

# **Kidney Disease: Changing Landscapes and New Horizons**

**Charuhas V. Thakar, MD**

Professor of Medicine

Director, Division of Nephrology, Kidney C.A.R.E Program

University of Cincinnati

Chief, Renal Section, Cincinnati VA Medical Center



December 29<sup>th</sup>, 1940

# MASH: 1950 - 1953

Evacuation Helicopter



MASH



Kolff Dialyzer



# Chronic Dialysis

- 1963 – VA Hospitals announced its intentions to open 30 dialysis centers across the country
- 1965 – Public Health Service started the Kidney Disease Control Program (KDCCP) and awarded 12 grants to start 12 dialysis centers across the country

# House Ways and Means Committee - 1971

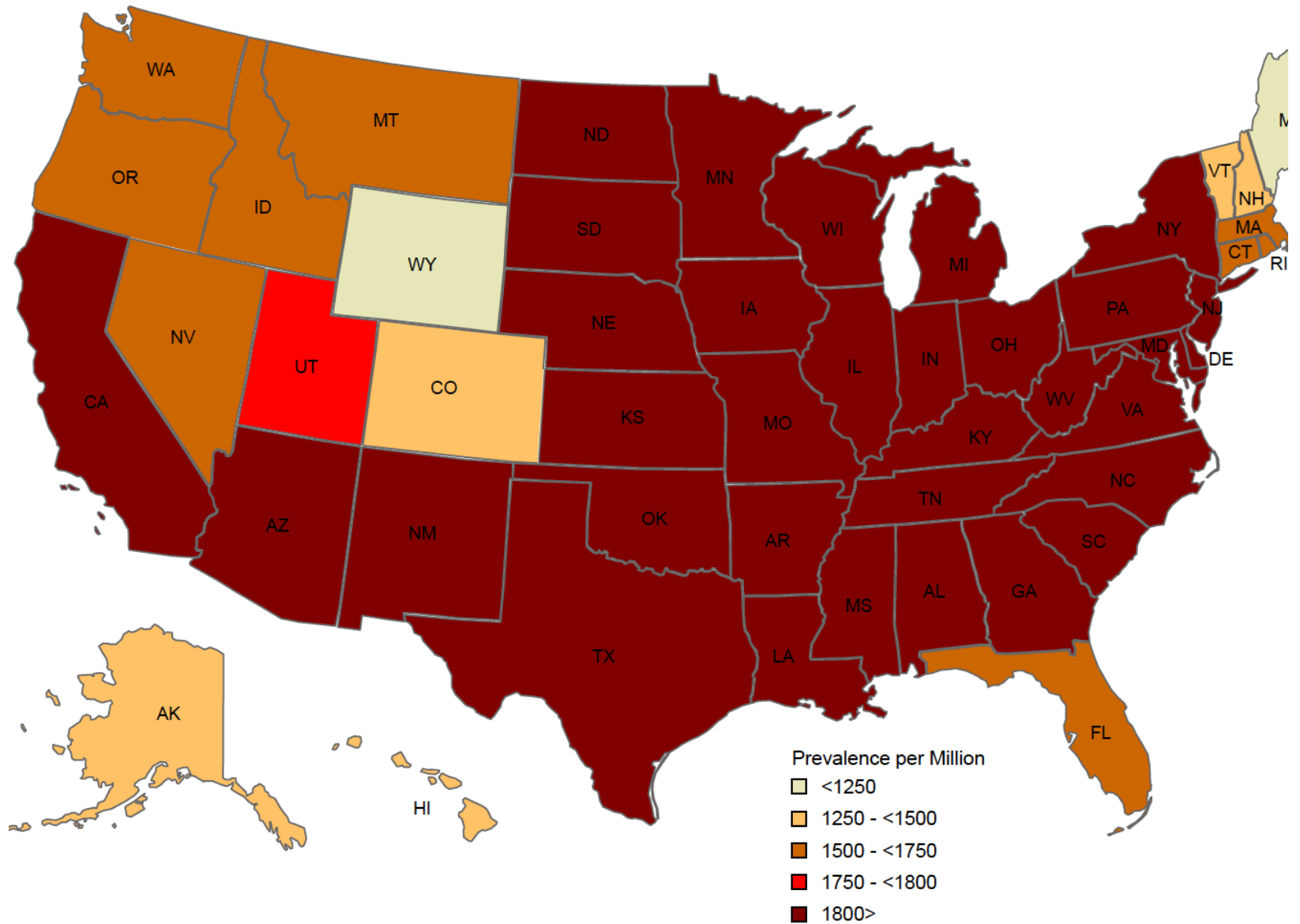
- Shep Glazer, NY; William Litchfield, Houston, TX; Roland Fortier, CT; Peter Lundin, Medical Student, CA; June Crowley, and Abram Holz, NY
- Glazer made an official statement for NAPH, and then spoke about his personal situation:
- *I am 43 years old, married for 20 years, with two children ages 14 and 10. I was a salesman until a couple of months ago until it became necessary for me to supplement my income to pay for the dialysis supplies. I tried to sell a non-competitive line, was found out, and was fired. Gentlemen, what should I do? End it all and die? Sell my house for which I worked so hard, and go on welfare? Should I go into the hospital under my hospitalization policy, then I cannot work? Please tell me. If your kidneys failed tomorrow, wouldn't you want the opportunity to live? Wouldn't you want to see your children grow up? (U.S. Congress, House, Committee on Ways and Means, 1971b)*

