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Rural



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

Rural America



Our story is about ...

The Rural Hospitals living their mission in Keeping Care Local for the patient community with End-Stage-Kidney Disease (ESKD) and Chronic Kidney Disease (CKD). The cost of transportation for ESKD patients is over \$3B annually. Rural America is transferring a lot of these patients outside of the community. Today we will discuss how one CAH Hospital

- Stop the transfers
- Stop the drive
- Stop the flow of money leaving the community
- And let neighbors take care of neighbors

Keep Care Local

Chronic Kidney Disease (CKD) ...

- **How big 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 patients **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 ESKD 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 |

Review 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.

Critical Access Hospital in Globe, AZ



CAH Business Case - background

- Location: Arizona – 1.5 hours away from Phoenix
- Population:
 - City: 7,000+ ESRD: 17
 - County: 54,000+ ESRD: 126
- Hospital:
 - CAH with 25 beds
- Team Approach
 - CFO / CEO – reviewed financial impact and revenue projections
 - Clinical Team – building trust with all involved
 - Training / Support
 - Dry run
- Today
 - In 12 months over 100 ESRD patients

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 the new service line
- Lessons learned

Steps to Successful Preparation

- Market Evaluation
- Board of Directors Support
- Nephrologist Support / Team Member
- Timeline Development
- Equipment and Supply Review

Steps to Successful Implementation

- Business Plan / Project Charter
 - Financial Impact
 - Potential Revenue
 - HR
 - Supply Chain
 - Operations
 - Marketing
- Build the Team
- Training
- Staffing and Scheduling Plan
- Nephrology Support

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



NxSTAGE (NOW)

- **Founded in 1998, part of Fresenius Medical Care**
- Pre-mixed bagged dialysate
- No water source, filtration or quality testing require
- Intuitive touchscreen navigation
- Simple instructions for operating, monitoring and trouble shooting
- Wireless capability to integrate with EMR system
- Generate data reports to measure and guide progra improvements



Tablo

- **Founded in 2003**
- Based in San Jose, CA
 - The Tablo Hemodialysis System, FDA cleared for use from the hospital to the home
 - Serve as a dialysis clinic on wheels, with 2-way wireless data transmission and a proprietary data analytics platform powering a new holistic approach to dialysis care

.Outset
Better begins now.



Rural Hospital (59 beds) – Year 1

| | Quarter Inpatients | 1 18 | 2 21 | 3 21 | 4 32 | Year 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 | | <u>\$77,340.87</u> | <u>\$99,159.81</u> | <u>\$99,159.81</u> | <u>\$162,802.22</u> | <u>\$438,462.70</u> |

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

Nephrologist Drives the program

- 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
- Integration with Dialysis Equipment – Nephrologist receives alerts
- 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
- Tele-Nephrology platform – access to 24 x 7
- It is the hospital's patient

Per the Hospital ...

“All those patients now stay here,” said the **CEO of CAH in AZ**. “All that business stays in the local community, which is very positive for the hospital. Overall, it's been nothing but a positive.”

Today, patients needing dialysis at CAH consult with Dr. Sahani via telemedicine and, if necessary, are administered dialysis at the hospital from trained nurses. This system has been a win-win—for patients, their families, and the hospital per the **Chief Nursing Officer**.

For dialysis patients, traveling back and forth to Phoenix was “really very burdensome on them and their families,” said the **Chief Nursing Officer**. “To be able to provide [dialysis] here, where their families are close and they can come in, I really think it's made a huge difference.”

“They may need surgical intervention, they may need cardiac intervention...and so those service lines are doing better because we're more efficient and more able to care,” **CEO** said. “It makes a lot of sense,” **CEO** said. “It's actually far more successful than we ever dreamed of.”

Open for Discussion



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