The Transitional Care Unit: An out of the box approach to expand Home Dialysis

Annual Dialysis Conference
March 12, 2017
Long Beach, California

Robert S. Lockridge, Jr. M.D.
Retired Clinical Nephrologist Lynchburg Nephrology Physicians and Department of Nephrology at the University of Virginia
Medical Director of Home Therapies in Lynchburg 1982-2013

What was US patients modality selection in 1996, 2006 and 2014?

Incident Dialysis Patients by Modality in the US 1996, 2006 and 2014

	In Center	Peritoneal	Home HD
1996	86%	12.6%	1.2%
2006	93.5%	6.3%	0.18%
2014	90%	9.6%	0.3%

USRDS 2016

Prevalent Dialysis Patients by Modality in the US 1996, 2006 and 2014

	In Center	Peritoneal	Home HD
1996	85%	14%	1%
2006	91%	8%	0.08%
2014	88%	9.6%	1.8%

USRDS 2016

What is the US dialysis patients status in the first year of dialysis?

50% of patients “Crash” into dialysis

Patients are frightened because they are…

Overwhelmed, anxious, fear of dialysis

Fluid overload & decreased mental capacity

Poor health with lack of disease state awareness

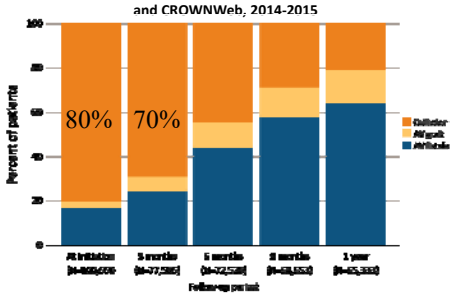
and they need …

Time to adjust mentally

Therapy to address medical needs

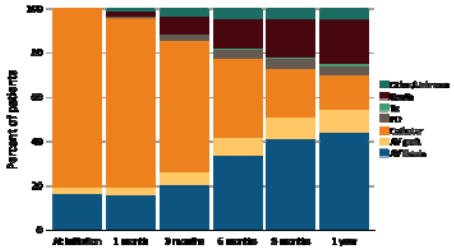
Modality education with "Informed Choice"

Figure 4.7.a Change in type of vascular access during the first year of dialysis among patients starting ESRD via hemodialysis in 2014 quarterly: (a) type of vascular access in use (cross-sectional), ESRD Medical Evidence form (CMS 2728) and CROWNWeb, 2014-2015



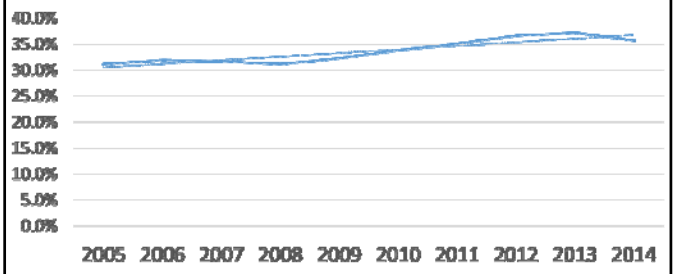
Data Source: Special analyses, USRDS ESRD Database. Data from January 1, 2014 to December 31, 2014: a) Medical Evidence form (CMS 2728) at initiation and CROWNWeb for subsequent time periods. Patients with a maturing AV fistula / AV graft with a catheter in place were classified as having a catheter. Abbreviations: AV, arteriovenous; CMS, Centers for Medicare & Medicaid; ESRD, end-stage renal disease; HD, hemodialysis; PD, peritoneal dialysis.

Figure 4.7.b Change in type of vascular access during the first year of dialysis among patients starting ESRD via hemodialysis in 2014 quarterly: (b) longitudinal changes in vascular access use and other outcomes, ESRD Medical Evidence form (CMS 2728) and CROWNWeb, 2014-2015



