

NORTON
Thoracic Institute

Rural Policy Forum

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FACTS ABOUT RURAL ARIZONA

Department of Health and Human Services defines an urban area as 50,000 people or more.

"Rural" presumably <50 000

In Arizona...

There are 304 "rural" communities in Arizona

Of those rural communities the following breakdown occurs...

76 Arizona communities have between 6,000 and 49,999 residents

86 Arizona communities have between 1,000 and 5,999 residents

142 Arizona communities have less than 1,000 residents





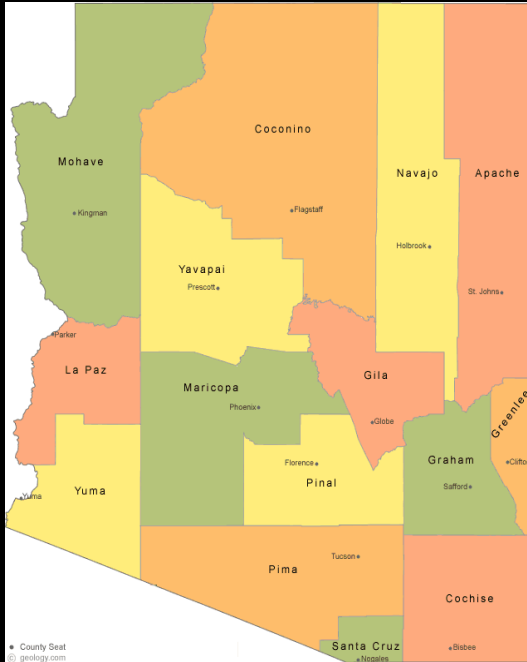
What is
telemedicine?

**Medical Information
exchanged from one site to
another via electronic
communication**

What Does This Translate to for
Arizonans?

- **Initial and follow-up appointments within remote communities – “Access and Efficiency”**
- **Access to high-end services without having to travel great distances**
- **Access for local physicians to higher levels of care**

RURAL ARIZONA AND HEALTHCARE



Arizona Statistics

Premature Deaths (defined as death before age of 75): **6,850**

Poor Health: **16%**

Adult Smoking: **17%**

Obesity (BMI > 30): **24%**

Preventable Hospital Stays (PHS): **51**

Poor Health Days (PHD) (for the past 30 days): **3.4**

Mohave County

5 Hospitals
18 Rural Communities
Premature Deaths: 9828
Poor Health: 20%
Adult Smoking: 27%
Obesity: 27%
PHS: 71
PHD: 4.4

Coconino County

3 Hospitals
24 Rural Communities
Premature Deaths: 7342
Poor Health: 13%
Adult Smoking: 15%
Obesity: 23%
PHS: 55
PHD: 3.1

Navajo County

4 Hospitals
44 Rural Communities
Premature Deaths: 11,848
Poor Health: 18%
Adult Smoking: 17%
Obesity: 32%
PHS: 63
PHD: 4.1

Apache County

4 Hospitals
32 Rural Communities
Premature Deaths: 14,039
Poor Health: 20%
Adult Smoking: 18%
Obesity: 32%
PHS: 110
PHD: 3.8

Yavapai County

4 Hospitals
32 Rural Communities
Premature Deaths: 7372
Poor Health: 18%
Adult Smoking: 19%
Obesity: 23%
PHS: 31
PHD: 4.2

Gila

3 Hospitals
28 Rural Communities
Premature Deaths: 10,843
Poor Health: 21%
Adult Smoking: 24%
Obesity: 26%
PHS: 65
PHD: 4.6

La Paz County

1 Hospital
16 Rural Communities
Premature Deaths: 12,621
Poor Health: 22%
Adult Smoking: 19%
Obesity: 31%
PHS: 68
PHD: 5.3

Maricopa County

35 Hospitals
30 Rural Communities
Premature Deaths: 6247
Poor Health: 15%
Adult Smoking: 16%
Obesity: 23%
PHS: 50
PHD: 3.2

Pinal

1 Hospital
17 Rural Communities
Premature Deaths: 6588
Poor Health: 17%
Adult Smoking: 17%
Obesity: 31%
PHS: 65
PHD: 3.5

Graham County

2 Hospitals
11 Rural Communities
Premature Deaths: 8077
Poor Health: 19%
Adult Smoking: 16%
Obesity: 34%
PHS: 61
PHD: 4.3

Greenlee County

6 Hospitals
5 rural communities
Premature Deaths: 6,685
Poor Health: 18%
Adult Smoking: 20%
Obesity: 34%
PHS: 68
PHD: 4.2

