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# Benefits and Constraints of Telepsychiatry and Rural Healthcare in the United States and West Virginia

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# BENEFITS AND CONSTRAINTS OF TELEPSYCHIATRY UTILIZATION IN THE UNITED STATES AND WEST VIRGINIA

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4<sup>TH</sup> Research day, April 12

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# INTRODUCTION

- Telemedicine: Utilizing technological devices to provide healthcare services to patients over an extended distance:
  - Video conference.
  - Robotic surgery.
  - Remote Access (i.e. tele-ICU).
  - Tele Stroke

# INTRODUCTION

- Telemedicine has been used to deliver at-home medical services with chronic diseases such as:
  - Asthma.
  - Cardiac Conditions.
  - Diabetes.
  - Psychological Disorders.
- Telemedicine has been predominately used in psychiatric care and radiology.
- Also used in Tele-dermatology and Tele-pathology.

# TELE PSYCHIATRY USERS

- First originated in the field of psychiatry by the Nebraska Psychiatric Institute in 1959.
- Telepsychiatry is being utilized by some school systems to assist adolescents.
  - 15 % of school aged children require this type of care.
- Telepsychiatry has been used in
  - 1) Nursing home population,
  - 2) Rural residents,
  - 3) Military,
  - 4) Veterans,
  - 5) Immigrants
  - 6) Inmates
  - 7) ICU



# TELE PSYCHIATRY

Provides a wide range of services including psychiatric evaluations, therapy (individual therapy, group therapy, family therapy), patient education and medication management

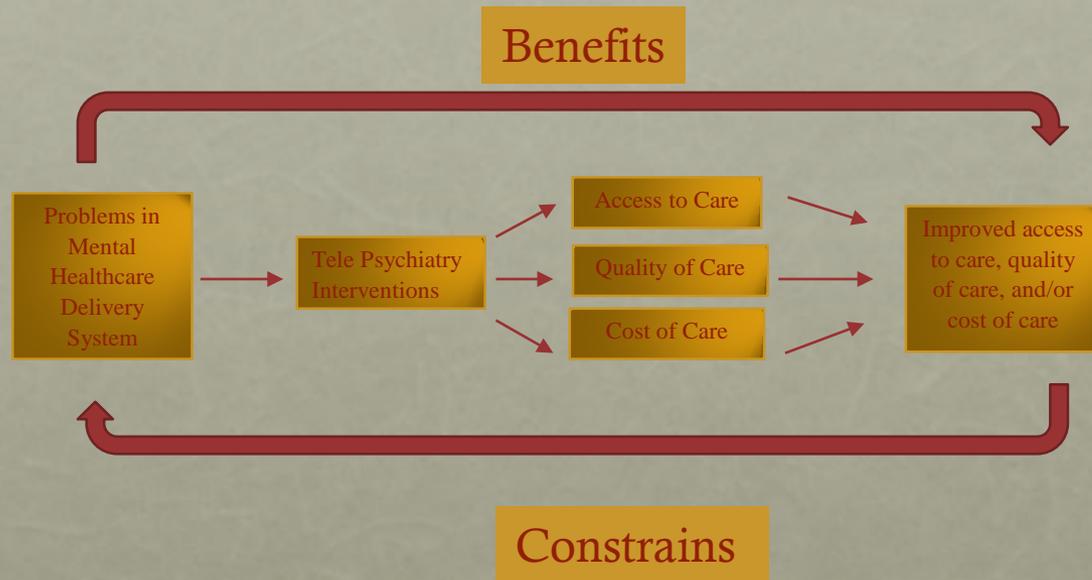
Patients are able to receive a consultation, evaluation, diagnosis, treatment and education.



# PURPOSE

- The purpose of this study was to describe the benefits and constraints of using telemedical services in psychiatry in the U.S and In West Virginia.

