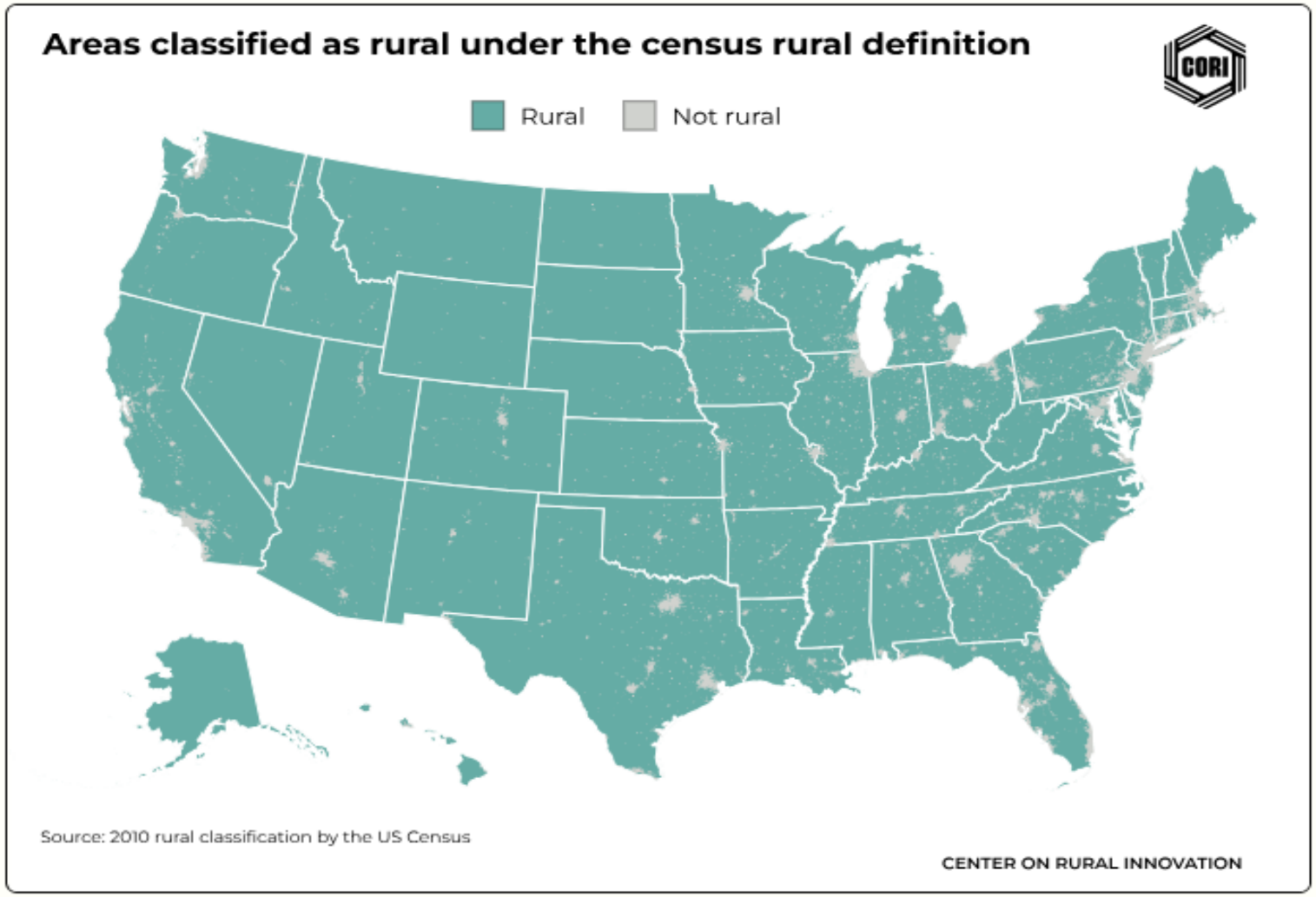

TeleNeph
Keeping Care Local

# Tele-Nephrology in Rural AZ

## 2025
## Rural Health Conference

THE UNIVERSITY OF ARIZONA
MEL & ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
Center for Rural Health

# Defining “rural”




- Between 2005 and 2023, 146 rural hospitals either closed or converted to non-acute care services.[1] Of these, 81 shut down completely.
- Significant distances to facilities and lack of public transportation options pose considerable barriers for rural residents seeking care.[2]
- A 2023 report indicated a 13% increase in telemedicine adoption among people living in rural areas.[3]

*1. Economic Research Service, USDA; 2. NRHA; 3. Rock Health*

# What makes rural hospitals successful?

When talking with leaders in rural healthcare, this is what they say…

- Providing high quality care to the community - keeping healthcare local
- Maintaining talented staff and providers
- Strong financials
- Expanding services

# Our story is about …

The rural hospitals living their mission to keep care local for their patient communities with end-stage kidney disease (ESKD) and chronic kidney disease (CKD). Historically, rural America has transferred many of these patients outside of the community for treatment.

