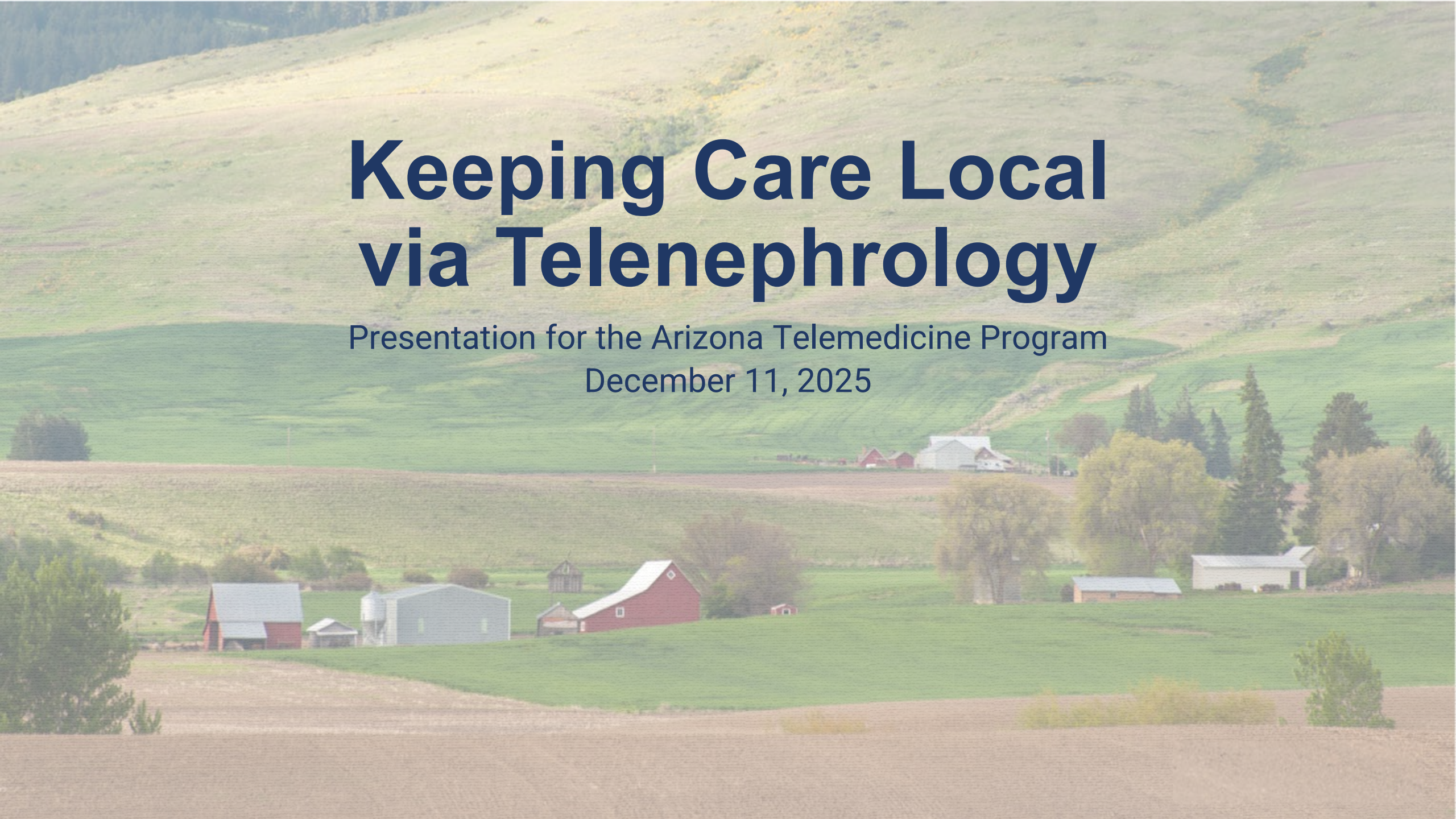


Keeping Care Local via Telenephrology

Presentation for the Arizona Telemedicine Program

December 11, 2025

CKD & ESRD: how big is the issue?