# METHODOLOGY: CONCEPTUAL FRAMEWORK

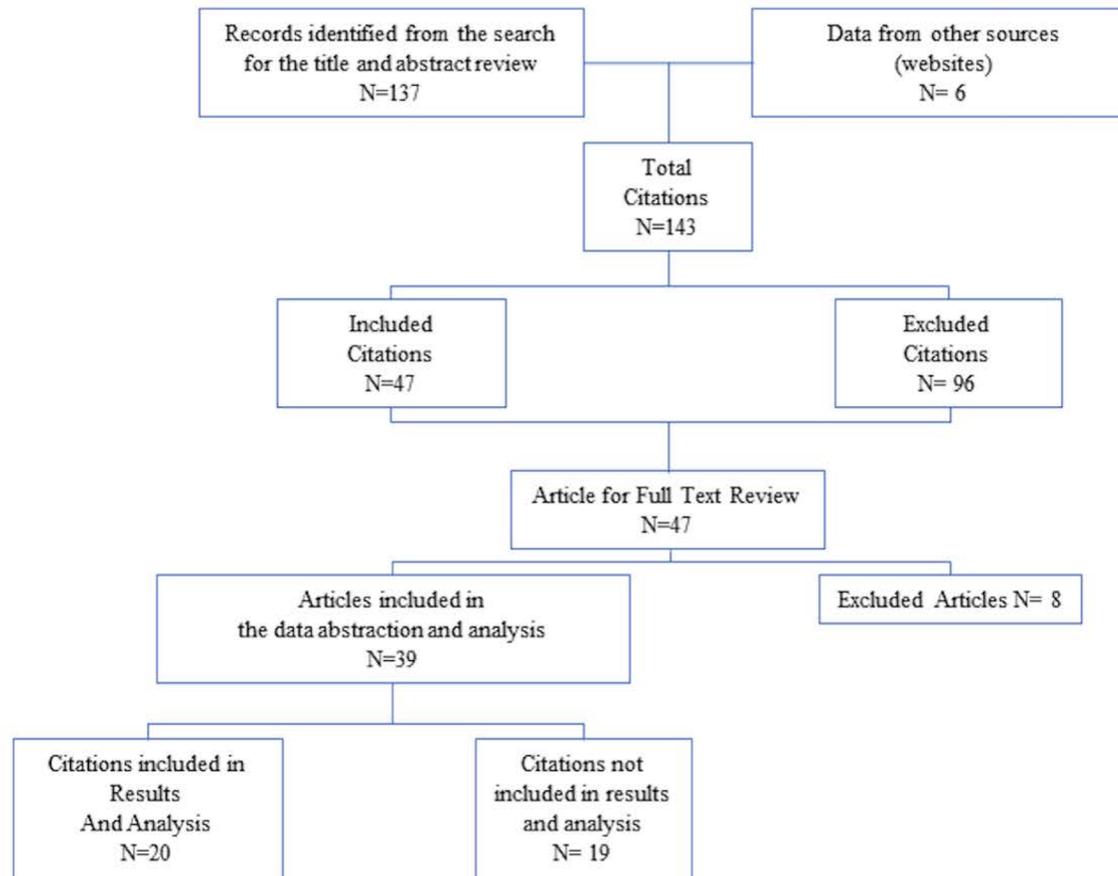


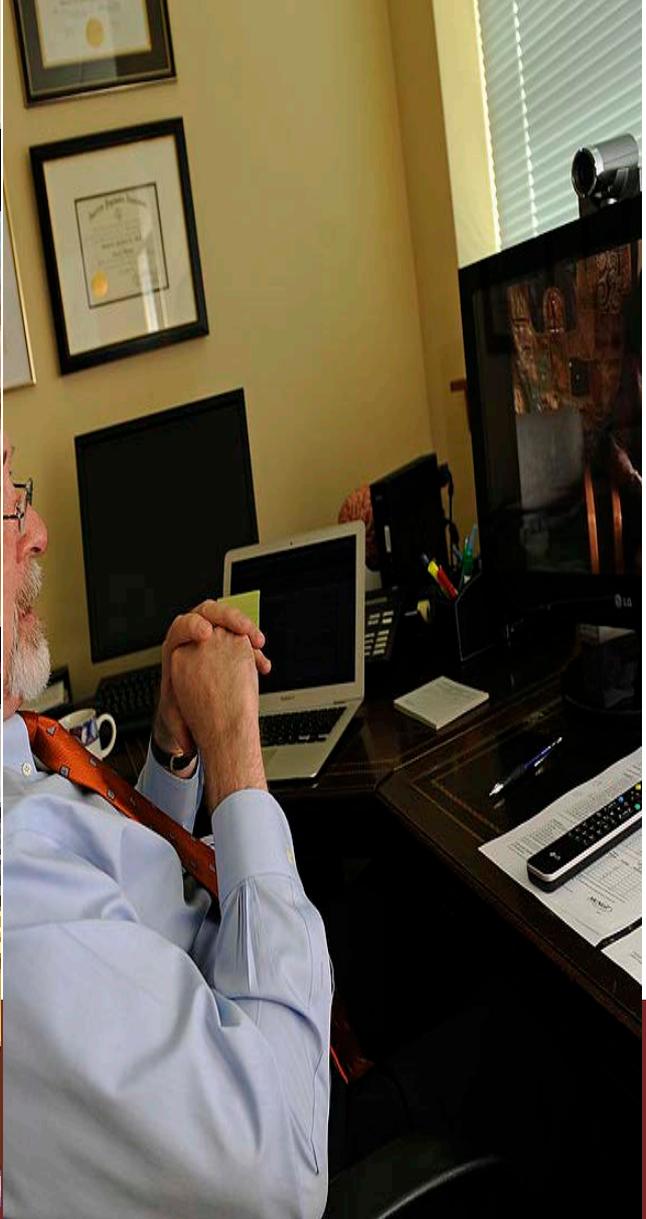
Adapted from Yao et al, 2010

# METHODOLOGY

- Literature review utilizing 39 articles using PRISMA
- Database searched: Academic Search Premier, EBSCOhost, Google, Google Scholar, and PubMed
- Reputable Websites Utilized: SAMHSA, CDC, CMS and National Center for Biotechnology Information
- Keywords - “telemedicine or Telepsychiatry or Tele mental health and access to care” or “patient outcomes” or quality or “cost ”and US or West Virginia.
- Included Articles – 2009 – 2019 written in the English language, following a PRISMA flow chart

# PRISMA





# RESULTS

- Patients using tele psychiatry with a video-conferencing system, have the ability to receive similar consultations and prescriptions as their in-person counterparts.
- Using telemedicine in psychiatry has the potential to be cost-efficient due to the reduced requirement of fixed cost necessary for everyday operation.
- Remote monitoring of patients have allowed practitioners to check-in with their patients, more often due to the increased ease of observation.

# RESULTS: PATIENT SATISFACTION

- A University of Kentucky study found that 98% of the 43 adolescents and their families were satisfied with this type of psychiatric delivery.
- UKY study was able to decrease the overall cost of service by at least 25% per patient:
- Traditional service= ~\$200/session (30 minutes).
- Telepsychiatry =~\$125-150/session (30 minutes).

# RESULTS

- This treatment has been used to eliminate or limit pharmacy influence /dependence.
- In rural areas, telepsychiatry has increased the level of quality care since the advent of videoconferencing
- IS NOT appropriate for patients in unstable psychiatric condition, even though during emergencies like suicidal threats, medical personnel can locate the patient by using the IP address.

