Home Dialysis: Changing Directions

AN INTERDISCIPLINARY EFFORT PRESENTED BY THE

FLORIDA RENAL ASSOCIATION

MEMBERSHIP & PARTNERS

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Objectives

- Discuss End Stage Renal Disease (ESRD) population demographics
- Review Patients' Rights to treatment selection
- Emphasize "THE WHY" of choosing home dialysis
- Introduce and examine home modality choices
- Examine considerations of home therapy choices

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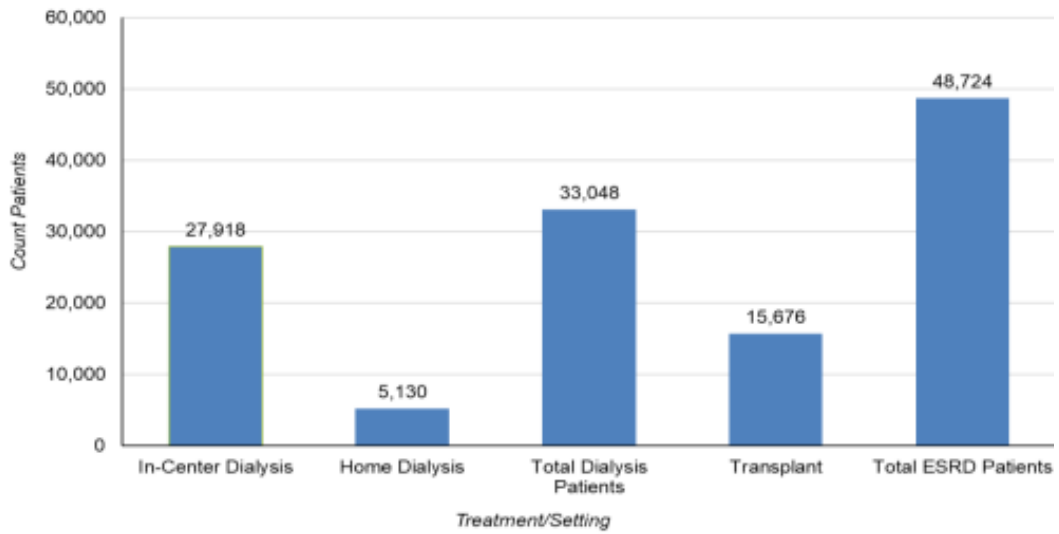
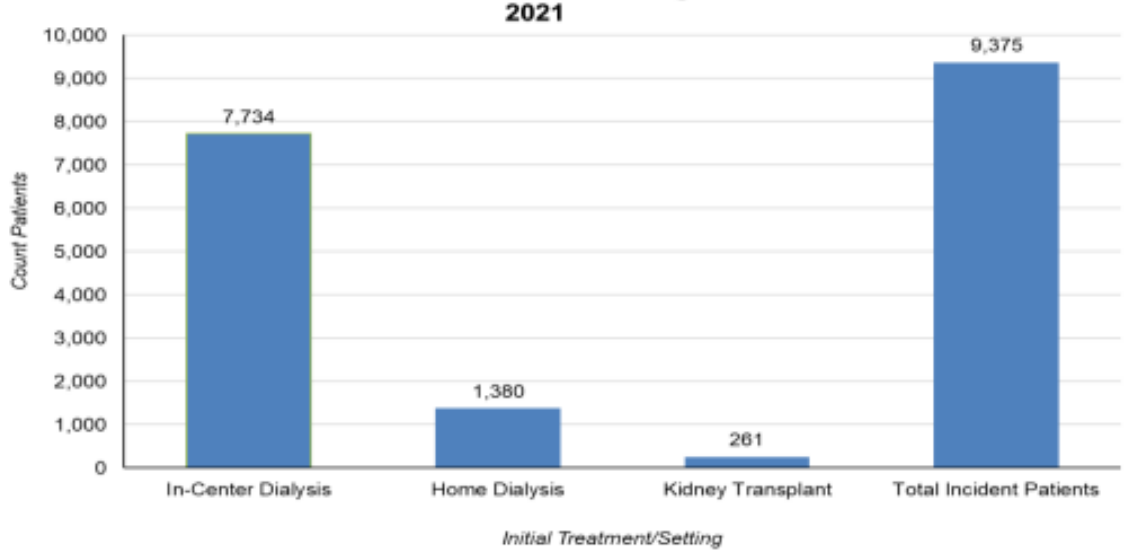
Chart A: Count of Prevalent ESRD Patients by Treatment/Setting 2021



Total Dialysis Patients = In-Center Dialysis + Home Dialysis
Total ESRD Patients = Transplant + Total Dialysis
SNF dialysis patients are not shown due to small numbers.
Source of data: EQRS May 2022