Today, we will discuss how one CAH hospital is decreasing

- the transfers
- the drive
- the flow of money leaving the community

And letting neighbors take care of neighbors by keeping care local.

# Chronic Kidney Disease (CKD)

## How prevalent is CKD?

- Over **11%** of the US population has CKD – **37M**
- **2%** of the CKD patients have End-Stage Renal Disease (ESRD)
- **50%** of ESRD patients are **65 or older**
- Average ESRD patient **goes to the hospital twice a year**
- **33%** use a wheelchair or walker
- **50%** are transport dependent
- Transportation cost for ESRD patients annually - **over $3B**
- In 2018 CMS spent **$130B** for CKD

# Number of ESRD patients in AZ counties

| AZ County | ESKD | CKD Population | Unaware they have CKD |
|---|---|---|---|
| Maricopa | 10,471 | 523,550 | 471,195 |
| Pinal | 1,080 | 54,000 | 48,600 |
| Gila | 126 | 6,300 | 5,670 |
| Pima | 2,445 | 122,250 | 110,025 |
| Yavapai | 549 | 27,450 | 24,705 |
| La Paz | 50 | 2,500 | 2,250 |
| Yuma | 499 | 24,950 | 22,455 |
| Mohave | 496 | 24,800 | 22,320 |

| AZ County | ESKD | CKD Population | Unaware they have CKD |
|---|---|---|---|
| Graham | 90 | 4,500 | 4,050 |
| Greenlee | 22 | 1,100 | 990 |
| Cochise | 294 | 14,700 | 13,230 |
| Santa Cruz | 109 | 5,450 | 4,905 |
| Navajo | 259 | 12,950 | 11,655 |
| Apache | 168 | 8,400 | 7,560 |
| Coconino | 335 | 16,750 | 15,075 |
| Total Arizona | 16,993 | 849,650 | 764,685 |

# Why ESRD patients are going to the hospital

## Top 10 Common Hospitalization Diagnoses*

1. Septicemia (15.8%)
2. Acute and Unspecified Renal Failure (13.5%)
3. Congestive Heart Failure; Non-Hypertensive (6.2%)
4. Diabetes Mellitus with Complications (3.5%)
5. Pneumonia (3.0%)
6. Acute Myocardial Infarction (2.8%)
7. Complication of Device; Implant or Graft (2.4%)
8. Respiratory Failure; Insufficiency; Arrest (2.4%)
9. Urinary Tract Infections (2.1%)
10. Cardiac Dysrhythmias (2.1%)

** Statistical Brief #231. Healthcare Cost and Utilization Project (HCUP). April 2018. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb231-Acute-Renal-Failure-Hospitalizations.jsp.*

# Mount Graham Regional Medical Center



## Mount Graham Regional Medical Center
## Safford, Arizona

# CAH Business Case - background

- 2 hours from Tucson/3 hours from Phoenix
- Hospital: CAH with 25 beds
- Population
  - City: 10,270+
  - County of Graham: 40,272+ ESRD patients- 90
  - County of Greenlee: 9,410+ ESRD patients- 22
- Team Approach
  - CFO, CEO, Board reviewed financial impact and revenue
  - Clinical Team building trust with TeleNeph team and MGRMC
  - Education-Training-Shadowing at CVRMC and with NxStage

Today we have been able to keep 8 dialysis patients since November 2024

# New service line for the rural hospital

**New service lines are key to the success of rural hospitals**

- Steps to successful preparation
- Steps to successful implementation
- Steps to successful program evaluation
- Steps to successful maintenance of new service
- Lessons learned

# What changed?

# Fresenius dialysis machine in hospitals (BEFORE)

- **2008T BlueStar Dialysis Machine FMCNA**
  - It is BIG and not very portable
  - More complex
  - More expensive
  - Learning curve is longer

# What changed…

NxSTAGE® from FRESENIUS MEDICAL CARE

Outset
Better begins now.