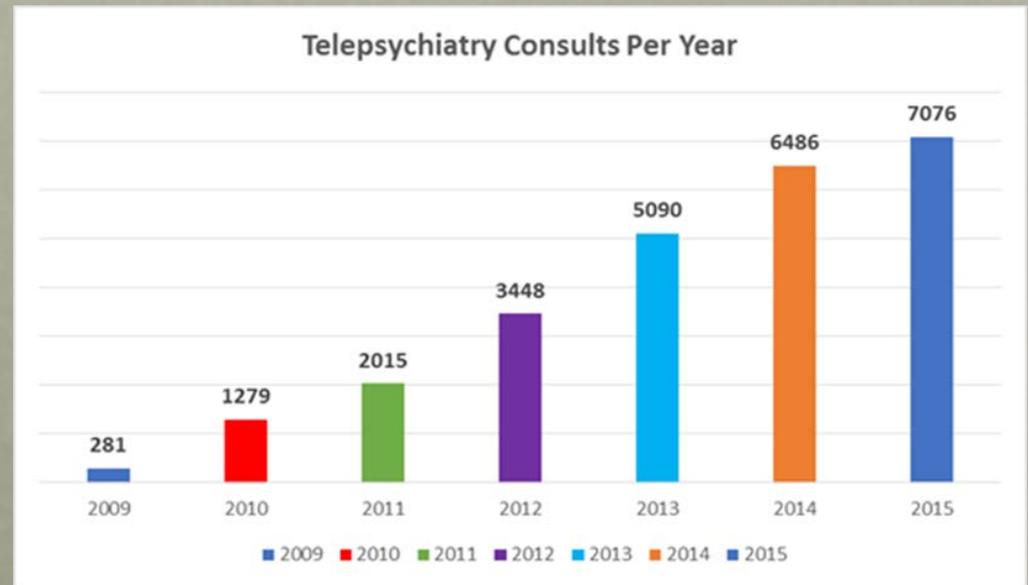
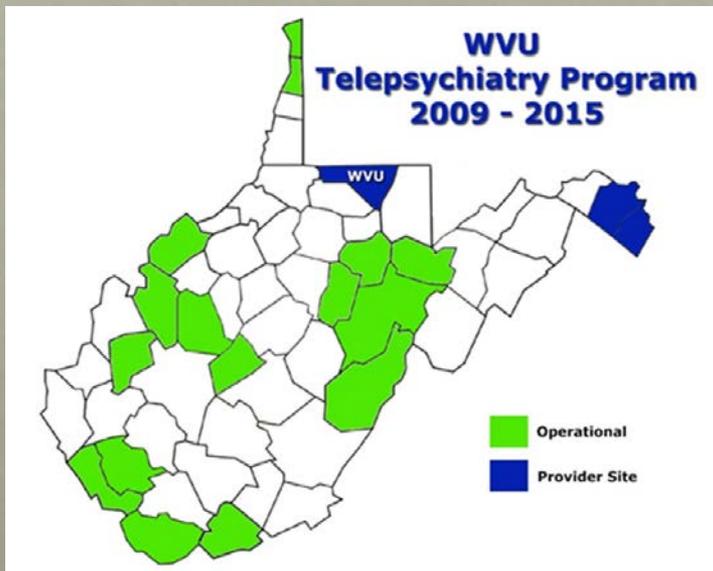
# TELEPSYCHIATRY PROGRAMS IN WEST VIRGINIA

- There are many rural areas located throughout West Virginia which makes finding a psychiatrist extremely difficult for most patients.
- There are approximately 150 actively practicing psychiatrists in West Virginia. This gives around 8 psychiatrists per 100,000 residents
- Patients who are in need of mental health care have to travel long distances and deal with long wait times for an appointment.