CKD

14%
of the US population has CKD = **36M**

2%
of CKD patients have ESRD

ESRD

50%
of ESRD patients are **65 or older**

2x
ESRD patients are admitted to the hospital twice per year

50%
are transport dependent

33%
use a wheelchair or walker

Related Costs

$125B
CMS spend for CKD & ESRD in 2019

$3B
annual spend for transport of ESRD patients

Sources: “Chronic Kidney Disease in the United States, 2023,” U.S. Department of Health and Human Services, Center for Disease Control and Prevention, May 2023. High Costs of Dialysis Transportation in the United States: Exploring Approaches to a More Cost-effective Delivery System

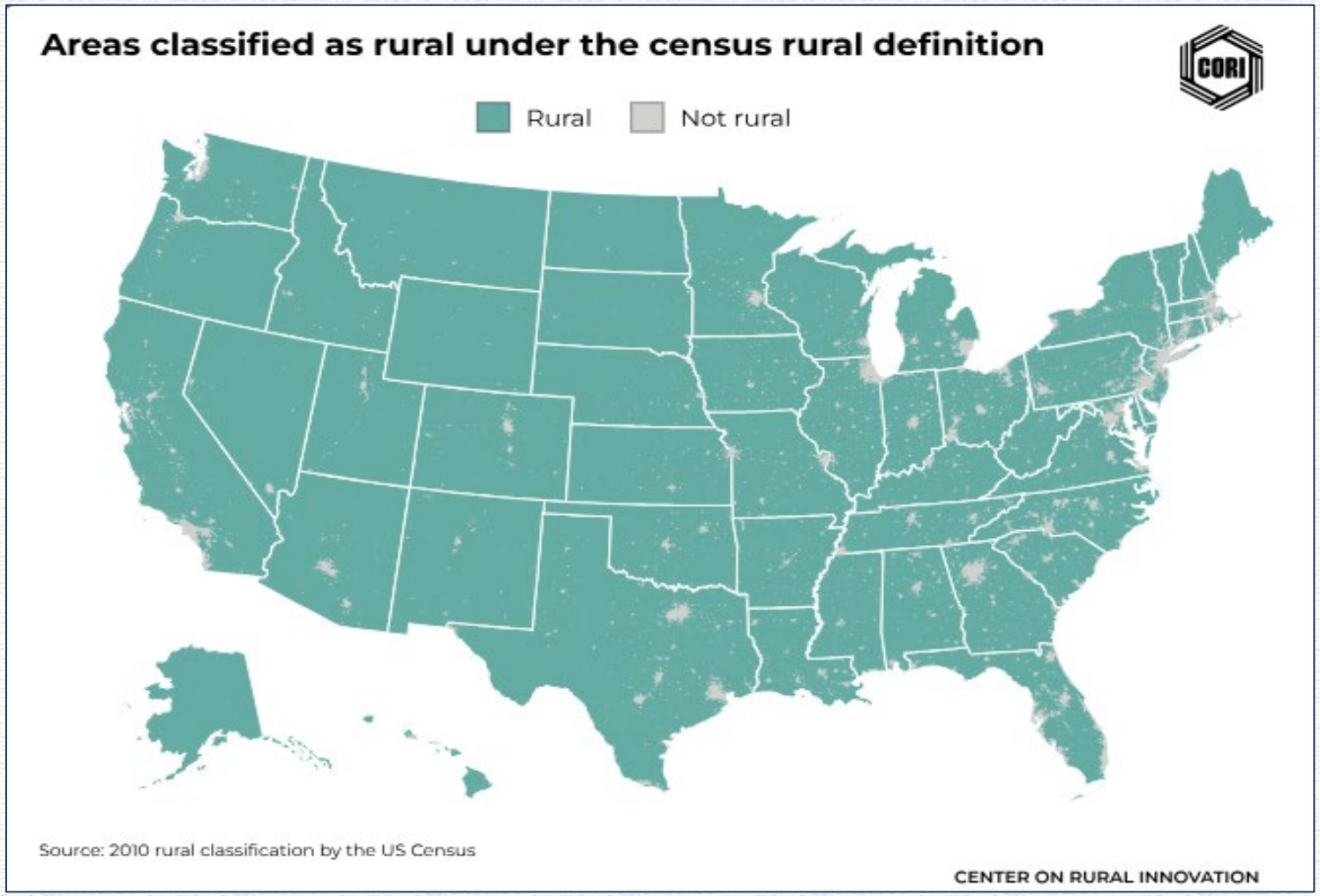
Why ESRD patients are being admitted to the hospital

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.