Yuma County

1 Hospital
15 Rural Communities
Premature Deaths: 5843
Poor Health: 23%
Adult Smoking: 14%
Obesity: 31%
PHS: 59
PHD: 4.0

Pima County

9 Hospitals
31 Rural Communities
Premature Deaths: 7390
Poor Health: 14%
Adult Smoking: 16%
Obesity: 24%
PHS: 41
PHD: 3.7

Santa Cruz County

1 Hospital
10 rural communities
Premature Deaths: 5,135
Poor Health: 18%
Adult Smoking: 17%
Obesity: 20%
PHS: 32
PHD: 2.8

Cochise County

5 Hospitals
21 Rural Communities
Premature Deaths: 7828
Poor Health: 19%
Adult Smoking: 22%
Obesity: 25%
PHS: 63
PHD: 4.2

SCENARIOS

1. 24 yr old female in Page with “lung nodule” on routine CXR
2. 66 yr old Male smoker with Lung Mass and hemoptysis
3. 70 yr old Male with dysphagia and esophageal cancer on endoscopic biopsy
4. 52 yr old female with lung fibrosis and worsening shortness of breath

SCENARIOS

1. **24 yr old female in Page with “lung nodule” on routine CXR**

CT scan – clearly calcified and old and no treatment or further films needed

2. **66 yr old Male smoker with Lung Mass and hemoptysis**

Needs PET-CT scan, lung biopsy, and pulmonary function tests

3. **70 yr old Male with dysphagia and esophageal cancer on endoscopic biopsy**

Needs cardiac and pulmonary work-up. Likely needs preoperative chemo-radiation and then possibly esophagectomy

4. **52 yr old female with lung fibrosis and worsening shortness of breath**

Transplant?

OPPORTUNITY FOR TELE-HEALTH

- **Access and Efficiency!**
- **Access**
 - **Access to quaternary opinions and services not otherwise available locally (remote e-consultations)**
 - **Access to new services not otherwise known (Transplant)**
 - **Access for local physicians to remote consultations for tertiary and quaternary services**
 - **Access for patients to specialist physicians from a remote site for follow - up**
- **Efficiency**
 - **Consultations, work up and treatment**
 - Limit visits to central hospital, continuity of care post surgery
 - **Cost Efficiency in an era of healthcare cost containment**
 - Limit unnecessary consultations and unnecessary preoperative testing

HOW DO WE DO THIS?

- Satellite offices with physician extenders
 - Virtual consults
 - Radiographic images
 - Plan testing and possible surgery
 - Face to face communication with patients
- IT in existing physician offices (e-consult with thoracic surgeon in primary care physician office)
- Patients with home computer access / cell phones / tablets

ACCESS TO NEEDED SERVICES

Rural Arizonans...

Poorer, older and sicker than urban Arizonans

More likely to be self employed or hold low-wage seasonal jobs

Less access and knowledge regarding IT

Complex Procedures

Necessary to treat complicated diseases

Rural community hospitals do not have the necessary experience or infrastructure

Patient options: long commutes to urban hospitals or forgoing necessary treatment



Did you know?

One million Arizonans are uninsured

$\frac{3}{4}$ of the million reside in metropolitan Phoenix and Tucson
Uninsured rural residents less likely to take advantage of programs like AHCCCS

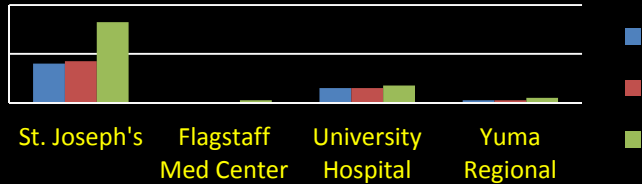
There are six ACS (American College of Surgeons) verified Level 1 trauma centers in Arizona

- Five of the centers are located in the Phoenix metropolitan area**
- One is located in Tucson**