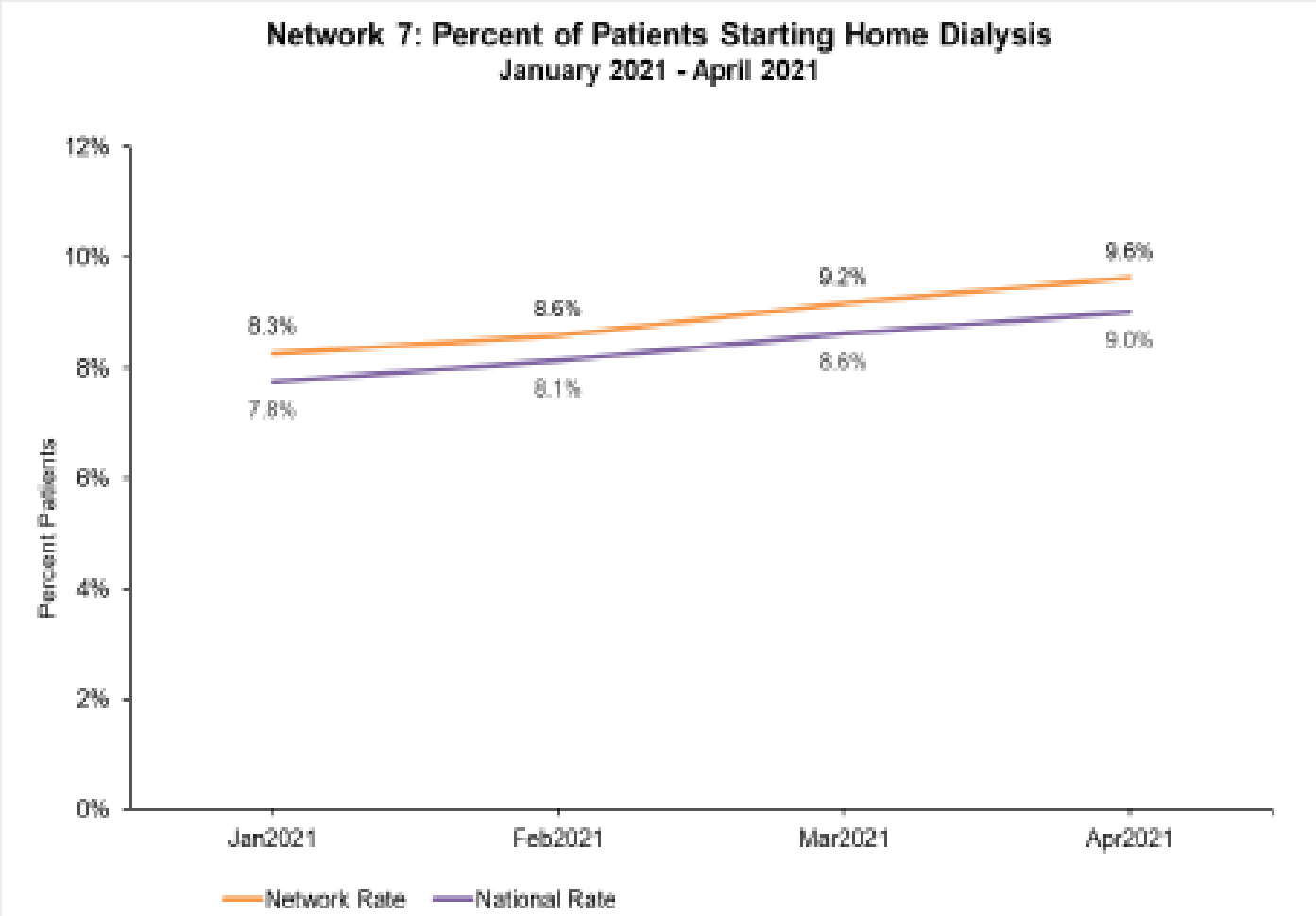
Chart B: Count of Incident ESRD Patients by Initial Treatment/Setting 2021



Total Incident Patients = In-Center + Home + Kidney Transplant
Source of data: EQRS May 2022

