TRANSITIONAL UNITS: (HOW) DO THEY REALLY WORK?

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CONFLICT OF INTEREST

Stacy Cigliana
Recent FT Employee
Fresenius/NxStage,
No current conflicts

Michael Kraus -
Associate CMO -
Fresenius Kidney Care
WHY SHOULD YOU GROW HOME

• “RIGHT THING” TO DO FOR THE RIGHT PATIENT
  • RIGHT PRESCRIPTION, RIGHT THERAPY, EVERYDAY

• HOME THERAPIES PERFORMED WELL CAN REDUCE HOSPITALIZATIONS AND DECREASE OVERALL COSTS

• EXECUTIVE ORDER AND ADVANCING AMERICA’S KIDNEY HEALTH PROMOTE GROWTH OF HOME DIALYSIS AND TRANSPLANT
  • PAYMENT IN FEE FOR SERVICE WILL BE DETERMINED BY HOME DIALYSIS GROWTH AND PENETRATION (PROPOSED 21 % SWING IN PAY)
  • VALUE BASED CARE MODELS WILL BENEFIT BY INCREASED HOME AND DECREASED HOSPITALIZATIONS
HOW CAN WE GET THERE?

TO GROW HOME TO TARGETS, GROWTH WILL BE DEPENDENT ON INCREASING HOME IN INCIDENT PATIENTS AND DRIVING HOME IN PREVALENT PATIENTS.

• NEED TO TARGET > 50% OF INCIDENT PATIENTS TO HOME IN THE FIRST 90 DAYS
  • CKD EDUCATION
  • URGENT START PD
  • TRANSITIONAL CARE UNITS
  • PEER MENTORING
  • ALL WORK TOGETHER, NOT ONE OR ANOTHER

• NEED TO MOVE PATIENTS FROM INCENTER TO HOME
  • EXPERIENCE THE DIFFERENCE, TRANSITIONAL CARE UNITS , EDUCATION IN THE CHAIR, PEER MENTORING

• KEEP A GREATER PERCENTAGE PD “FAILURE” PATIENTS HOME AND MOVE FAILING TRANSPLANT HOME
  • TRANSITIONAL CARE, PEER MENTORING
# Transition Points in CKD and Dialysis

## Advanced NDD-CKD to Dialysis
- Dialysis modality (HD vs PD)
- Format (in-center vs home)
- Frequency (incremental vs conventional vs frequent)

## Transplant
- Pre-emptive vs wait-list
- Kidney alone
- Multi-organ

## Across Modalities, Formats, or Frequency
- HD ↔ PD
- In-center ↔ home
- Incremental to conventional or frequent

## In & Out of the Hospital or Skilled Nursing Facility
- Acute to Chronic RRT
- In-center or home

## Failing Transplant to Dialysis
- Dialysis modality (HD vs PD)
- Format (in-center vs home)
- Frequency (incremental vs conventional vs frequent)

## Withdrawal from RRT
- Partial withdrawal (e.g. hospice)
- Full withdrawal
- Regain kidney function

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BARRIERS TO GOOD CARE

**SICK**

The first two weeks of dialysis are associated with a higher risk of mortality and hospitalization.

**SCARED**

For dialysis patients, the first few weeks are the hardest to cope. Complicated with fear, grief, anxiety, depression and cognitive dysfunction.

**SITUATION**

Factors work against choosing home – unplanned starts, fluid overload, depression/uremia, insufficient time to learn and make decision.
## Concerns Around Transitions in Care

Concerns around transitions in care for physicians and patients are plentiful, but very different.

### Physicians

- Difficult communication with outside providers
- Lack of timely or complete records from other settings, especially hospitals
- Hospitalizations that occur without nephrologist knowledge
- Coordinate with skilled nursing facilities or other care settings
- Inadequate hospital discharge planning and premature discharges
- Medication reconciliation
- Pediatric to adult transitions
- New dialysis staff
- High patient:staff ratios

### Patients

- Lack of preparation for kidney failure
- New or inattentive staff
- Change in dialysis staff
- Changing treatment type or settings
- Getting mixed messages from different practitioners and providers about medical information
- Hospital staff that does not understand the needs of kidney patients
- Hospital staff that does not know how to use dialysis equipment
- Changing dialysis facilities
- Fear of retribution if they complained
TRANSITIONAL CARE UNITS (TCUS)

TCUs are designed to ease patients into dialysis

- Medically stabilize
- Care coordination
- Education
- Emotionally adjust
- Exposure to home modalities
- Make informed modality choice
WHAT PATIENTS SHOULD USE A TCU?

Goal should be that all patient admissions go through a TCU first then go to the in-center or home training clinic closest to their home.
WHAT DOES A TCU LOOK LIKE?

• TYPICALLY, AN IN-CENTER LICENSED STATION PERFORMING IN-CENTER TREATMENTS

• HOME EQUIPMENT AND SUPPLIES ARE OUT FOR PATIENTS TO SEE

• DUMMY TUMMIES AND OTHER VISUAL AIDS ARE AVAILABLE TO TEACH PATIENTS ABOUT THEIR KIDNEY DISEASE AND TREATMENT OPTIONS
DIALYSIS IN A TCU

SUGGESTED HD PRESCRIPTION IN A TCU

• IN-CENTER OR HOME HD MACHINES
• MFD AS PRESCRIBED BY THE PHYSICIAN
• MINIMUM 12 HOURS/WEEK DIVIDED EQUALLY
• NO 2-DAY GAP
• MAXIMUM UFR 10-13 MG/KG/HR
• STANDARD HEPARIN, EPO, IRON, VITAL SIGNS, WEIGHT, AND LABORATORY PROTOCOLS PER UNIT