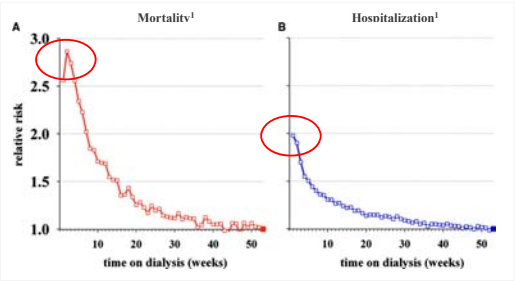
Data Source: Special analyses, USRDS ESRD Database. Data from January 1, 2014 to December 31, 2014: (b) ESRD patients initiating hemodialysis (N =102,367). Patients with a maturing AV fistula / AV graft with a catheter in place were classified as having a catheter. The apparent decrease in arteriovenous fistula and arteriovenous graft use at 1 month is related to missing data due to the different data sources used for incident and prevalent patients. Abbreviations: AV, arteriovenous; CMS, Centers for Medicare & Medicaid; ESRD, end-stage renal disease; HD, hemodialysis; PD, peritoneal dialysis.

Adult Hemodialysis Patients with Fistula or a Maturing Fistula as the primary vascular access at the start of RRT



2016 Annual Data Report, Vol 2, ESRD, Ch 2

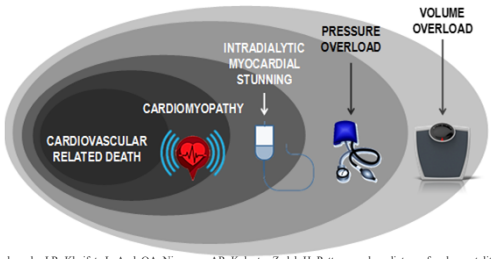
"Heightened Period of Risk"
The First 90 Days of Starting Dialysis



Reference: 1. Chan KE, Maddux FW, Tolkoff-Rubin N, Karumanchi SA, Thadhani R, Hakim RM. Early outcomes among those initiating chronic dialysis in the United States, Clin J Am Soc Nephrol 6: 2642-2649, 2011.

Cardiovascular Disease
#1 Cause of Death in Incident Patients

Effective fluid management is associated with better cardiovascular outcomes

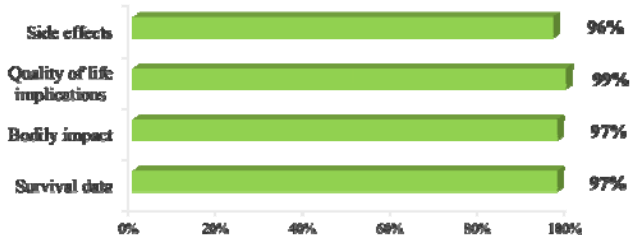


Reference: 1. Lukowsky LR, Kheifets L, Arah OA, Nissenson AR, Kalantar-Zadeh H. Patterns and predictors of early mortality in incident haemodialysis patients: new insights. Am J Nephrol 2012;35:548-58

What do patients want to hear about Renal Replacement Therapies and what do they hear?

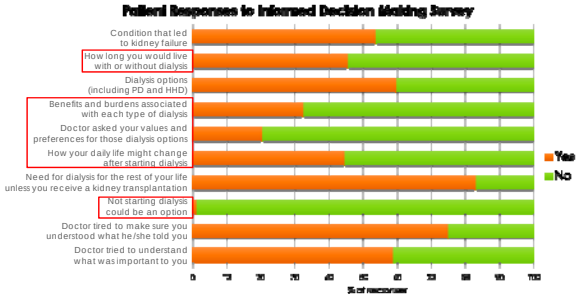
What Do Patients Want to Hear?

Patients want to be informed about modality options



Reference: 1. Fine A et al. NEPHROLOGISTS SHOULD VOLUNTARILY DIVULGE SURVIVAL DATA TO POTENTIAL DIALYSIS PATIENTS: A QUESTIONNAIRE STUDY. Perit Dial Int. 2005;25:269-273.

Do Patients Feel Informed?



Song M-K, et al. Nephrol Dial Transplant. 2013;28(11):2815-2823

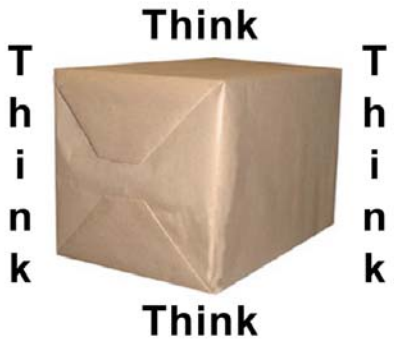
Does education of the patient about Renal Replacement Therapy Options work?

