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

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Medical Director of Home Therapies in Lynchburg 1982-2013

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

<table>
<thead>
<tr>
<th>Year</th>
<th>In Center</th>
<th>Peritoneal</th>
<th>Home HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>86%</td>
<td>12.6%</td>
<td>1.2%</td>
</tr>
<tr>
<td>2006</td>
<td>93.5%</td>
<td>6.3%</td>
<td>0.18%</td>
</tr>
<tr>
<td>2014</td>
<td>90%</td>
<td>9.6%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>
### Prevalent Dialysis Patients by Modality in the US 1996, 2006 and 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>In Center</th>
<th>Peritoneal</th>
<th>Home HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>85%</td>
<td>14%</td>
<td>1%</td>
</tr>
<tr>
<td>2006</td>
<td>91%</td>
<td>8%</td>
<td>0.08%</td>
</tr>
<tr>
<td>2014</td>
<td>88%</td>
<td>9.6%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

**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 analysis, 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 plugging AV fistula/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 analysis, 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/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

Cardiovascular Disease
#1 Cause of Death in Incident Patients

Effective fluid management is associated with better cardiovascular outcomes


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

- Side effects: 90%
- Quality of life implications: 99%
- Bodily impact: 97%
- Survival data: 97%


Do Patients Feel Informed?

- Doctor tried to understand what was important to you
- Doctor tried to make sure you understood what he/she told you
- Not starting dialysis could be an option
- Need for dialysis for the rest of your life unless you receive a kidney transplantation
- How your daily life might change after starting dialysis
- Doctor asked your values and preferences for those dialysis options
- Benefits and burdens associated with each type of dialysis
- Dialysis options (including PD and HHD)
- How long you would live with or without dialysis
- Condition that led to kidney failure
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**

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**Why should** we have a transitional care unit?

In the First 90 Days Patients Have Higher Risk of

- Death
- Hospital Admits
- High Anxiety
- Access Issues

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

All “New to Dialysis” **Appropriate** Patients and

- Acute RF
- Failed PD
- Failed HHD
- Failed TP
**Where should** transitional care unit be located?

- A Space Where all Appropriate Dialysis Patients Starting each Month Go
  - IC CMS Stations
  - HT CMS Stations
  - Free Standing
  - Design into New Units

**How does** the transitional care unit work?

- Provide a More Optimal, Gentle Dialysis with HHD Machine
  - Run 4 or 5 Txs per wk
  - BF 300 to 350
  - DF 300 12 hrs/wk
  - Max UF <13 cc/kg

**Educational program for** transitional care unit

- Week One Assure Patient & Address
  - Feeling Better
  - Fears of Dialysis
  - Cause of RF
  - Cost of Dialysis
What is the staffing of a “Transitional Care Unit?”

In Center Staffing Model for TCU

1 RN to 2 or 3 PCTs
RN Admin
PCTs, Diet, SW
Med Dir of HT&TCU

What are the economics of a TCU?

Medicare ESRD Coverage

Starts at 90 days
At Home starts day 1
1.327 x bundle day 1
1.327 x bundle x120 days

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**

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

<table>
<thead>
<tr>
<th>GOAL</th>
<th>ACTIVITY</th>
<th>APPROX TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide emotional support and comfort patient</td>
<td>Briefly introduce patient to social worker (Social Worker)</td>
<td>10 Minutes</td>
</tr>
</tbody>
</table>
| 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 | No procedures or 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 |
|  | Briefly introduce patient/family member to each relevant staff member (In Center RN) | 10 Minutes |
| Address pre-conceived ideas about dialysis & introduction to staff | 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 |

