care Providers https://doi.org/10.2337/cd22-as01

Intervention

- Average score of post presentation survey was 90%

Conclusion

- There is mixed data regarding lifestyle changes and metformin use for treatment of pre-diabetes.
- It is imperative for providers to understand that both are effective and when to prescribe metformin.

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NAU NORTHERN ARIZONA UNIVERSITY

School of Nursing

Prevention of Human Papillomavirus

Tiffany Rogers RN, BSN
Faculty Sponsor: Shelley Vaughn, DNP

Problem

What is Human papillomavirus (HPV)?

- HPV is sexually transmitted virus
- The virus can cause infection and predispose the infected person to genital warts, vulva, vagina, penis, anus, cervical and oropharyngeal cancer (Centers for Disease Control and Prevention, 2020).

Why vaccinate against HPV?

- Vaccination at an early age can prevent those health conditions in both males and females before they become sexually active (Harder et al., 2018).
- HPV vaccinations have proven to be effective in preventing related infections and cancers (Centers for Disease Control and Prevention, 2020).

Problem: the knowledge the adolescents and parents may have about why and when to receive the vaccination could be impeding the rate of vaccination.

Purpose

- Determine if providing additional education to adolescents and parents on the purpose of the HPV vaccine will increase the rate of vaccinations in the primary care setting.
- Present additional printed information directly from the CDC website, "Talking to parents about HPV vaccine".
- Discuss the following
  - what HPV is
  - why the two series (possible three series depending on the age of the adolescent) vaccine is needed
  - why the vaccine series should be started at 11 years old
  - how the vaccine works
  - safety
  - side effects

Providing additional education on the purpose of the vaccine, when to get the vaccine, and risks of not receiving the vaccine in the primary care setting may potentially increase the rate of adolescent vaccinations, allowing prevention measures before the patient is potentially exposed to the virus.

Relevance To Primary Care

- Vaccines are important as primary prevention in the primary care setting.
- The first HPV vaccine was approved by the Food and Drug Administration (FDA) in 2006
- Though found to be safe, adolescents (and/or parents) have not been sufficiently educated on why the vaccine is so important to obtain during the adolescents regularly scheduled immunization timeframe.
- Even though this vaccination series is not a part of a child's regular immunization schedule, providers should be giving education on the purpose of the vaccine, the consequences of not receiving the vaccine, and the appropriate timeframe to get the multiple doses (Head et al., 2018).
- A survey conducted across the United States in 2014 showed less than half of female adolescents and less than a quarter of male adolescents received the full HPV vaccine series (Dela Cruz et al., 2017).
  - Increasing education to adolescents and parents in the primary care setting could potentially increase their decision to get the vaccine as a step in preventing future illness.
- Discussion will include overcoming barriers and the fact that there are adverse events such as redness and pain at the injection site but benefits of the vaccine outweigh those risks (Macki & Dabaja, 2016).
- The providers taking the extra step to offer education (verbal and printed) and recommending the HPV vaccines are beneficial in increasing the number of vaccine recipients of younger ages (Dela Cruz et al., 2017).

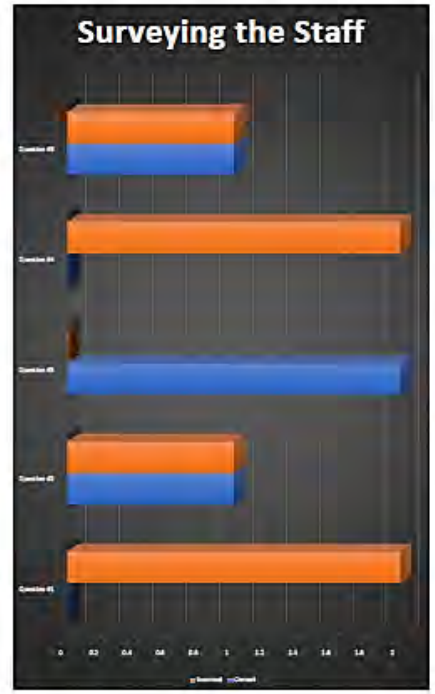
Barriers To Receiving Vaccine

A systematic review completed by Loke et al. (2017) found specific barriers to receiving the vaccine that included concerns for adverse reactions along with parents believing

- The vaccine was irrelevant as their teenagers were not sexually active
- They were too young to be sexually active
- The vaccine would permit the adolescents to be sexually active

Though adolescents and their parents may have a general idea of what the HPV vaccine is they may not know declining the vaccination would put the individual at higher risk of becoming infected and later developing specific infections or cancer-related conditions.