DaVita “Kidney Smart” was seen on average by 25 to 30% of all new DaVita in-center starts in 2016

Fresenius “TOPs” was seen on average by 25 to 30% of all new FMC in-center starts in 2016

If patients are exposed to “Kidney Smart” or “TOPs” they are 4 x’s more likely to choose Home Dialysis

"Thinking Outside the Box"

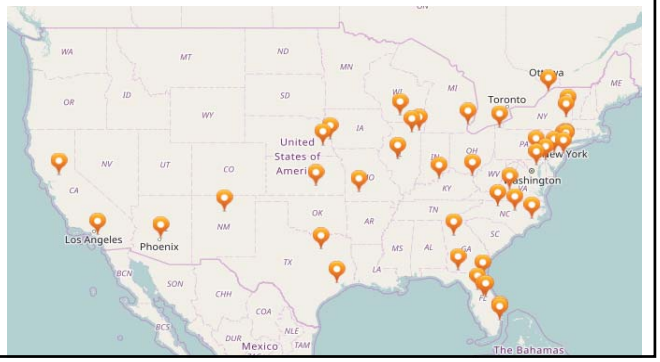


The concept of a “Transitional Care Unit”

The evolution of the Transitional Care Unit

- Dr. Deborah Zimmerman & Renal Staff at Ottawa Hospital, Ottawa, Ontario 2006
- Dr. Gavril Hercz and Renal Staff at Humber River Hospital, Toronto, Ontario 2012
- NxStage started "VIP" or "Soft Landing" 2014
- Dr. Natalie Borman and Renal Staff in Porthmouth, England 2015
- Lockridge: "Using a transitional start dialysis unit to improve modality selection" Nephrology News Issue 2/4/16

Over 40 centers in the US are at some stage of implementing the concept of a TCU



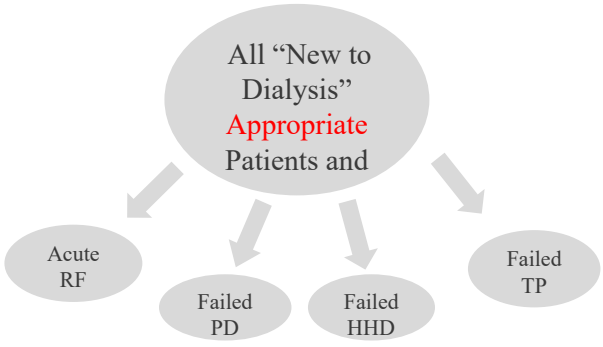
The definition of a "Transitional Care Unit"

A patient centered 4 week educational program for all appropriate patients starting dialysis…

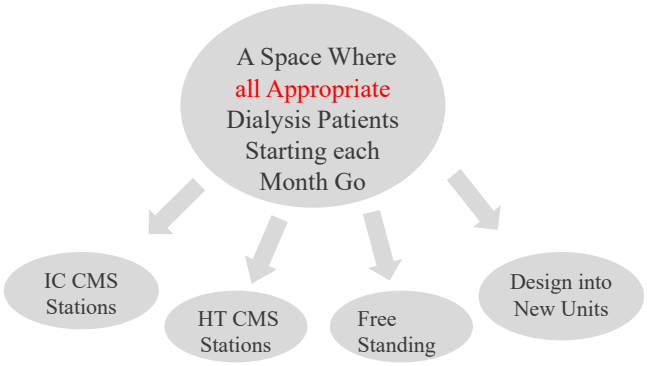
- Dialyze the patient with a gentler, slower and more frequent prescription using your home dialysis machine of choice eliminating the "Two Day Killer Gap"
- First focus on fears and pre-conceived ideas about dialysis
- Find out about lifestyle and medical goals of the patient at initiation of dialysis
- Renal replacement education including transplant education if appropriate, home dialysis education, both HHD and PD & in-center education
- Access and economic education

Why should we have a transitional care unit?

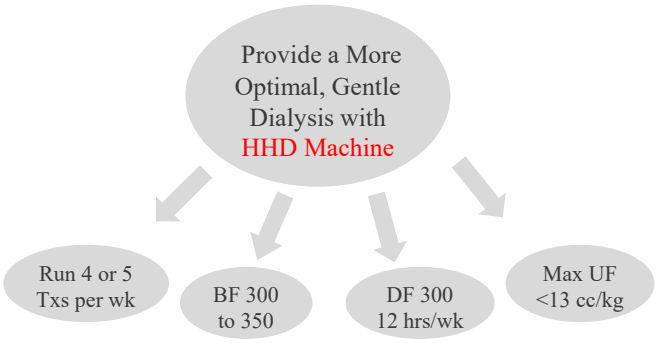
Who should be in a transitional care unit if they have not chosen a Home Therapy?