**Total Weekly Duration:** 170 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**

<table>
<thead>
<tr>
<th>GOAL</th>
<th>TACTICS</th>
<th>APPROX. TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow patient/family member to ask questions prior to week 2</td>
<td>Address patient/family member questions based on week 1 (In-Center RN)</td>
<td>30 Minutes</td>
</tr>
<tr>
<td>Educate on fluid, infection, and medication management</td>
<td>Review Kidney School Module 4 – Following Your Treatment Plan (In Center RN)</td>
<td>90 Minutes</td>
</tr>
<tr>
<td>Discuss patient short &amp; long-term lifestyle goals</td>
<td>More patient examples (No Life, My Diabetes Journey) (Patient completes independently)</td>
<td>30 Minutes</td>
</tr>
<tr>
<td>Provide basic modality and access education: PD, HHD, In-Center, &amp; Transplant</td>
<td>Review Kidney School Module 2 – Treatment Options For Kidney Failure (In Center RN)</td>
<td>90 Minutes</td>
</tr>
<tr>
<td>Present outcomes data, quality of life data</td>
<td>Read and present study to patient/family member (We will get study) (In Center RN)</td>
<td>30 Minutes</td>
</tr>
<tr>
<td>Review patient Insurance Benefits</td>
<td>Social Worker provides patient/family member with a more thorough overview of insurance benefits (Social Worker)</td>
<td>30 Minutes</td>
</tr>
</tbody>
</table>

**Total Weekly Duration:** 270 Minutes

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**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

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**Week 3 Patient Education Plan:**

**In-Depth Modality Education**

<table>
<thead>
<tr>
<th>GOAL</th>
<th>TACTICS</th>
<th>APPROX. TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow patient/family member to ask questions prior to week 3</td>
<td>Address patient questions based on week 2 (In-Center RN)</td>
<td>30 Minutes</td>
</tr>
<tr>
<td>In-depth education (including access) on:</td>
<td>Provide and review Home Dialysis Comparison Chart (Home RN)</td>
<td>20 Minutes</td>
</tr>
<tr>
<td>PD</td>
<td>Short patient AP (cycler, container, etc.) (Home RN)</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>HHD</td>
<td>Further show and explain Needles (HHD) systems, bags, Freedom, etc. (HHD)</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>In-Center</td>
<td>Review various forms of HHD documented, short daily, access etc (Hosp RN)</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>Transplant</td>
<td>Review various forms of PD (CAPD) and CCPD (Home RN)</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>Patient/family member discusses modalities with a PD, HHD, In-Center, &amp; Transplant patient</td>
<td>Review Kidney School Module 6 – Vascular Access: A Lifeline for Dialysis (In Center RN)</td>
<td>30 Minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 Minutes</td>
</tr>
</tbody>
</table>

**Total Weekly Duration:** 320 Minutes
Week 4 Plan

### 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**

<table>
<thead>
<tr>
<th>GOAL/TACTICS</th>
<th>APPROX. TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow patient/family member to ask questions prior to week 4</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>Determine patient’s modality preference</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>Reassure patient/family member that all options remain available</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>Teach patient/family member dietary restrictions (customized based on modality choice)</td>
<td>90 Minutes</td>
</tr>
<tr>
<td>If patient is interested in transplant, refer to appropriate transplant centers</td>
<td>30 Minutes</td>
</tr>
<tr>
<td>If patient chooses a home modality, refer them to helpful resources</td>
<td>5 Minutes</td>
</tr>
</tbody>
</table>

Total Weekly Duration: 175 Minutes

### Educational & Dialysis Staffing requirements

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCT</td>
<td>30 Minutes</td>
<td>15 Minutes</td>
<td>45 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Center RN</td>
<td>115 Minutes</td>
<td>210 Minutes</td>
<td>60 Minutes</td>
<td>30 Minutes</td>
<td>415 Minutes</td>
</tr>
<tr>
<td>Dietitian</td>
<td>90 Minutes</td>
<td>90 Minutes</td>
<td>180 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Worker</td>
<td>25 Minutes</td>
<td>30 Minutes</td>
<td>45 Minutes</td>
<td>100 Minutes</td>
<td></td>
</tr>
<tr>
<td>Home RN</td>
<td>140 Minutes</td>
<td>5 Minutes</td>
<td>145 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td>50 Minutes</td>
<td>50 Minutes</td>
<td>100 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>170 Minutes</td>
<td>240 Minutes</td>
<td>260 Minutes</td>
<td>175 Minutes</td>
<td>845 Minutes</td>
</tr>
</tbody>
</table>

*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