ESRD Population

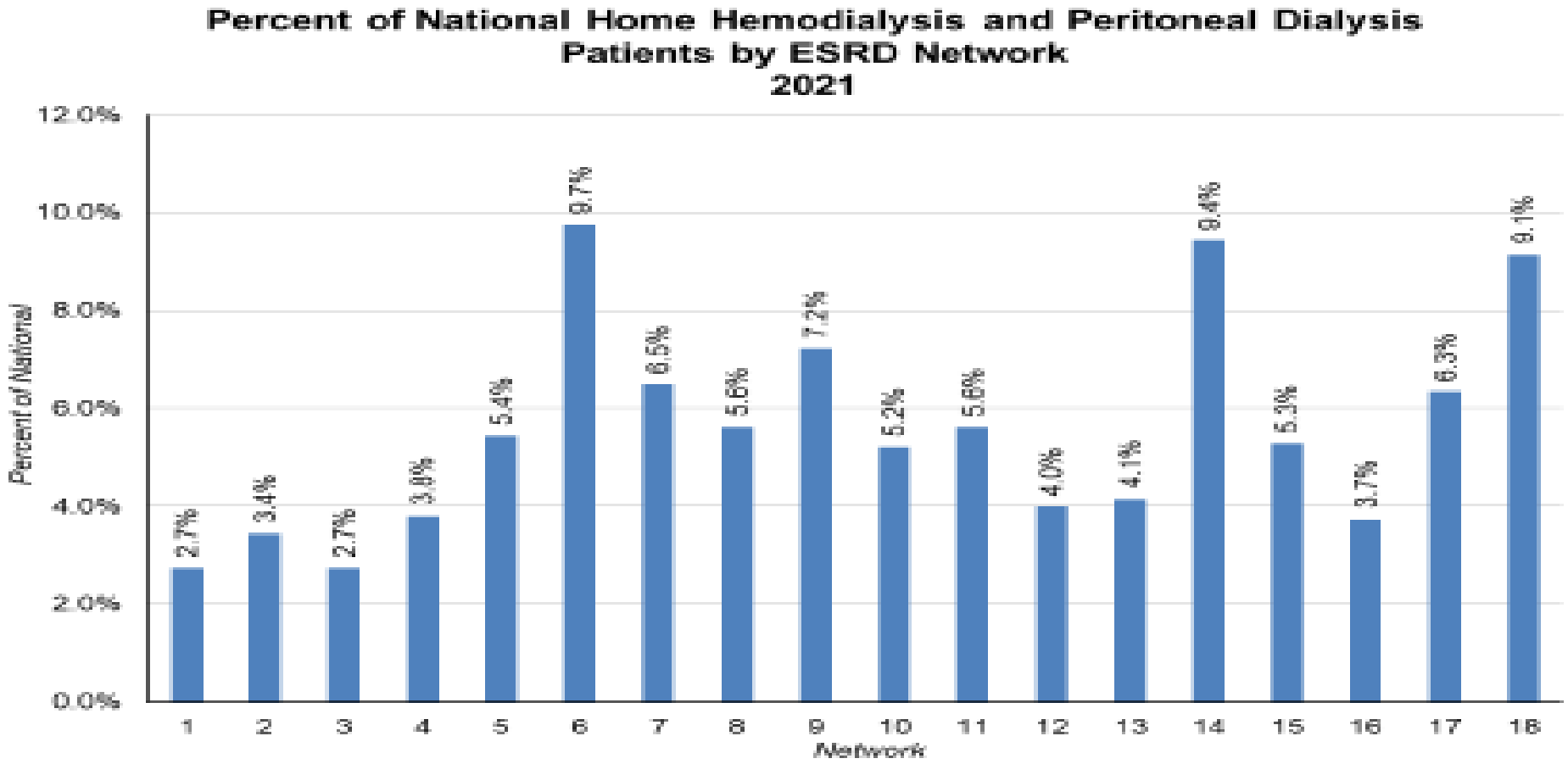
Chart O: Network 7 Percent of Patients Starting Home Dialysis January-April 2021



QIA: Quality Improvement Activity
Source of data: ESRD NCC HTQIA accessed May 2021

Prevalence of Home Dialysis

Chart E: Percent of National Home Hemodialysis and Peritoneal Dialysis Patients by ESRD Network 2021



National total home hemodialysis and peritoneal dialysis patients: 79,071
Source of data: EQRS May 2022

Chart P: Network 7: Incident Patients Starting Dialysis Using a Home Modality (July 2021-April 2022)