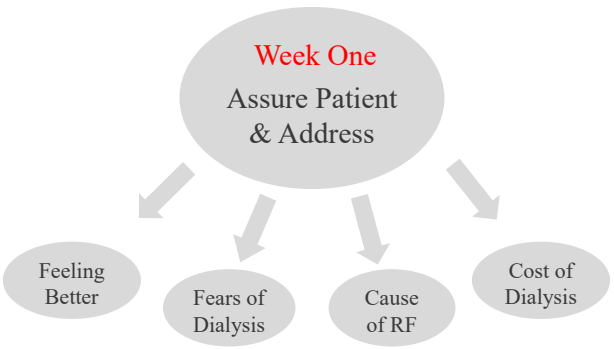
Where should transitional care unit be located?



How does the transitional care unit work?



Educational program for transitional care unit



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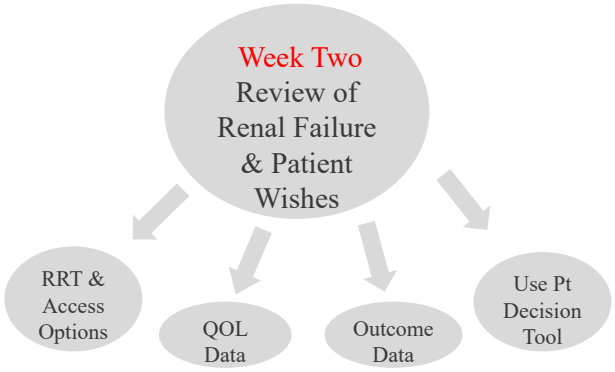
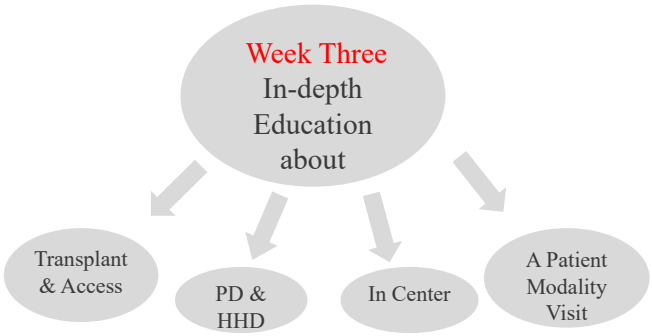
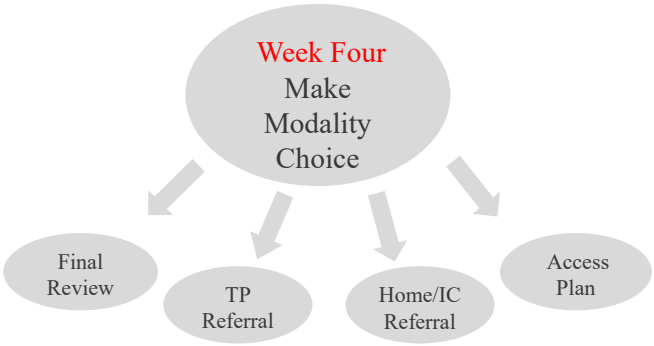


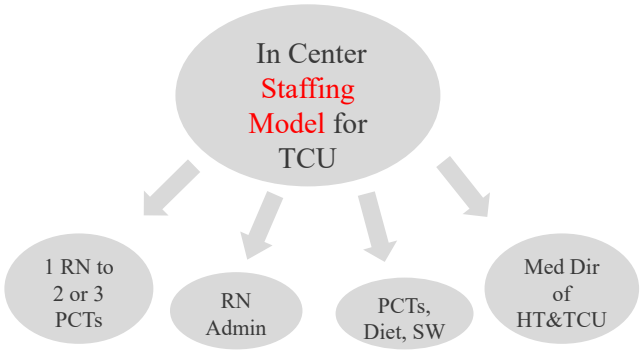
Educational program for transitional care unit