# Lets Do The Numbers

- 660,000 - ESRD Patients
  - 486,000 on Dialysis
  - 194,000 Transplant
- 1% - ESRD as Proportion of Medicare Beneficiaries
- 10% - Proportion of Medicare budget (\$ 688 Billion in 2017) consumed

# Prevalence of ESRD by U.S. State 2013

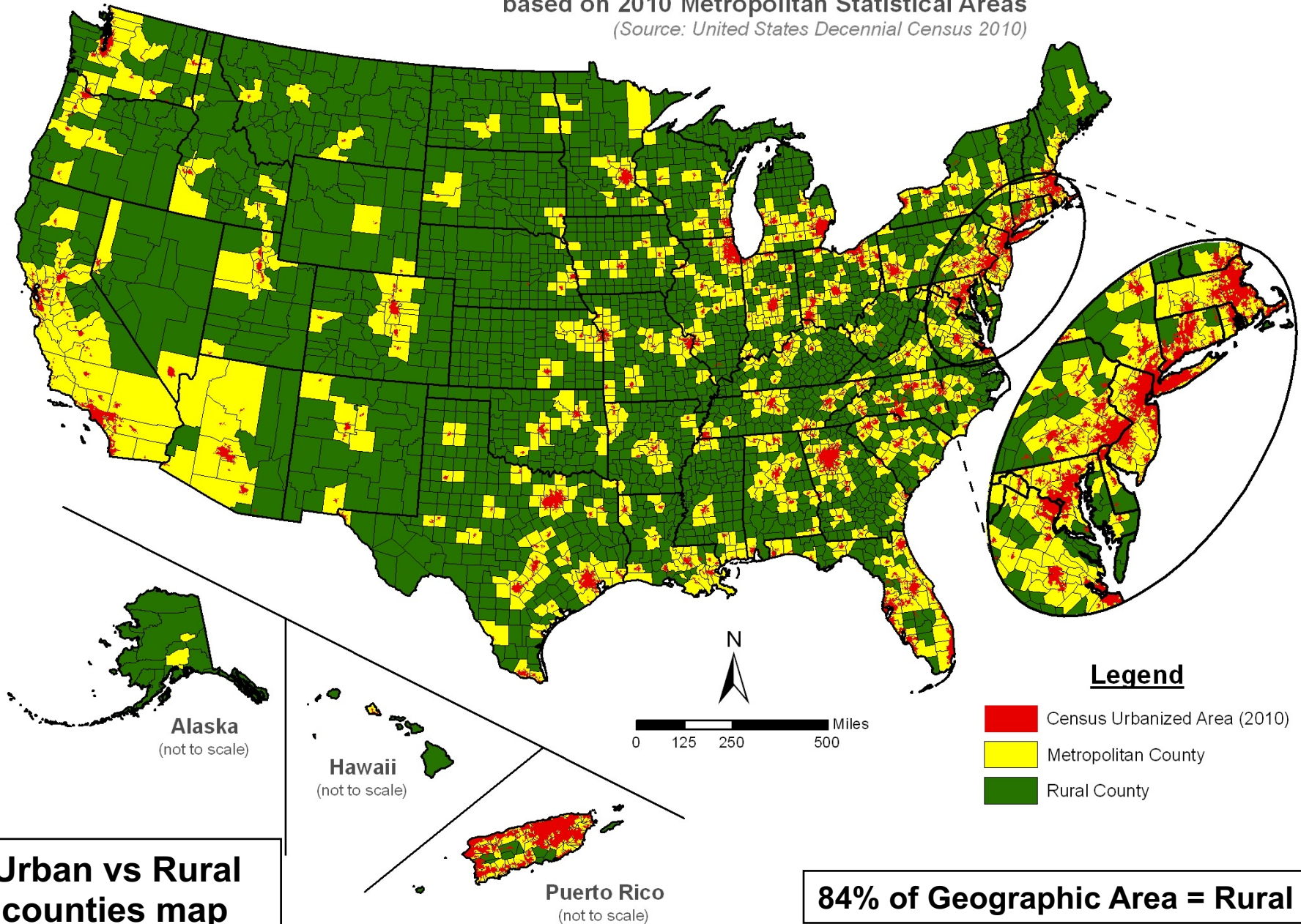
United States Renal Data System



# 2010: Urban/Rural Status of County and County Equivalents

based on 2010 Metropolitan Statistical Areas

(Source: United States Decennial Census 2010)