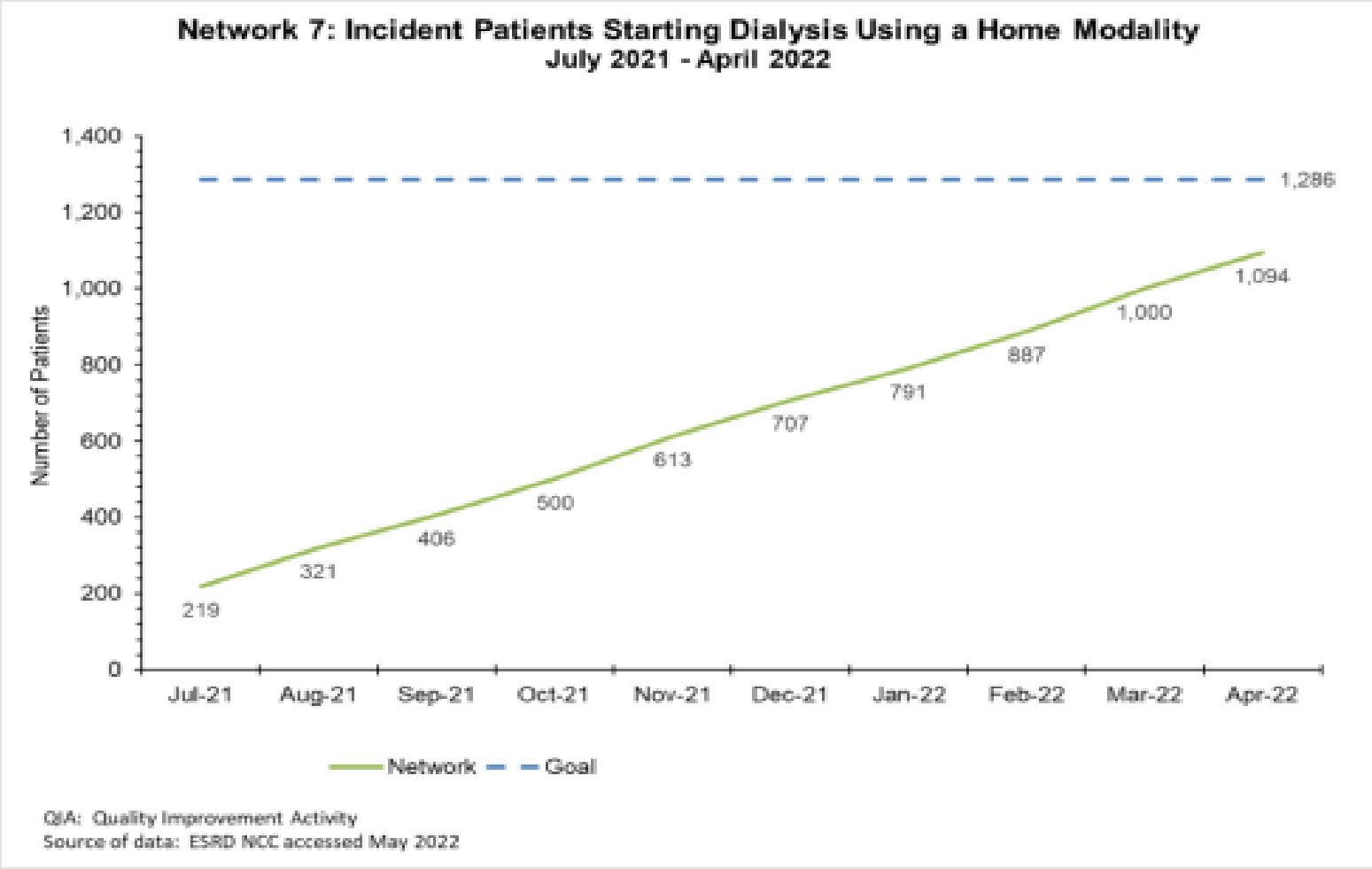
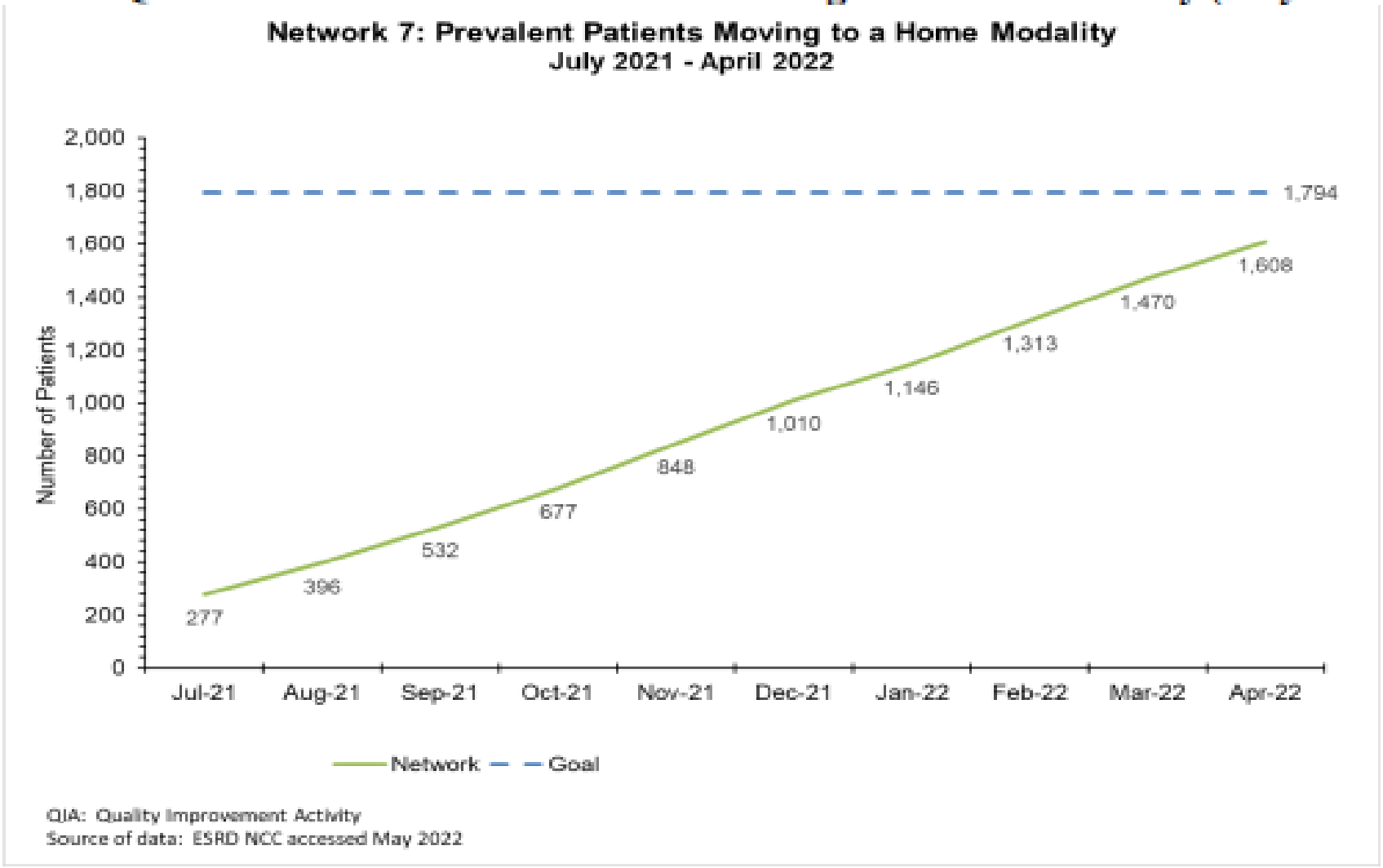


Chart Q: Network 7: Prevalent Patients Moving to a Home Modality (July 2021–April 2022)



Centers for Medicare and Medicaid Services (CMS) Conditions for Coverage

494.70 Condition: Patients' Rights

The dialysis facility must inform patients (or their representatives) of their rights…

(a) *Standard: Patients' rights.* The patient has the right to…

(7) Be informed about all treatment modalities and settings, including but not limited to, transplantation, home dialysis modalities (home hemodialysis, intermittent peritoneal dialysis, continuous ambulatory peritoneal dialysis, continuous cycling peritoneal dialysis), and in-facility hemodialysis.