# WVU TELEPSYCHIATRY PROGRAM

32 Clinics in 15 counties

Increase in patients seen



West Virginia University, 2015

# WVU TELEPSYCHIATRY PROGRAM

## Telepsychiatry Program Serving Counties:

- Barbour
- Brooke
- Clay
- Hancock
- Jackson
- Kanawha
- McDowell
- Mingo
- Pocahontas
- Randolph
- Roane
- Tucker
- Upshur
- Wood
- Wyoming

# WVU TELEPSYCHIATRY PROGRAM

- The Department of Behavioral Medicine and Psychiatry, in conjunction with WVU Mountaineer Doctor Television (MDTV) started this program
- 2009 Opened first Adult Telepsychiatry Clinic in Roane County
- 2011 Established COAT (Comprehensive Opioid Addiction Treatment) clinic in Clay county 2012
- 2011 Awarded HRSA grant West Virginia Rural Telepsychiatry and Health Monitoring Project focusing on expansion of clinic into underserved areas along with creation of a metabolic syndrome registry that was designed to improve communication with rural primary care provider

# WVU TELEPSYCHIATRY PROGRAM

- 2013 Developed & Organized Telepsychiatry COAT Clinic Recovery Support Group which was modeled as a 12-Step support group that facilitates contact utilizing telehealth equipment between 2 rural areas with limited access to meetings necessary for recovery
- 2014 Added structured outpatient program in Barbour County.
- 2016 Awarded HRSA grant “West Virginia Children’s Access Network (WVCAN)” focusing on providing services in school based health centers over the next four years.
- 2016 Began Telepsychiatry services to provide individual and group therapy as well as education.

# TELEPSYCHIATRY PROGRAMS IN WEST VIRGINIA

- e-Psychiatry provides Hospitals, Clinics and Other Mental Health Facilities in West Virginia a way to staff a telemedicine psychiatrist without all the overhead costs associated with recruiting.
- Up to 2018 e-Psychiatry has 18 West Virginia licensed psychiatrists, psychologists, NPs, PAs and other mental health providers ready to assist health care facility's patients.

# RESULTS

| Author                 | Model  | Study  | Outcome   |
|------------------------|--|--|---|
| Guerrero, et al., 2017 | Telepsychiatry integrated into the primary care of an Federal Qualified Community Health Center (FQHC) | A schizophrenic adult male is seen for chronic pain and has been hospitalized previously for psychiatric issues. | Using telepsychiatry the patient is treated for all illnesses by the primary care physician, behavioral health specialist and psychiatrist having the ability to work as a team and improve quality of care. Medication is managed by a psychiatrist appropriately.   |
| Lu, et al., 2014       | Telepsychiatry integrated in Rural Mental Health services (RMH)  | A male Vietnam veteran with no access to getting treated for his PTSD due to living in a rural area and travel   | Telepsychiatry was incorporated into the veteran's treatment because he was having a difficult time leaving his house. He was very grateful for RMH delivering treatment to him that normally would be inaccessible. Being suicidal in the past, the collaboration and access to telepsychiatry helped with his suicidal tendencies, therefore improving his quality of care.   |
| Fortney, et al., 2015  | Collaborative Care in a community health center  | An adult female had many mental health symptoms, including suicide and anxiety                                   | Telepsychiatry was utilized as a consultation and a diagnosis was made, as well as a continuation of care plan by working with the primary care team. Due to the use of telepsychiatry quality care for the patient was completed and a referral to an outside facility was not needed, the patient was able to be thoroughly educated by the team as a whole and the psychiatrist was able to properly assess the patient's medications. |

## Telepsychiatry Models and Study Examples in Rural Areas

| Author                  | Model              | Study  | Outcome   |
|-------------------------|--------------------|--|---|
| Amirsadri, et al., 2017 | Hybrid Care Method | Homebound elderly patient with untreated schizophrenia | The patient's mental health was thoroughly assessed after a social worker traveled to her house and combined care by utilizing a tablet to video-conference with a psychiatrist. The patient was able to report great improvement with her mental and physical health. The social worker was able to make other referrals that were needed as well. |

# DISCUSSION

- Potential to be highly beneficial in psychiatric care.
- Quality of care rendered to patients has been recognized to be similar to in-person consultations.
- Provides cheaper solution to the traditional psychiatric care services.