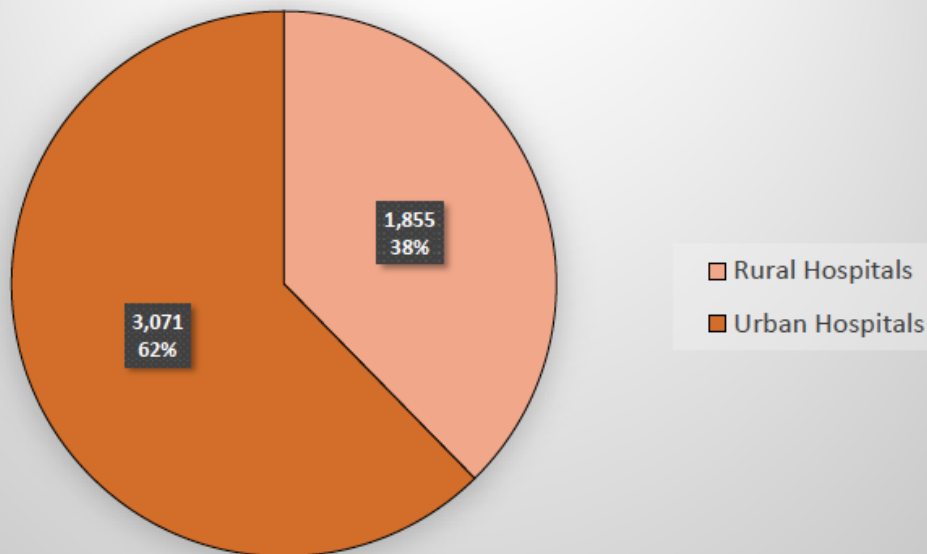


# Dialysis in Rural America

- Prevalence of dialysis use is similar across rural and urban areas (3.9 /1000 residents)
- As opposed to 23% of Urban Counties, 77% of remote rural counties lack an in-county dialysis facility.
- On average, rural ESRD residents lived 33.3 miles away from a dialysis facility

# Rural Hospitals

Community Hospitals: Rural vs. Urban, FY2014



Based on AHA Hospital Statistics, 2016 ed., Health Forum, an American Hospital Association affiliate, 2016.