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Patient's Perspective

Keeping as much independence as possible

Quality and quantity of life

Flexibility in daily schedule

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Source: Dahlerus, et al, 2016

Are Your Patients Choosing Home?

70%

of patients surveyed chose a home modality after going through an education program[1]

89%

of nurses said they would choose a home therapy for themselves.[2]

93%

of nephrologists said they would choose a home therapy for themselves.[2]

Reference: 1. NxStage Data on File. 2019. APM3544 Transitional Dialysis Care Patient Decision Survey Analysis 2. Data Source: Nephrology News and Issues, September 2010

Home peritoneal dialysis

With home peritoneal dialysis (PD), your blood is filtered using the lining of your abdomen, also called the peritoneum. There are no needles used during PD treatment, and your blood never leaves your body. You have the flexibility to do PD almost anywhere—in the comfort of your home, at work, or while traveling. Starting PD early may help you preserve remaining kidney function.

Home hemodialysis

With home hemodialysis (HD), you are connected via a needle in your access site to an artificial kidney (dialyzer) that filters your blood. Because you're treating at home, you can choose to time your prescribed treatments around the activities in your life. Because you won't be traveling to the center for treatment, you'll also save travel time and transportation costs.

In-center hemodialysis

With in-center hemodialysis (HD), you'll typically go to the dialysis center 3 times per week for about 3-5 hours per session to have your blood filtered, depending on the schedule your doctor prescribes. During treatment, you'll be connected to an artificial kidney (dialyzer) via a needle in your access site. Your care team will supervise your entire dialysis treatment and make sure you have everything you need.

Home Dialysis Choices

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PD/Home Therapy FIRST : “The WHY”

Better 5-year Survival

References: 1. U.S. Renal Data System, USRDS 2015 Annual Data Report: Table 6.3. Adjusted survival (%) by (a) treatment modality and incident cohort year (year of ESRD onset), and (b) age, sex, race, and primary cause of ESRD, for ESRD patients in the 2008 incident cohort (initiating ESRD treatment in 2008) Abbreviation: ESRD, end-stage renal disease. 2. Data source: NxStage patient data on file. 3. Pauly RP et al. Survival among nocturnal home haemodialysis patients compared to kidney transplant recipients. Nephrol Dial Transplant (2009) 24: 2915–2919.

When vascular access is exposed to more frequent use, risk of infection of the site, and other access related complications increase.

Peritoneal Catheter

- A tube called a catheter is surgically placed through the wall of the abdomen as a permanent access for PD.
- The catheter is usually placed an inch below, above or to the side of the navel.
- About 2-4”extends out of the body.

Peritoneal Dialysis

ADVANTAGES

- Flexible lifestyle and independence
- Fewer diet restrictions
- Less clinic visits
- No use needles
- Daily Therapy
- Do not have to travel to dialysis unit for treatment
- Easy to travel

CONSIDERATIONS

- Need to schedule exchanges into your daily routine, 7 days a week
- Have a permanent external catheter
- Risk of infection
- Need storage space in your home for supplies
- Need designated space for equipment

Potential Benefits of Peritoneal Dialysis

Compared to thrice weekly conventional in-center hemodialysis

BETTER PRESERVATION OF RESIDUAL RENAL FUNCTION[1,2]

Residual renal function is associated with better overall health and well-being of dialysis patients

GREATER QUALITY OF LIFE[3]

PD patients have higher self-reported Quality of Life scores than standard in-center dialysis patients.

INCREASED TRANSPLANTATION INCIDENCE[2,3]

Compared to 3x/week in-center hemodialysis (ICHD)

NO VASCULAR ACCESS NEEDED[1]

For patients who struggle with needle barriers and fears

References: 1. François K, Bargman J. "Evaluating the Benefits of Home-Based Peritoneal Dialysis." International Journal of Nephrology and Renovascular Disease, 7 (2014): 447. 2. Sinnakirouchenan R, Holley JL. Peritoneal Dialysis Versus Hemodialysis: Risks, Benefits, and Access Issues. Advances in Chronic Kidney Disease, Vol 18, No 6 (November), 2011: pp 428-432. 3. Bonenkamp AA et al. Health-Related Quality of Life in Home Dialysis Patients Compared to In-Center Hemodialysis Patients: A Systematic Review and Meta-analysis. Kidney Med. Published online 2,2020.