Surveying the Staff



Survey

1.) There are three types of HPV vaccines, which strains do all three types protect against?
- A.) Type 6 & 11 (genital warts)
- B.) Type 31 & 33 (cervical cancer)
- C.) Type 16 & 18 (cervical, anal and throat cancer)
- D.) Type 45 & 52 (cervical cancer)

2.) At what age is the HPV vaccine routinely offered?
- A) 9-11 years old
- B.) 11-12 years old
- C.) 16- 18 years old

3.) Is the vaccine for males or females?
- A.) Females
- B.) Males
- C.) Both A & B

4.) How many doses are required for full vaccination?
- A.) One dose
- B.) Two doses (if first dose given before age 15)
- C.) Three doses (if both doses were less than 5 months apart, after the age of 15 or if they have a weak immune system)
- D.) Both B & C

5.) What is the recommended cut off age for the HPV vaccine to be given?
- A.) 18 years old
- B.) 21 years old
- C.) 26 years old

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The bridge of Tonto Basin, a Rural community with limited healthcare access

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Introduction: Tonto Bridge

- 1980 feet long, height of 50 feet above water (estimate), 40-ft-wide multi-span AASHTO precast concrete girder bridge with raised sidewalk over Tonto Creek Expected to improve 1-½ miles of existing deficient road
- Sidewalk with two lanes each way
- Shorter commute time
- Increase connectivity to employment and promote access
- Long route around adds a 50-60 mile detour on 4-wheel drive, rough road with washes that can be washed out, takes a toll on of your vehicle
- Government provided funding
- Gila County is the Project Sponsor
- Construction to be administered by Arizona Department of Transportation (ADOT)

Timeline:

- Started turning dirt, March 2022
- Estimated start, October 2022
- Goal completion date, Fall 2024

Problem: How to help the community

- Getting medical access and medication to the residents on the East Side of Tonto Basin
- Increase regional safety by providing access for residents requiring healthcare, emergency care
- Helps EMS get across into Tonto Basin
- Providing health care to Tonto Basin residents
- Bringing care in Tonto Basin from outlying areas like Payson

Intervention: How is the project going to address the problem?

- Ensuring the $74,999 grant from Banner Health designated for the under/uninsured population is appropriately allocated
- All-in-one kit/package that provides a cell phone with hotspot capability
- Via Telehealth med with interpreting service
- Satellite/cellular access via Starlink
- Cellular bandwidth (reliable)
- Starlink (Elon Musk foundation)
- Proposed telemedicine site option of fire department substation on East side of the creek for telehealth kits
- Ewing trail (alongside creek)
- Containerized medical clinic (possible option for storage)
- Telehealth kits can include scale, (bilingual) blood pressure monitor, pulse oximeter, 2-lead EKG, glucose testing supplies, hemoglobin A1C testing, covid testing, patient education brochures, and iPad (to communicate data with a provider)
- One kit costs ~$800
- EKG 2-3 lead is an additional $250
- Continuing the use of drones to deliver meds
- Stored on the east side with a retired medic who will set up the visits for patients
- We can offer medical care, counseling, and consultation
- Acquire 1,100 kits over time

Map of city and proposed bridge:

Cities that will have one kit:

- Tonto Basin
- Young
- Strawberry
- Forrest Lakes

Retired Medic will distribute kits to the public when appointments are made.
Example of kit:

Outcome of proposal while bridge is being built to provide healthcare to residents of Tonto Basin:

Banner project:

- $74,999 granted for kits that include pads, hotspots
- Two all-in-one kits located in Tonto Basin
- If needed, more kits can be checked out from Payson
- Use satellite for connection
- No charge for patients
- Starting with COVID health issues
- Will implement overall health in year two
- 1100 kits projected
- 300 kits in house now

Conclusions:

- Increased access to healthcare
- Improved safety
- Starlink access
- Telehealth in home
- In home medical visits/counseling/consulting
- Collaborating care with the Christian Clinic

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