- **Population in Rural America:  
57 Million (19.3%)**
- **Rural Hospitals support jobs:  
2 Million**
- **Annual ER visits:  
21.5 Million**
- **Acute dialysis availability:  
1-in-3 hospitals**

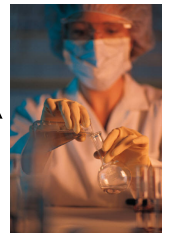
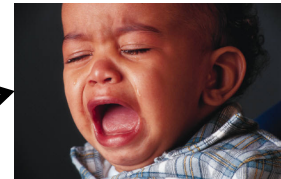
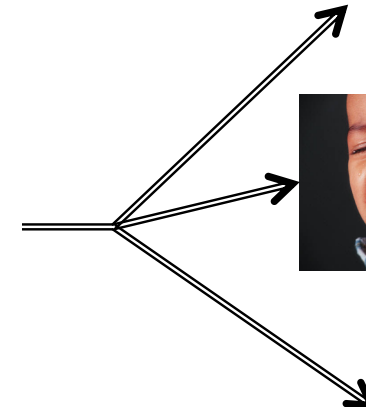
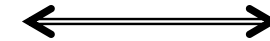
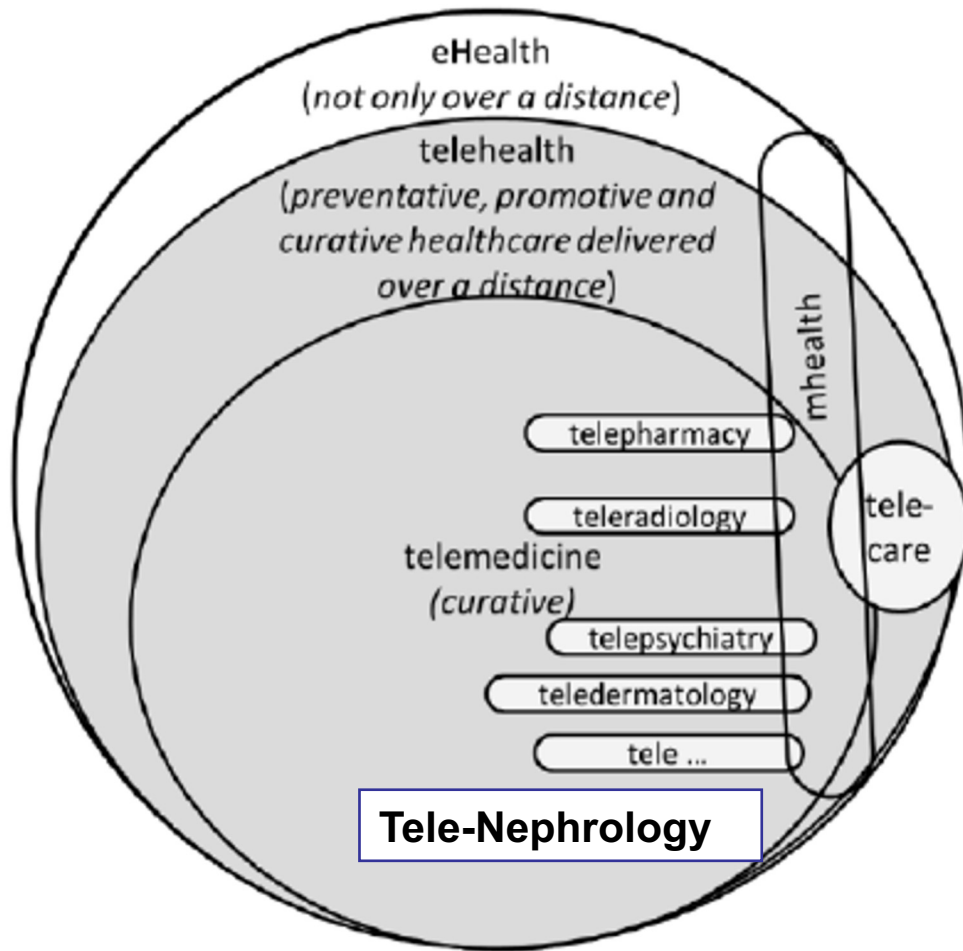
# .....Back to the Ways and Means Committee