Match –D

Suitability Criteria for *Self* Peritoneal Dialysis: CAPD or CCPD

Strongly Encourage PD

- Any patient who wants to do PD or has no barriers to it
- Employed full- or part-time
- Student – grade school to grad school
- Caregiver for child, elder, or person with disability
- New to dialysis or has had transplant rejection
- Lives far from clinic and/or has unreliable transportation
- Needs/wants to travel for work or enjoyment
- Has needle fear or no remaining HD access sites
- BP not controlled with drugs
- Can't or won't limit fluids or follow in-center HD diet
- No (required) partner for home HD
- Wants control; unhappy in-center

Encourage PD After Assessing and Eliminating Barriers

- Minority – not a barrier to PD
- Unemployed, low income, no High School diploma – not barriers to PD
- Simple abdominal surgeries (e.g. appendectomy, hernia repair, kidney transplant) – not barriers to PD
- Has pet(s)/houseplants (carry bacteria) – bar from room at least during PD connections
- Hernia risk or recurrence after mesh repair – use low daytime volume or dry days on cycler
- Blind, has no use of one hand, or neuropathy in both hands – train with assist device(s) as needed
- Frail or can't walk/stand – assess lifting, offer PT, offer CAPD, use 3L instead of larger bags for cycler*
- Illiterate – use pictures to train, return demonstrations to verify learning, tape recorders for patient reports
- Hearing impaired – use light/vibration for alarms
- Depressed, angry, or disruptive – increased personal control with PD may be helpful
- Unkempt – provide hygiene education; assess results
- Anuric with BSA >2 sqm – assess PD adequacy†‡
- Swimmer – ostomy dressings, chlorinated pool, ocean
- Limited supply space – visit home, 2x/mo. delivery
- Large polycystic kidneys or back pain – use low daytime volume or dry days on cycler†‡

May Not Be Able to Do PD (or will Require a Helper)

- Homeless and no supply storage available
- Can't maintain personal hygiene even after education
- Home is unclean/health hazard; patient/family won't correct
- No/unreliable electricity for CCPD; unable to do CAPD
- Multiple or complex abdominal surgeries; negative physician evaluation.†‡
- Brain damage, dementia, or poor short-term memory*
- Reduced awareness/ability to report body symptoms
- Malnutrition after PD trial leads to peritonitis†‡
- Uncontrolled anxiety/psychosis*

Home Hemodialysis (HHD)[1]

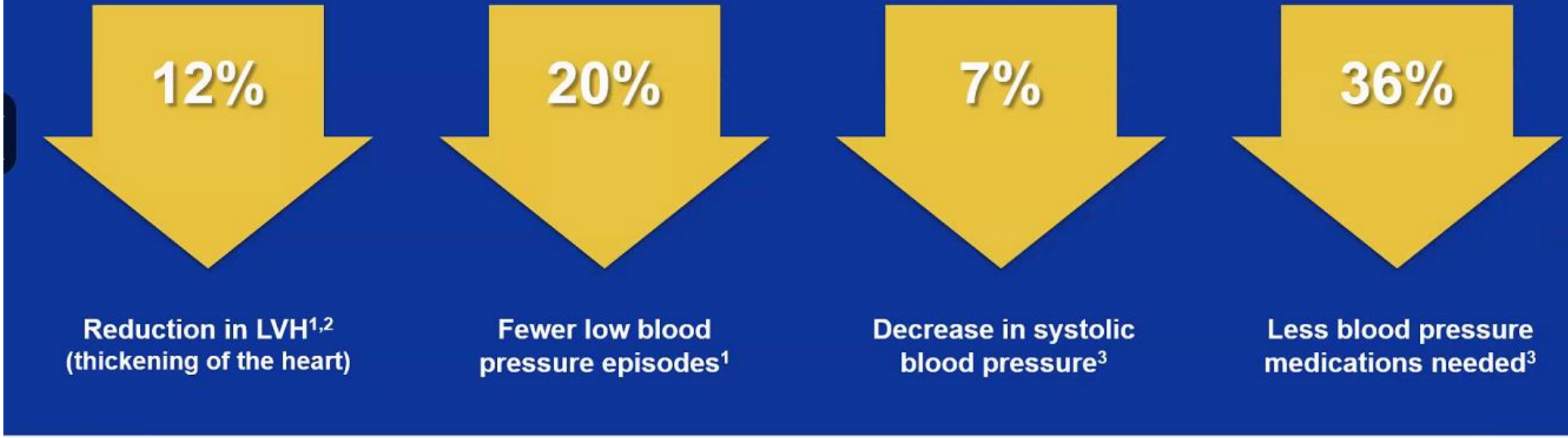
- The main difference between HHD and in-center hemodialysis is patients perform treatments at home without a nurse or healthcare professional present.
  - Options are available to perform treatments during the day, with or without a care partner, or overnight as the patient and care partner sleep.
- Equipment specifically designed for ease of use at home.

Reference: 1. Daugirdas, John T.; Blake, Peter G.; and Ing, Todd S., "Handbook of Dialysis (5th ed.)" (2015).

Significant Cardiovascular Benefits of More Frequent HHD

Subset of findings from Frequent Hemodialysis Network randomized control trials

Frequent hemodialysis, 5-6x per week, is associated with the following improvements over a 12-month period



References: 1. FHN Trial Group. In-center hemodialysis six times per week versus three times per week. N Engl J Med. 2010;363(24):2287-2300. 2. Rocco MV, Lockridge RS, Beck GJ, et al. The effects of frequent nocturnal home hemodialysis: the Frequent Hemodialysis Network Nocturnal Trial. Kidney Int. 2011;80(10):1080-1091. doi:10.1038/ki.2011.213. 3. Kotanko P, Garg AX, Depner T, et al. Effects of frequent hemodialysis on blood pressure: Results from the randomized frequent hemodialysis network trials. Hemodial Int. 2015;19(3):386-401.