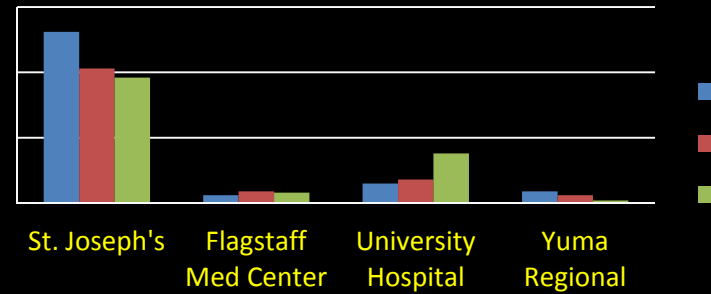


COMPARING NUMBERS – IMPLICATIONS FOR THE NORTON INSTITUTE

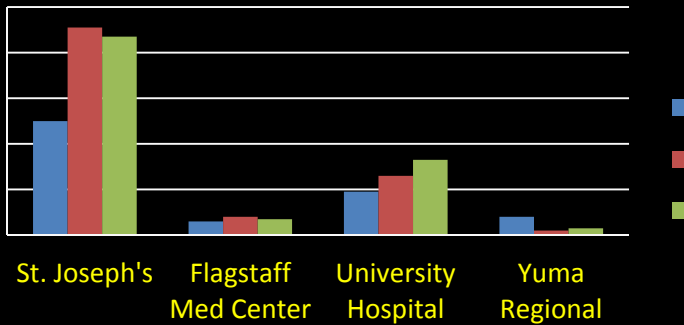
Esophagectomy



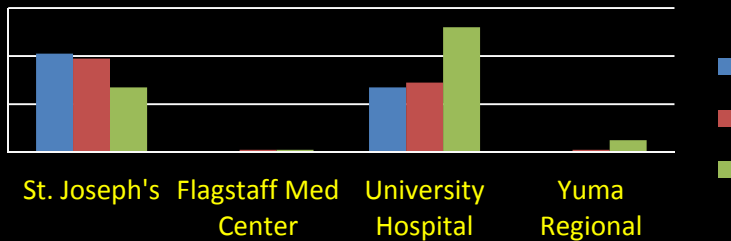
Nissen Fundoplication



Hiatal Hernia



Lobectomy



Lung Transplant

First lung transplant in metropolitan Phoenix in 2007

Only lung transplant program in Arizona

Sixth largest lung transplant program in the country

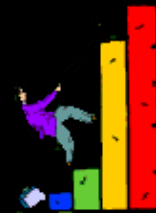
70 transplants in 2013

56 transplants in 2012

BARRIERS AND CHALLENGES

Challenges

- Small town inability to implement large technological infrastructure
- Lack of remote access for patients
- Finding the right location that provides easy access to all those in remote communities



BARRIERS AND CHALLENGES

Barriers

- ** Rural communities seek medical attention once situation is dire
- ** Treatment options no longer exist ;disease has progressed
- ** Mindset change: seek treatment at onset of symptoms
- ** Lack of access to necessary facilities
- ** Lack of access to higher level of care for primary physicians

CONSIDER THIS:

Apache County has one of the highest premature death rates in Arizona

Highest number of preventable hospitalizations

Satellite clinic located in Flagstaff is still three hours one way for residents of Apache County to travel



IS ARIZONA USING IT'S RESOURCES?

Rural medicine resources and telemedicine programs remained largely under utilized in Arizona

2011 Federal Report

A total of \$404,697,307 was awarded to Arizona in 2011 to aid in rural development.

Of the \$404,697,307:

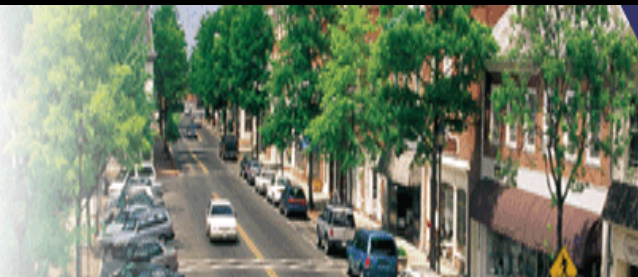
Loans **accounted for:** \$379,106,527

Grants **accounted for:** \$25,590,780

However...



United States Department of Agriculture
Rural Development



Did You Know?

A total of 61 Arizona communities received loans/grants

**Of the 61, only one loan was granted towards healthcare
(building expansion of a behavioral health facility)**

★ IDEALS ★

Satellite Clinics:

- Satellite clinics (rented office space or pre-existing PCP office)
- Staffed with a nurse practitioner/physician assistant for initial assessment
- Physician/surgeon joins conversation remotely and places orders for testing



E-Consult – Existing commercial infrastructure

- Patient can visit local CVS, Walgreens and login
- Patient types in symptoms and questions
- Patient connected to specialized physician who consults on patient
- Physician corresponds with PCP to ensure continuity of care



TECHNOLOGY AND MEDICINE'S FUTURE

Project ECHO

- Started in 2003 by Dr. Sanjeev Arora
- Means to treat Hepatitis C in rural areas of New Mexico
- As of 2011:
 - Project ECHO includes: diabetes, high-risk pregnancy, asthma and chronic pain
- Satellite facilities in Washington State and Chicago



Funding

- 2009: grant awarded Project ECHO five million dollars to set-up the program and help run its many satellite clinics
- 2014: Project ECHO was awarded \$8.5 million by the Centers for Medicare and Medicaid Services (CMS) to continue funding the work of Project ECHO



THE FUTURE OF MEDICINE

Telemedicine is the future of medicine with its many benefits but requires buy in from individuals at all levels including community partners

Working together with local industries and communities can overall improve life for those in some of Arizona's most rural towns



Thank You