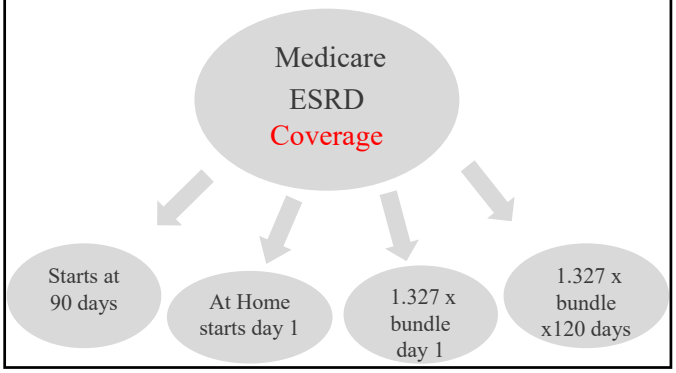
Educational program for transitional care unit



What is the staffing of a "Transitional Care Unit?



What are the economics of a TCU?



This is an exciting time for the "Renal Community"!

The "Transitional Care Unit" provides:

- Innovative, patient-centric approach designed to address clinical and emotional challenges faced by all ESRD patients in transition
- Educates incident patients to make an informed decision about the modality that best suits their goals
- Develops and implements an "Access Plan" that best suits patient goals
- Avoids the "In Center experience" at the initiation of dialysis
- Ability to use existing infrastructure and staff to develop a TCU
- Opportunity for growth across all patient segments: ICHD, PD & HHD

Thanks to the "Transitional Dialysis Care Demonstration Initiative"

- Dr. Brendan Bowman, University of Virginia (VA)
- Debbie Cote, University of Virginia (VA)
- Dr. Jose Morfin, UC-Davis (CA)
- Rich Pandel, Agarwal Renal Center (NY)
- Dr. Melvin Seek, Ocala Kidney Group (FL)
- Deb Siler, NP FMC-Raleigh (NC)
- Dr. Gentiana Voinescu-Nephrologist Santa Fe, (NM)
- Dr. Bob Lockridge, Adviser
- Michelle Carver, Sr. Director of Clinical Education for National Accounts, NxStage Medical
- Nick Castellano, Facilitator, NxStage Medical

Thanks to people starting or doing a TCU in the US

Appendix for the 4 week education program

Week 1 Plan

Patient Education

Comfort & Assure Patient

- Provide emotional support and comfort patient
- Determine if patient would like a family member involved in the educational process
- Briefly introduce how dialysis works
- Address patient/family member initial questions, fears & concerns
- Educate patient/family member on the cause of their ESRD
- Address pre-conceived ideas about dialysis & introduction to staff
- Assure patient that their insurance will pay (Medicare, commercial, etc.)

Patient Care Plan

Initiate & Optimize Therapy

- Initiate therapy with the transition team
- Stabilize the patient clinically
- Evaluate target weight & blood pressure medications
- Begin to establish vascular access plan (venous mapping & surgical appointment)

Week 1 Patient Education Plan:

Comfort & Assure Patient

Total Weekly Duration: **170 Minutes**

*No tactical daily session should last more than 30 minutes at a time *Patient should arrive 1 hour prior to their first treatment

GOAL	TACTICS	APPROX. TIME
Provide emotional support and comfort patient	• Briefly introduce patient to social worker (Social Worker)	10 Minutes
Determine if patient would like a family member involved in the educational process	• Conversation with patient regarding family/friend they may want involved (In Center RN) • Encourage patient to include a family member or friend (In Center RN)	5 Minutes
Briefly introduce how dialysis works	• As procedures are performed, such as obtaining vital signs, explain why procedures are being done (PCT)	30 Minutes
Address patient/family member initial questions, fears & concerns	• Review Kidney School Module 5 – *Coping with Kidney Disease* (In Center RN) • Objectives: (1) Emotions, (2) Asking for Help, and (3) Recognizing and dealing with depression	30 Minutes
	• Allow patient/family to ask initial questions (economic, social, etc.) (In Center RN)	30 Minutes
Educate patient/family member on the cause of their ESRD	• Review Kidney School Module 1 – *How They Work, How They Fail, and What You Can Do* (In Center RN) • Objectives: (1) Normal Kidney Function, (2) Warning Signs of Chronic Kidney Disease, and (3) Slowing the Progression of Kidney Disease	20 Minutes
Address pre-conceived ideas about dialysis & introduction to staff	• Briefly introduce patient/family member to each relevant staff member (In Center RN) • Review Kidney School Module 3 – Working With Your Healthcare Team (In Center RN) • Objectives: (1) Care Team Members and Their Roles & Job Descriptions, (2) Role of the Dialysis Patient, (3) How to Talk To Your Doctor and Ask Questions, and (4) Understanding Professional Credentials	30 Minutes
Assure patient their insurance will pay (Medicare, commercial, etc.)	• Social Worker provides patient/family member with assurance for how insurance will cover patient's expenses (Social Worker)	15 Minutes