Patients should consult with their physician to determine the medical necessity of more frequent dialysis.

Improvement in Recovery Time[1]

87% average improvement in post-dialysis RECOVERY time with **more frequent hemodialysis**

Average Recovery Time
3 times / week in-center

8 Hours
of recovery time

Average Recovery Time
5-6 times / week home hemodialysis

1 Hour
of recovery time

References 1. Jaber BL, Lee Y, Collins AJ, et al. Effect of daily hemodialysis on depressive symptoms and post dialysis recovery time: interim report from the FREEDOM (Following Rehabilitation, Economics and Everyday-Dialysis Outcome Measurements) Study. Am J Kidney Dis. 2010;56(3):531-539.

Why Recovery Time Matters[2]

Post-dialysis RECOVERY time >2-6 hours associated with **increased risk of death**

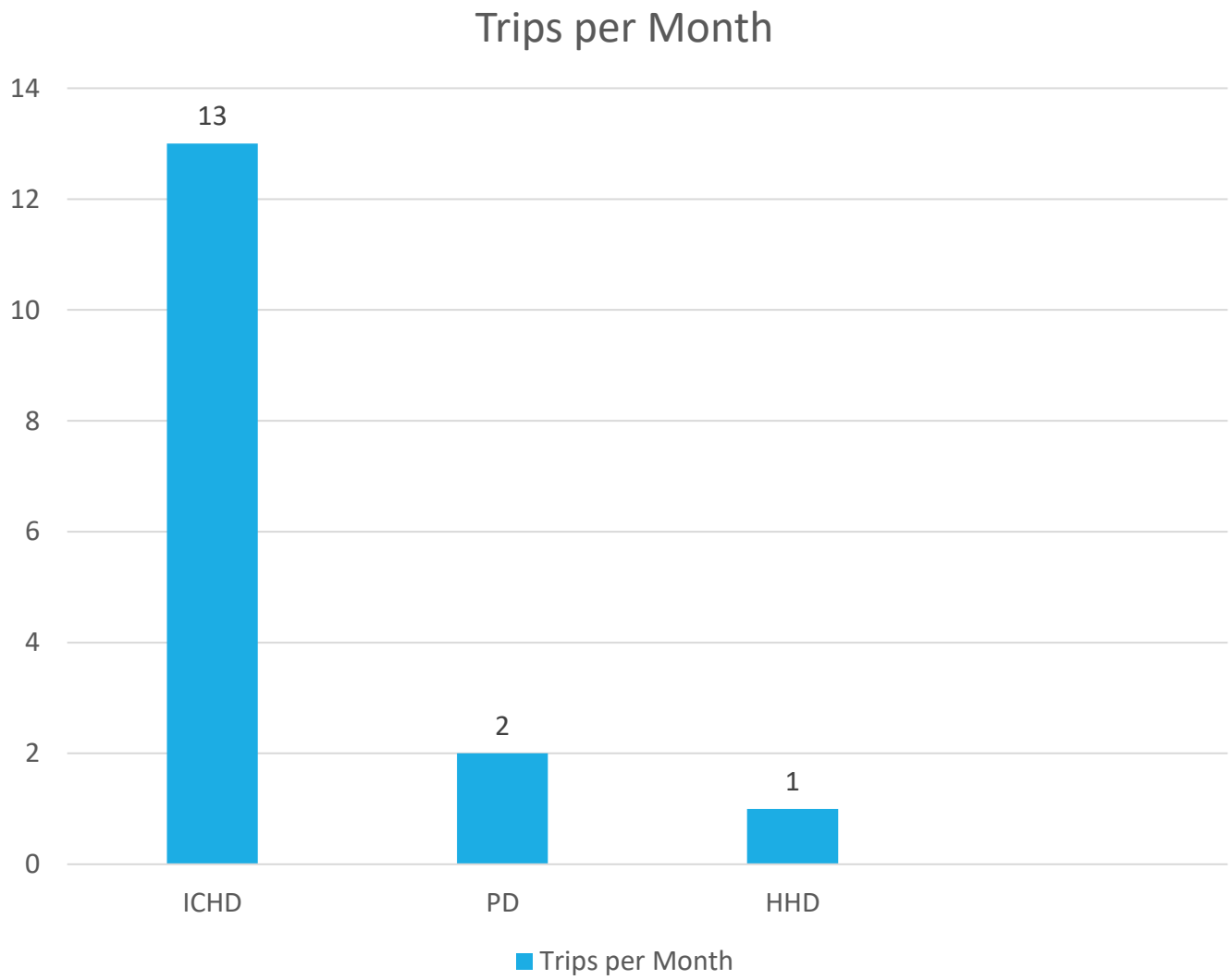
22% **increased risk of death if 7 – 12 hours**

47% **increased risk of death if >12 hours**

References 2. Rayner HC, Zepel L, Fuller DS, et al. Recovery time, quality of life, and mortality in hemodialysis patients: the Dialysis Outcomes and Practice Patterns Study (DOPPS). Am J Kidney Dis. 2014;64(1):86-94. Model 1 includes sex, age, dialysis vintage, body mass index, catheter use, and 14 summary comorbidities. Increased risk of death relative to 2 – 6 hours of recovery time.