## Congress to Revisit Telehealth for Chronic Care Legislation

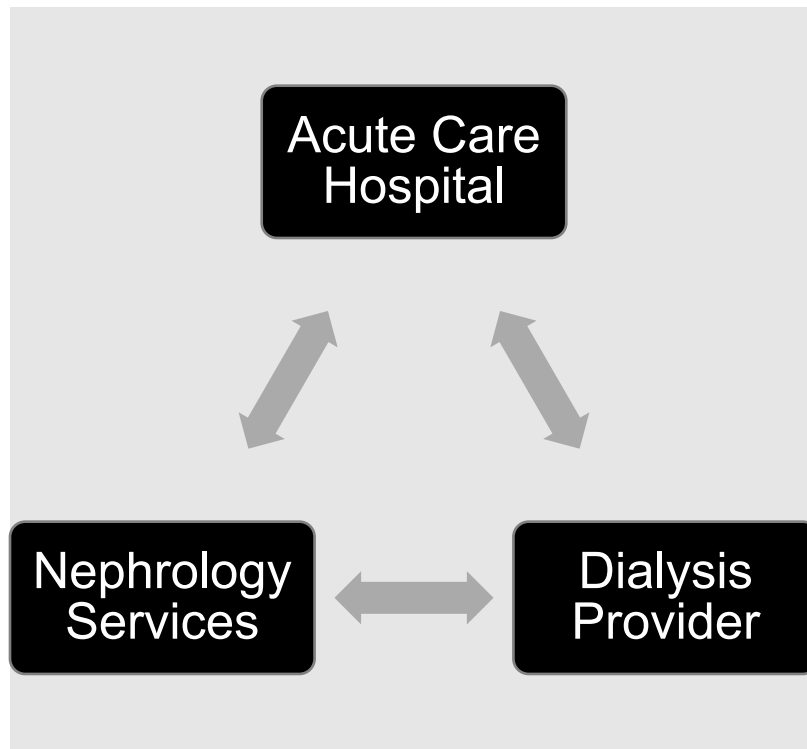
The CHRONIC Care Act of 2017 targets Medicare payment reform by, among other things, expanding telehealth for chronic care. It's part of a flurry of re-introduced bills aimed at making telemedicine and mHealth a standard of care.