Week 2 Plan

Patient Education

Education About Key Topics

- Allow patient/family member to ask questions prior to week 2.
- Educate about fluid, infection, and medication management
- Discuss patient short & long-term lifestyle goals
- Provide basic modality and access education: PD, HHD; transplant and in-center
- Present outcomes data, quality of life data
- Review patient insurance benefits

Patient Care Plan

Begin Long-Term Care Plan

- Discuss vascular access options in detail
- Monitor blood pressure and adjust antihypertensive medications, as needed
- Prepare and present patient with potential benefit-related documentation

Week 2 Patient Education Plan:
Education about Key Topics

Total Weekly Duration: **270 Minutes**

*No tactical daily session should last more than 30 minutes at a time

GOAL	TACTICS	APPROX. TIME
Allow patient/family member to ask questions prior to week 2	• Address patient/family member questions based on week 1 (In Center RN)	30 Minutes
Educate on fluid, infection, and medication management	• Review Kidney School Module 4 – *Following Your Treatment Plan* (In Center RN) • Objectives: (1) Importance of following the treatment plan, (2) Elements of the treatment plan (dialysis prescription), (3) Getting all prescribed treatment time, (4) Managing medications, (5) Managing diet and fluids, (6) Fighting thirst, (7) CKD 3 & 4 diet, (8) Access care tips, (9) PD catheter care tips	90 Minutes
Discuss patient short & long-term lifestyle goals	• Have patient complete "My Life, My Dialysis Choice" via: https://mydialysischoice.org/ (Patient completes independently)	30 Minutes
Provide basic modality and access education: PD, HHD; transplant and in-center	• Review Kidney School Module 2 – *Treatment Options For Kidney Failure* (In Center RN) • Objectives: (1) What does dialysis do?, (2) When to start dialysis, (3) Peritoneal dialysis—how it works, (4) Hemodialysis—how it works, (5) Transplant—how it works, (6) Pro & con table for 5 modalities, (7) Modality preference checklists, (8) Choosing no treatment, (9) 6 principles for living well with kidney disease, (10) Vascular access (brief discussion of types)	60 Minutes
Present outcomes data, quality of life data	• Read and present study to patient/family member (We will get study) (In Center RN)	30 Minutes
Review Patient Insurance Benefits	• Social Worker provides patient/family member with a more thorough overview of insurance benefits (Social Worker) • Allow patient to ask questions regarding insurance coverage (Social Worker)	30 Minutes

Week 3 Plan

Patient Education

In-Depth Modality Education

- Allow patient/family member to ask questions prior to week 3
- In-depth education (including access) on:
  - PD
  - HHD
  - In-Center
  - Transplant
- Patient/family member discusses modalities with a PD, HHD, In-Center, & Transplant patient
- Financial education regarding dialysis therapy (water consumption, transportation to In-Center, etc..)

Patient Care Plan

Ensure Clinical & Emotional Stability of Patient

- Finalize vascular access plan
- Assess target weight, RRT, & medication regimen
- Evaluate delivered dose of dialysis