Patients should consult with their physician to determine the medical necessity of more frequent dialysis

Transportation



“In House” Dialysis for LTC Facility

- Staff assisted home hemodialysis
- Removes transportation barriers and expenses
- Onsite coordination and collaboration between dialysis and SNF staff
- Dialysis patients don’t miss meals and medications
- Ability to fully engage in rehab schedules
- Improved quality of life

Why Transitional Care Unit (TCU)?

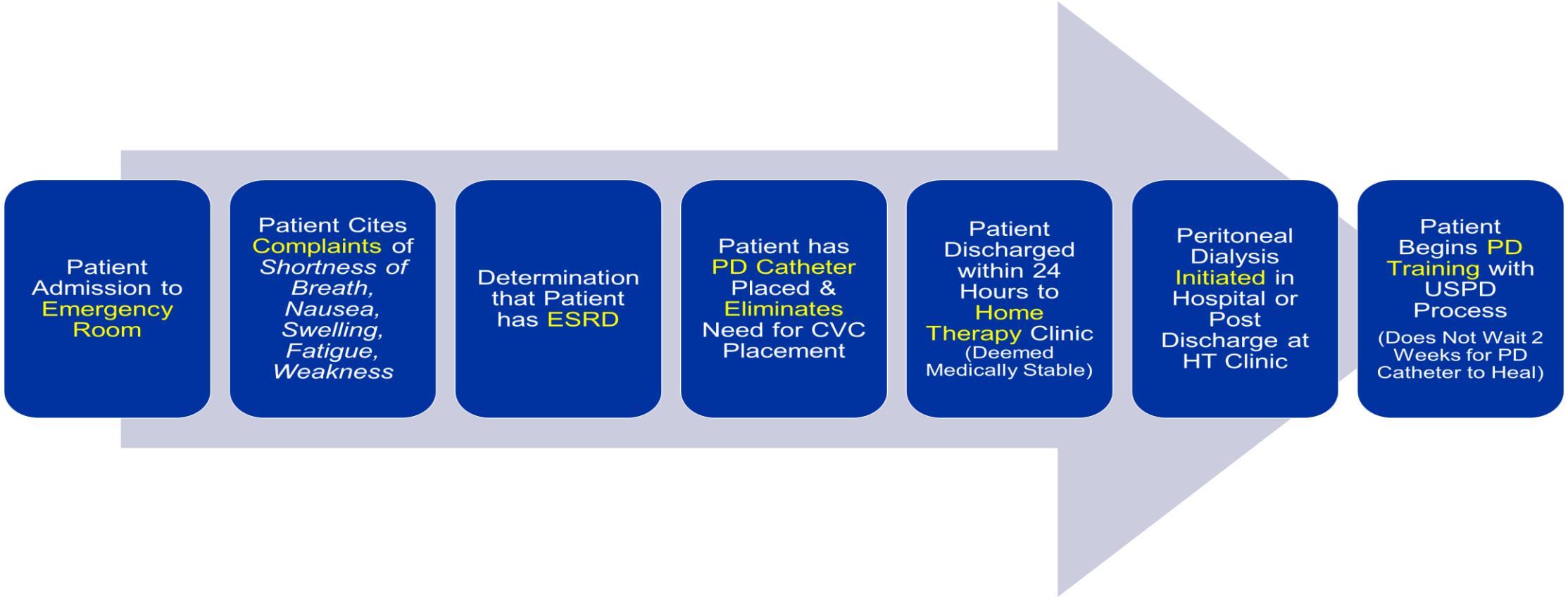
- Transitional Care is a patient centric program designed to “ease” patients into dialysis.
- TCU provides a “soft landing” into dialysis for a set amount of time (approx. 4 weeks).
- More frequent hemodialysis treatment is made available to the give the patient time to adjust to dialysis both physically and mentally.
- Preference to offer more frequent therapy, as medically necessary, avoiding two-day skip if facility can accommodate.

TCU Patient Education Curriculum

Best practice indicates that offering a 4-week education curriculum will provide patients in transition with sufficient time to:

- Recover medically
- Adjust emotionally
- Become educated on all dialysis modality options, including transplantation
- Make an informed modality decision best suited for their future and lifestyle

Urgent Start Peritoneal Dialysis



Home Dialysis

Advantages During COVID-19 Pandemic

- Decreases potential for community exposure
- Decreases potential for incenter exposure
- Greatly reduces need to use public transportation
- Medical Supplies delivered to your home
- Exposure of COVID-19 to family members greatly reduced
- Travel to the clinic only once per month

Questions to Ask Ourselves

- Do we, as health care providers, enable our patients to depend on us to direct their medical care?

- How do we empower a vulnerable population with multiple psychosocial confounders to take control of their own health issues?

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Summary

- Patients may progress through several different modalities during their life span on dialysis
- Dialysis providers are required to present all options
- PD may be the most appropriate modality to meet a patient's individual medical needs
- Peritoneal dialysis is a great first option
- Patients who transition from peritoneal dialysis can stay at home when transitioning to home hemodialysis

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Website Resources

National Kidney Foundation	https://www.kidney.org/
American Association of Kidney Patients (AAKP)	https://aakp.org/
Life Options	https://lifeoptions.org/
Home Dialysis Central	https://www.homedialysis.org/

Questions?

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