# What changed…

## Telemedicine

*The nephrologist drives the program via telemedicine*

- Dedicated nephrologist – available 24 x 7 / licensed / credentialed
- Collaboration – the patient's nephrologist, dialysis center and PCP
- Doctor's medical notes – integration with EHR via pdf / fax / API
- Face-to-face clinical team meetings – building trust with the team
- Training on-site
- 24 x 7 access to support (equipment & nephrologist)
- Provide CME education to clinical staff
- Provide processes & procedures for the tele-nephrology solution
- It is the hospital's patient

# Tele-nephrology service process

## Education

- Market analysis
  - **Is it viable?**
- Financial analysis
- Internal clinical discussion
- Decide to proceed or not

## On-site Visit

- TeleNeph clinical & hospital clinical team discussion
- Demo of equipment
- Review of customized implementation process

**Implementation Plan**

- Staffing models
- Competency tools
- Policies & procedures
- Training resources
- Supplies needs
- Implementation template
- Nephrologist orders CRRT
- Dialysis treatment flow
- Diagnosis codes & CPT codes commonly used for IP Dialysis
- EMR remote access

## Contract Signed

- Implementation begins
- Equipment training scheduled
- Supplies ordered
- **Collaboration:**
  - If dialysis center in the community – TeleNeph to reach out / schedule time
  - Community nephrologist contacted
- Coding team involved in process
- EMR / Telehealth access

## Operational

- 24x7 – **2 dedicated nephrologists**
- 24x7 – Dialysis equipment support
- 24x7 – TeleNeph support
- Nephrologist attends Med Staff meetings
- Attend Nurse / Department Leadership meetings
- CME offering every 6 months

# Rural hospital (59 beds) – Year 1

| Quarter | 1 | 2 | 3 | 4 | Year |
|---|---|---|---|---|---|
| Inpatients | 18 | 21 | 21 | 32 | 93 |
| Net Patient Revenue | $124,827.88 | $149,793.46 | $149,793.46 | $224,690.19 | $649,104.98 |
| Dialysis Supplies | ($11,156.24) | ($13,387.49) | ($13,387.49) | ($20,081.24) | ($58,012.47) |
| Cost for TeleNeph Package | ($36,330.77) | ($37,246.15) | ($37,246.15) | ($41,806.73) | ($152,629.81) |
| Net Revenue to the Hospital | $77,340.87 | $99,159.81 | $99,159.81 | $162,802.22 | $438,462.70 |

Based on assumptions listed in this presentation. Actual numbers may vary.

# CAH – Dialysis Program Impact

| | Total Dialysis Treatments | Initial Service Date | Total Charges | Acute Patient Days | Observation Days | Total Patient Days |
|---|---|---|---|---|---|---|
| Patient #1 | 1 | 07/06/19 | 37,574 | | 3.1 | 3.1 |
| Patient #2 | 1 | 07/17/19 | 10,501 | | 2.3 | 2.3 |
| Patient #3 | 3 | 07/23/19 | 74,184 | 5.0 | | 5.0 |
| Patient #4 | 1 | 07/23/19 | 19,932 | 6.0 | | 6.0 |
| Patient #5 | 3 | 07/25/19 | 38,851 | 6.0 | | 6.0 |
| Patient #124 | 3 | 04/10/20 | 60,445 | 7.0 | | 7.0 |
| Patient #125 | 1 | 04/14/20 | 7,361 | 2.0 | | 2.0 |
| Patient #126 | 1 | 11/11/19 | 38,928 | 5.0 | | 5.0 |
| | 225 | | 3,703,318 | 335 | 65 | 400 |

**Est. Net Revenue (7/6/2019 - 5/13/2020)** **1,351,711**

| | |
|---|---|
| Annualized Gross (Est.) | 4,304,812 |
| Net Revenue (Est.) | 1,571,256 |

| |
|---|
| Avg Dialysis Treatments Per Patient |
| 1.8 |
| Dialysis ADC |
| 0.7 |

# In summary

- Service line development supports access to care.
- Executive buy-in aids in the success of any new service line (CNO leads the clinical charge!)
- Alleviate some of the heavy lift of a new service line by partnering with _____ (TeleNeph for nephrology/dialysis services)

# THANK YOU FOR YOUR TIME

## Questions?

## Comments

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