# Terminology

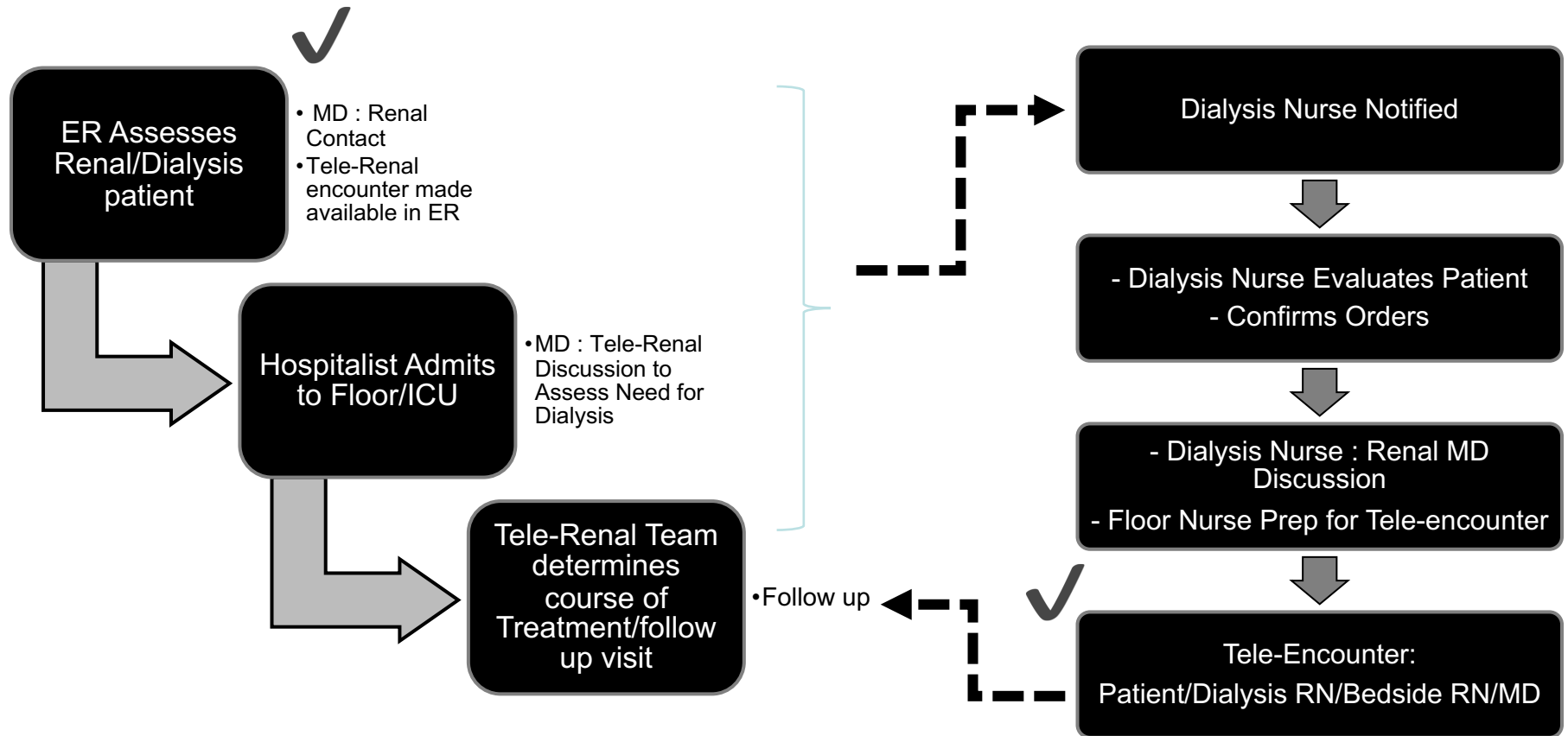


# Tele-health Pilot Meadowview Hospital



- Stake holders
  - Administration
  - Providers
  - Nursing
  - IT
  - Pharmacy
  - EMR
  - Dialysis related
    - Space/Regulatory/
    - Quality/Safety