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

Number of CKD & ESRD patients in AZ counties

AZ County	ESRD	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	ESRD	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 AZ	**16,993**	**849,650**	**764,685**

Keeping care local

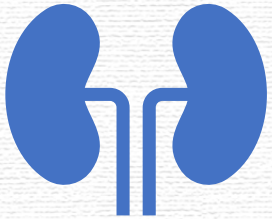
Rural hospitals that participate in telenephrology are living their mission to keep care local for their patients with ESRD and CKD.

The cost of transporting ESRD patients is over $3B annually. Rural America is transferring many of these patients outside the community.

Telenephrology allows hospitals 24/7 access to nephrology support so they can

- Stop the transfers
- Stop the drive
- Stop the flow of money leaving the community
- Let neighbors take care of neighbors
- **Keep Care Local**

Why telenephrology works



2 drivers of telenephrology evolution

- **Equipment:** Improvements in dialysis machines allow for portability and ease of use
- **Telemedicine:** COVID drove expansion and adoption of telemedicine

Telemedicine works well for nephrology

- Nephrology is a data-driven specialty; it doesn't require hands-on care
- There is wider adoption and comfort with telemedicine
- CMS covers telemedicine visits

Dialysis machine in hospitals (BEFORE)

- BIG and not very portable
- More complex
- More expensive
- Learning curve is longer

Dialysis machines in hospitals (NOW)

NxStage

Outset

Quanta

Flexible solutions allow hospitals to insource/outsource

If your nurses support the program…

Full Telenephrology Services
Meets all hospital's nephrology needs

- Market analysis
- Customized implementation
- Clinical / Nursing – Staffing models, competencies tools, policies & procedures, training resources
- Nephrology order sets, diagnosis codes & CPT codes
- Collaboration with patient's nephrologist / dialysis center
- Includes non-dialysis patients (CKD & AKI) and dialysis patients

If you've hired nurses to support the program…

Nephrology Services
Telenephrology services for hospitals with contracted dialysis nurses

- Customized implementation
- Collaboration with patient's nephrologist / dialysis center
- Includes non-dialysis patients (CKD & AKI) and dialysis patients

If you have an existing nephrologist…

Continuity of Care
Coverage and support for hospital's current nephrology program

Additional support…

CKD Clinic
Support in identifying ways to provide services to CKD patients via telemedicine

Analysis of Outpatient Services
ESRD chronic dialysis unit

Telenephrology impacts all service lines

As one CEO stated:

- It has an indirect impact on the hospital's total revenue.
- It benefits all service lines and community healthcare providers, as these patients are high utilizers of healthcare.
- The ER department is not spending time contacting multiple hospitals to transfer patients out of the community.
- It creates a halo effect, with more patients brought into the hospital by emergency medical teams.
- It led to higher patient and employee satisfaction.
- It decreased nursing staff turnover, as they are learning new skills.

Per the hospital team …

"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."