# DISCUSSION

- Remote monitoring provides cost-effective method for specialized delivery
- Set up cost for telepsychiatric services can be expensive, however cost has been reduced and cost over time saves personnel and has become a useful tool and way to practice psychiatry.
- Some state regulations specifically limit these activities as it is considered protected medical record material.

# CONCLUSION

- The result of using this specialized service increases the patients overall quality, PS and access to care while decreasing the cost of delivery.

QUESTIONS?

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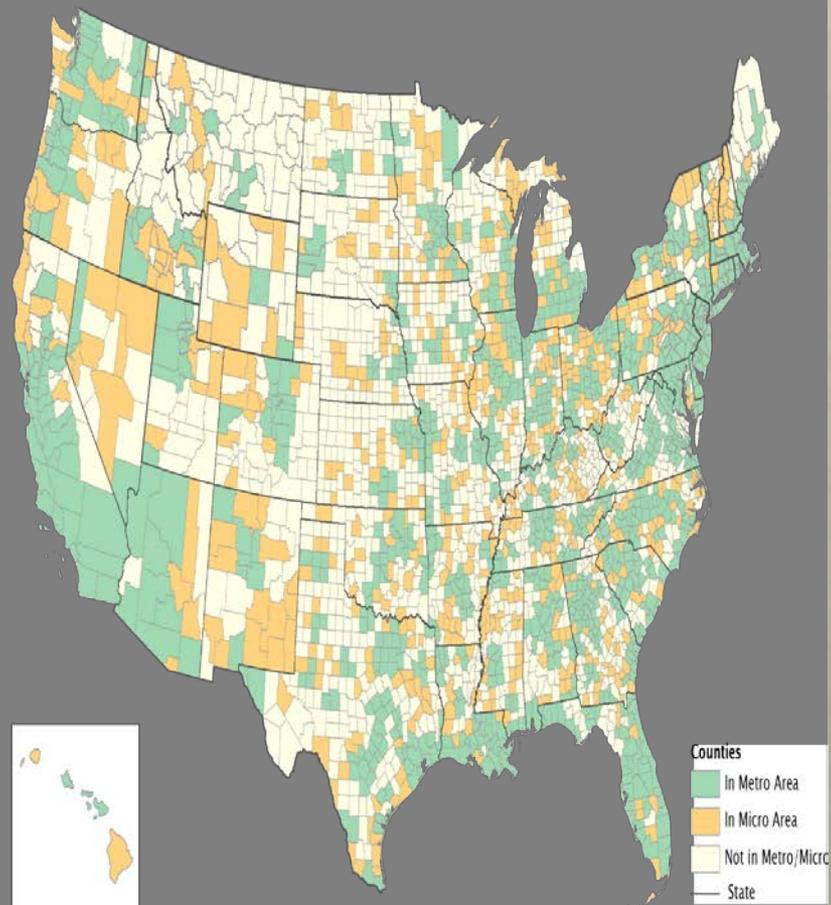
# RURAL AREAS

19.3% of U.S. population lives in an rural area

Rural areas have higher than average health care workforce shortages which limit accessibility to health care services