# Clinical Pathway: Tele-Nephrology



# Tele-Nephrology

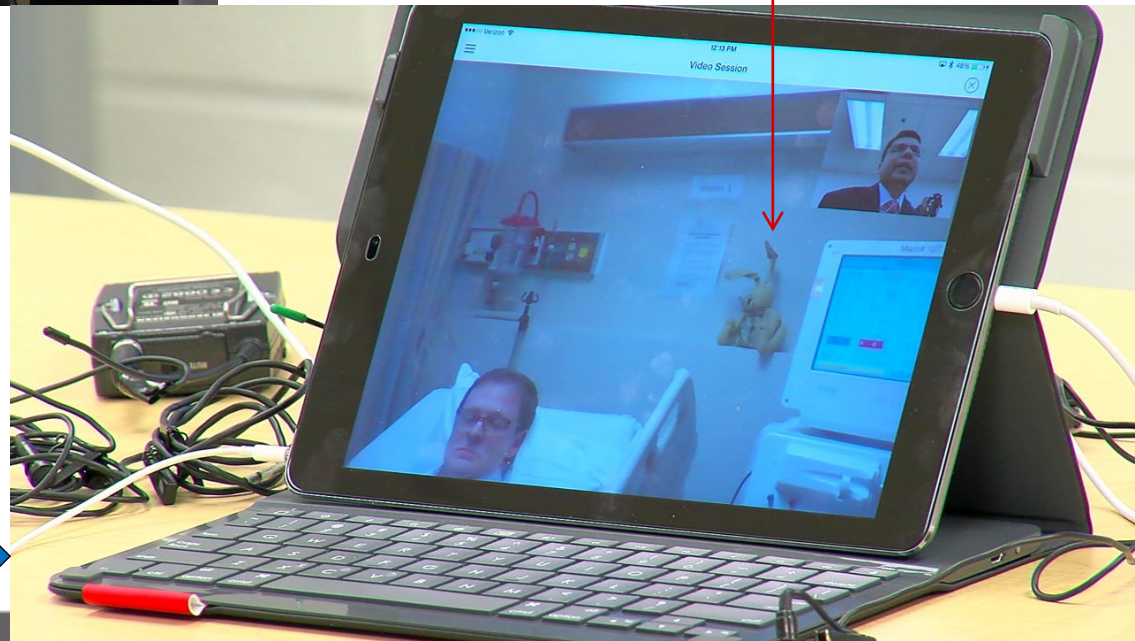


← Patient and nurse in dialysis room

Lucky Bunny Rabbit

↑  
Patient and Nurses View

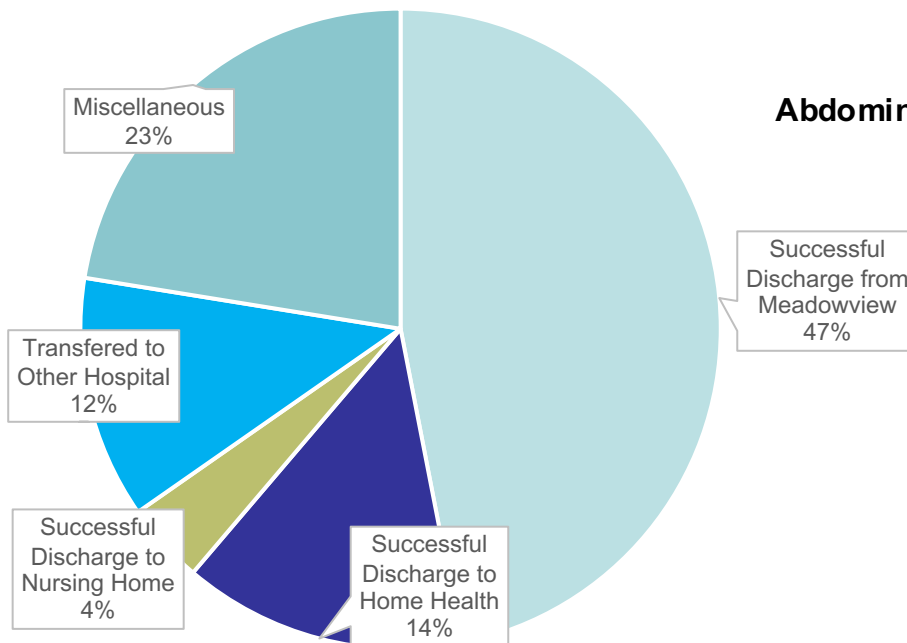
MD view of patient/Machine →



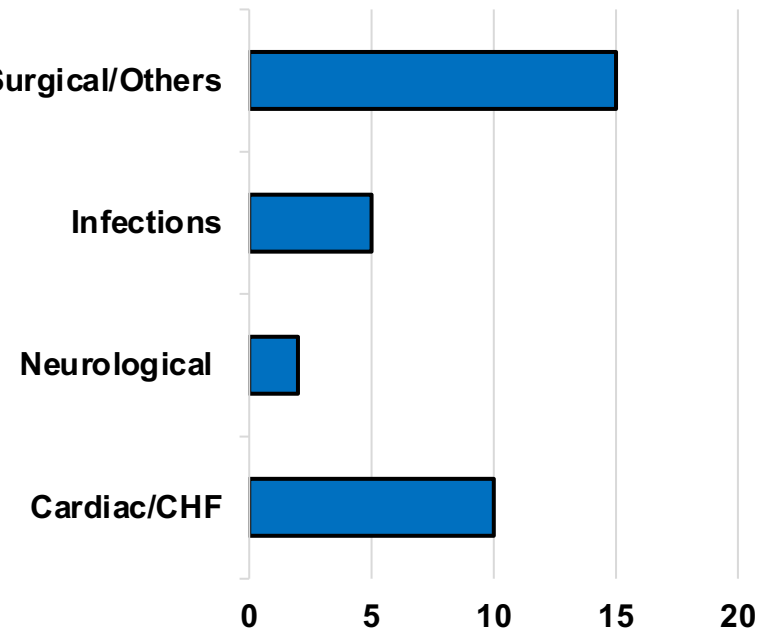
# Cincinnati Experience

Patient	Bed-days	Tele-visits	Dialysis Treatments	% in ICU
49	182	75	81	10%

Disposition



Admission Diagnosis





# Driving.....



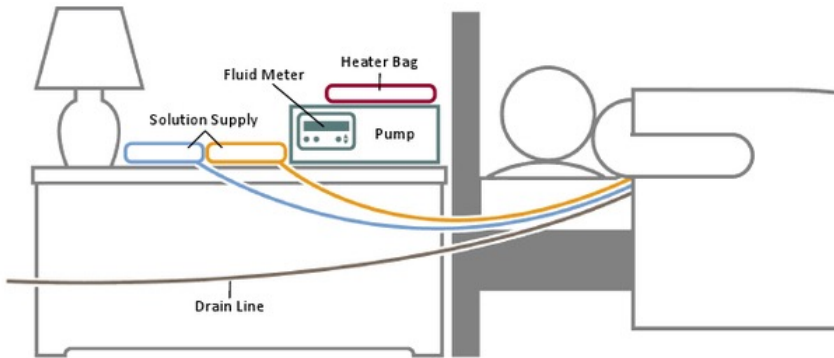
2,920 Miles

Nephrology Division