Week 3 Patient Education Plan:
In-depth Modality Education

Total Weekly Duration: **320 Minutes**

*No tactical daily session should last more than 30 minutes at a time

GOAL	TACTICS	APPROX. TIME
▪ **Allow patient/family member to ask questions prior to week 3**	• Address patient questions based on week 2 (In Center RN)	30 Minutes
▪ **In-depth education (including access) on:** ▪ **PD** ▪ **HHD** ▪ **In-Center** ▪ **Transplant**	• Provide and review Home Dialysis Comparison Chart (Home RN) (http://www.homedialysis.org/documents/ModalityComparison.pdf)	20 Minutes
	• Show patient a PD cycler, catheter, etc… (Home RN)	15 Minutes
	• Further show and explain NxStage HHD (system, bags, Pureflow, etc..) (PCT)	15 Minutes
	• Discuss travel opportunities using various modality options (Home RN)	30 Minutes
	• Discuss various forms of HHD (nocturnal, short-daily, in-center etc.) (Home RN)	30 Minutes
	• Discuss various forms of PD (CAPD and CCPD) (Home RN)	30 Minutes
	(Home RN)	15 Minutes
	• Review Kidney School Module 8 – *Vascular Access: A Lifeline for Dialysis* (In Center RN) • Objectives: (1) Types of vascular access for hemodialysis, (2) Catheters—access for PD, (3) Deciding about an access, (9) Self-cannulation and the buttonhole technique	30 Minutes
Patient/family member discusses modalities with a PD, HHD, In-Center, & Transplant patient	• Introduce patient/family member to other patients on all dialysis modalities (in-person), even if patient is leaning towards a specific modality (Patient) • Patient advocates must be enthusiastic and factual about their modalities (Patient)	90 Minutes
Financial education regarding dialysis therapy (water consumption, transportation, etc.)	• Social Worker provides patient/family member with an overview (Social Worker)	45 Minutes

Week 4 Plan

Patient Education

Patient Modality Choice

- Allow patient/family member to ask questions prior to week 4
- Determine patient's modality preference
- Reassure patient that all options remain available
- Teach patient dietary restrictions
- If patient is interested in transplant, refer to appropriate transplant centers
- If patient chooses a home modality, refer them to helpful resources

Patient Care Plan

Complete Patient Care Planning

- Ensure patient comprehends their vascular access plan
- Refer to PD or HHD training program or In-Center facility closest to home and schedule visit
- Schedule home visit, if appropriate
- Re-evaluate transportation needs, if In-Center
- Ensure necessary insurance documentation is completed by patient (2728 FORM)

Week 4 Patient Education Plan:

Patient Modality Choice

Total Weekly Duration: **175 Minutes**

*No tactical daily session should last more than 30 minutes at a time

GOAL	TACTICS	APPROX. TIME
Allow patient/family member to ask questions prior to week 4	• Address patient/family member questions based on week 3 (In Center RN)	30 Minutes
Determine patient's modality preference	• Conversation with patient/family member to select modality (Physician)	10 Minutes
Reassure patient/family member that all options remain available	• Conversation explaining patient can change choice, if desired (Physician)	10 Minutes
Teach patient/family member dietary restrictions (Customized based on modality choice)	• Review Kidney School Module 9 – *Nutrition and Fluids For People On Dialysis* (Dietitian) ◦ Objectives: (1) Calories and calorie requirements, (2) Food value chart and food groups, (3) Getting the right amounts of nutrients (protein, fats, and carbohydrates), (4) Meal planning & estimating portion size, (5) Meal-planning grid, (6) Protein and vitamin supplements, (7) Eating out, (8) Tips for vegetarians, (9) Renal bone disease, (10) Binders and antacids	90 Minutes
If patient is interested in transplant, refer to appropriate transplant centers	• Provide patient with transplant center information (Physician)	30 Minutes (If Needed)

If patient chooses a home modality, refer them to helpful resources	▪ Share at least the 2 below references: (Home RN)
	  ▪ http://homedialyzorsunited.org/
	  ▪ http://www.homedialysis.org/
		5 Minutes (If Needed)

Educational & Dialysis Staffing requirements

Staff Member	Week 1	Week 2	Week 3	Week 4	Total
PCT	30 Minutes		15 Minutes		45 Minutes
In Center RN	115 Minutes	210 Minutes	60 Minutes	30 Minutes	415 Minutes
Dietitian				90 Minutes	90 Minutes
Social Worker	25 Minutes	30 Minutes	45 Minutes		100 Minutes
Home RN			140 Minutes	5 Minutes	145 Minutes
Physician				50 Minutes	50 Minutes
TOTAL	170 Minutes	240 Minutes	260 Minutes	175 Minutes	845 Minutes

*If a Financial Advisor is on staff, they may assume some responsibilities of the social worker

Staffing model to provide dialysis care is 1 RN to 2 or 3 PCTs

Questions

boblockridge@gmail.com