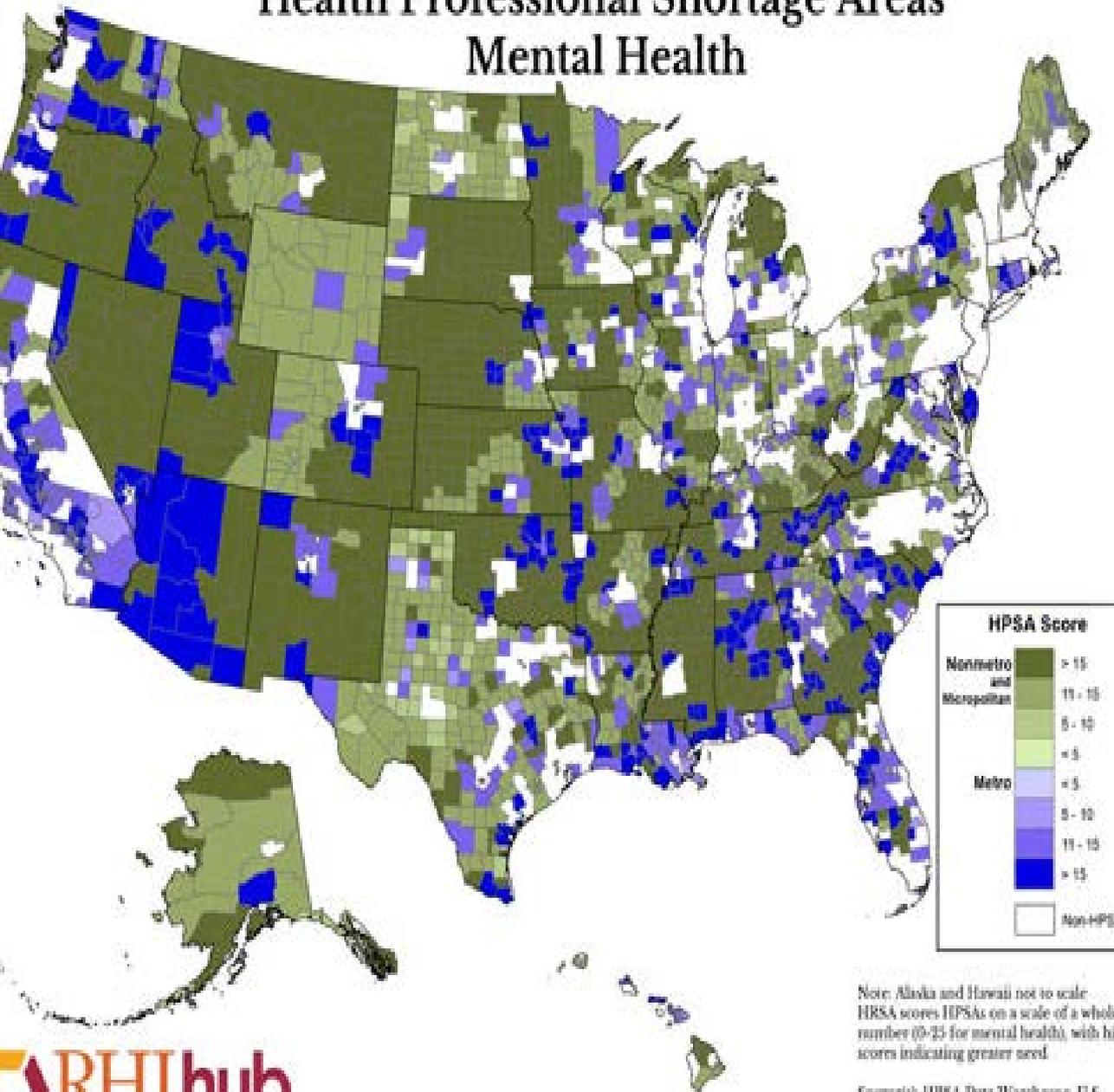
Counties by Metro/Micro Area Status: 2016



Note: Metropolitan and micropolitan statistical areas defined by the Office of Management and Budget as of Jul. 2015, using U.S. Census Bureau county boundaries effective as of Jan. 2013

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Nov. 2017

# Health Professional Shortage Areas Mental Health



Note: Alaska and Hawaii not to scale.  
HPSA scores HPSAs on a scale of a whole number (0-25 for mental health), with high scores indicating greater need.

Source(s) HPSA Data Warehouse, U.S. Department of Health and Human Services, November 2016

## BEHAVIORAL DISORDERS

**Accessibility** – Rural residents often travel long distances to receive services, are less likely to be insured for mental health services, and less likely to recognize an illness.

**Availability** – Chronic shortages of mental health professionals exist and mental health providers are more likely to practice in urban centers.

**Acceptability** – The stigma of needing or receiving mental healthcare and the fewer choices of trained professionals who work in rural areas create barriers to care.