Monthly Mileage: 6,400 Miles



# Home Dialysis



Remote  
Monitoring



Voice  
Guidance



Portability



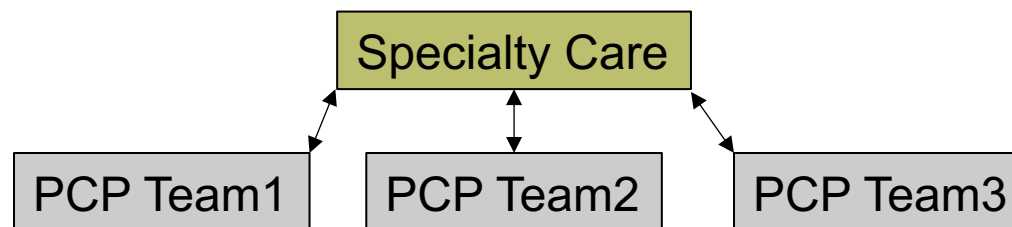
- Educate patients
- Manage/Change prescriptions
- **“Parental Control”**
- Monitor reports – adherence
- Travel

# Colorado River Rafting



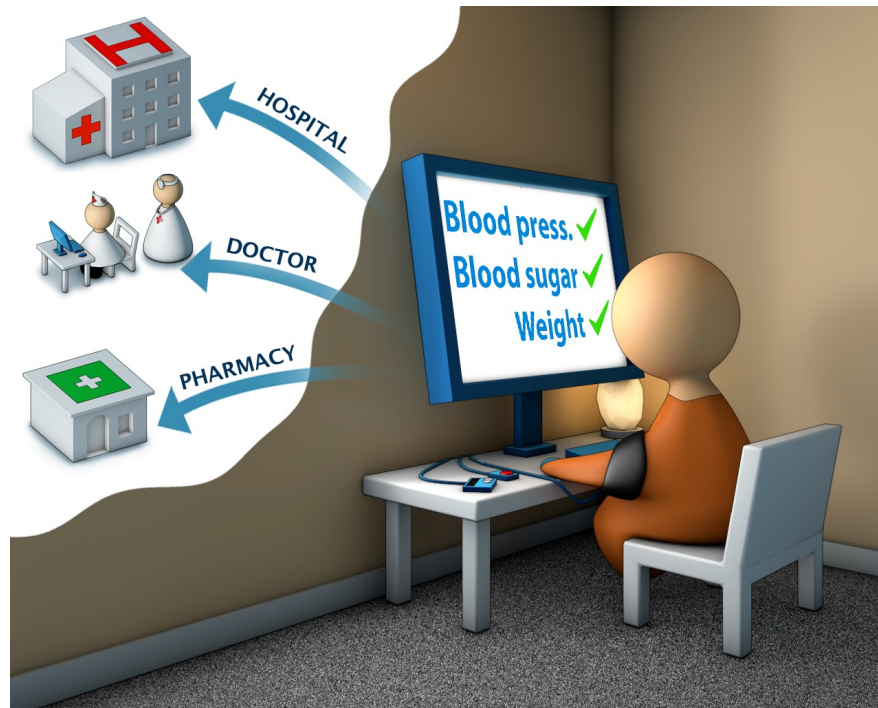
# SCAN-ECHO

Specialty Care Access Network - Extension for Community Healthcare Outcomes



# Data Recipient

Provider



Self





**Canon 70D; 100-400 mm Canon L; f-5.6; 20 frames/second**