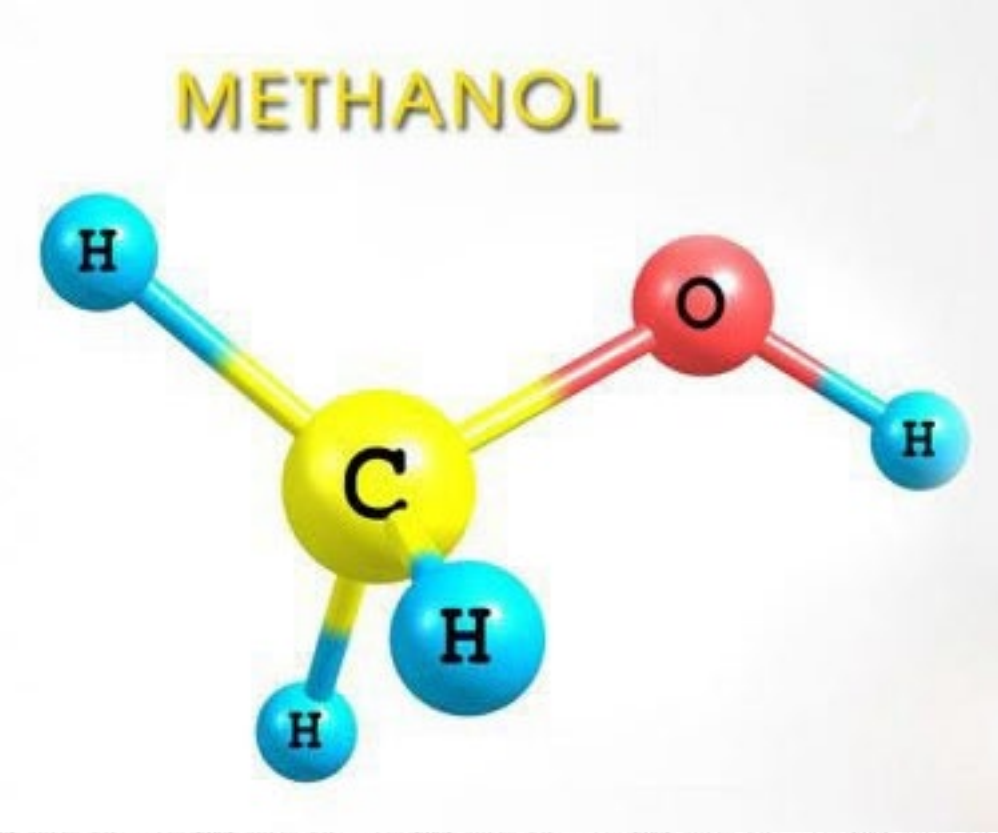
Today, patients needing dialysis at CAH consult with the nephrologist via telemedicine and, if necessary, are administered dialysis at the hospital from trained nurses. This system has been a win-win—for patients, their families, and the hospital per the **Chief Nursing Officer.**

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. It's actually far more successful than we ever dreamed of."

Case study 1

Methanol poisoning

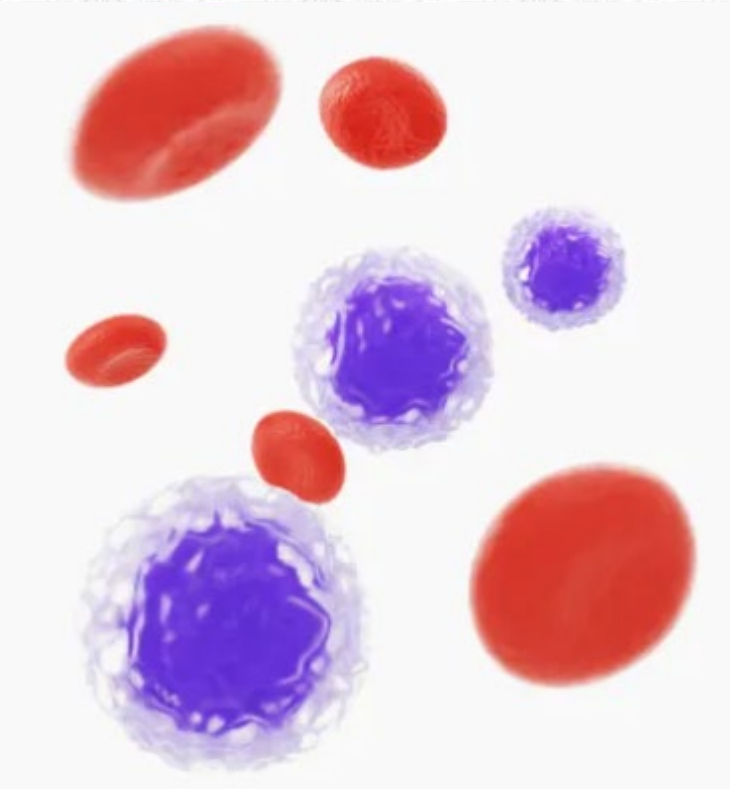


Case study 2

Hypokalemic periodic paralysis

Case study 3

Multiple myeloma



Questions