BOWMAN BT. CLIN J AM SOC NEPHROL. 2019;14(5):765-767
Comprehensive, coordinated care team to support the patient, assess and address psychosocial needs, and ensure appropriate disease and modality education

- Patient and Family
- Physician
- Dietitian
- Home Therapy Staff
- Vascular Access Coordinator
- Social worker
- Technical staff
- Insurance coordinator
- Education coordinator
- In-center staff
| Week 1: Assure Patient | • Explain the cause of their kidney failure  
| | • Explain the costs of dialysis and how it is compensated from patient’s perspective |
| | • Emotionally support patient during the transition period  
| | • Elicit patient’s fears concerning dialysis and address them |
| Week 2: Overview of Kidney Failure and Modality Options | • Review clinical outcomes specific to each modality  
| | • Collaboratively complete a patient-centered modality selection assessment tool |
| | • General review of RRT and access options by modality  
| | • Review QoL aspects of each modality |
| Week 3: In-Depth Education on CKD | • In-center education by the TCU staff; including transportation, schedule, and vacation travel |
| | • TCU patient meets with ICHD, PD, HHD, and transplanted patients to discuss their modality  
| | • Transplantation and access education  
| | • Detailed PD and HHD modality education by home training team |
| Week 4: Make Modality Choice (include family, care partners, TCU team, and physician) | • If patient chooses home, refer to home unit of their choice  
| | • Finalize the access plan for the patient |
| | • Final review of modality and access options  
| | • Refer patient to transplant center of their choice |

*This is a suggested education plan and should be customized to each patient. Topics may be discussed at any time as patient need dictates.*
### TCU Outcomes

- **Few studies have been published on TCU outcomes**
- **Limited data available suggests**
  - ↑ home dialysis utilization
  - ↓ hospitalizations and mortality
  - Shorter transplant referral times
  - Faster AV access placement

<table>
<thead>
<tr>
<th>Center</th>
<th>TCU Program</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Kidney Centers(^2)</td>
<td>2-month education program for new-start patients, 6-station dedicated unit</td>
<td>In the 1(^{st}) year, 62% of patients went home, 24% transitioned to self-care, 10% when in-center.</td>
</tr>
<tr>
<td>Fresenius Medical Care(^3)</td>
<td>Right Start Program: Education from dedicated case manager during in-center treatments</td>
<td>Improved outcomes in anemia, MBD, vascular access, and mortality</td>
</tr>
<tr>
<td>Toronto General(^4)</td>
<td>In-hospital program including 3-5 education sessions for unplanned urgent start patients</td>
<td>35% uptake of home therapies</td>
</tr>
<tr>
<td>Renal Ventures(^5)</td>
<td>RVCARE program assigned a dedicated care partner for first 120 days to coordinate education and care</td>
<td>Improvements in mortality, access placement, and increased PD update</td>
</tr>
<tr>
<td>DaVita(^6)</td>
<td>IMPACT program: 90-day patient management pathway and educational interventions</td>
<td>Improved mortality and preferred access placement compared to propensity score matched cohort</td>
</tr>
<tr>
<td>Mackenzie Health Canada(^7)</td>
<td>TCU with 4 stations using New Start Coordinator for assessment and education. Co-located with HHD training space</td>
<td>52.3% new start patients at the TCU successfully transitioned to home dialysis</td>
</tr>
<tr>
<td>Satellite Healthcare(^8)</td>
<td>Optimal Transitions program has 4 stations using HHD cycler in-center with dedicated nurse and tech.</td>
<td>Of the 15 graduated patients, 47% chose HHD, 27% PD, and 27% ICHD</td>
</tr>
<tr>
<td>Univ of Virginia(^9)</td>
<td>TSU program provides 4-6 weeks 1:1 dialysis education, 4/week in-center dialysis with HHD machine</td>
<td>30.4% of participants chose home therapy; average weekend-IDWG was 32% less; no hospitalizations for volume overload; 12% reduction in HTN medications</td>
</tr>
</tbody>
</table>

\(^1\)BOWMAN 2019, \(^2\)ESCHBACH 1983, \(^3\)WINGARD 2009, \(^4\)RIOUX 2011, \(^5\)REDDY 2012, \(^6\)WILSON 2012, \(^7\)LAU 2016, \(^8\)SCHILLER 2018, \(^9\)BOSE 2019
IDENTIFYING PATIENTS FOR HOME DIALYSIS
**MODALITY SELECTION TOOLS**

**FOR CLINICIANS:** MATCH-D

<table>
<thead>
<tr>
<th>Suitability Criteria for Self Peritoneal Dialysis: CAPD or CCPD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strongly Encourage PD</strong></td>
</tr>
<tr>
<td>Any patient who wants to do PD or has no barriers to it</td>
</tr>
<tr>
<td>Employed full- or part-time</td>
</tr>
<tr>
<td>Student: grade school to high school</td>
</tr>
<tr>
<td>Employer for (child) when one was growing up with disability</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Encourage PD After Assessing and Eliminating Barriers</strong></td>
</tr>
<tr>
<td>Mobility – not a barrier to PD</td>
</tr>
<tr>
<td>Unemployed, low income or no High School diploma – not barriers to PD</td>
</tr>
<tr>
<td>Simple acute conditions such as appendectomy, hernia repair, kidney transplant – not barriers to PD</td>
</tr>
<tr>
<td>Has other/unknown cause barriers – bar from</td>
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<tr>
<td></td>
</tr>
<tr>
<td><strong>May Not Be Able to Do PD (or Will Require a Help)</strong></td>
</tr>
<tr>
<td>Homeless and no supply storage available</td>
</tr>
<tr>
<td>Can’t maintain personal hygiene even after education</td>
</tr>
<tr>
<td>Home a nursing home/hospital: patient/relative won’t consent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suitability Criteria for Self Home Hemodialysis: Conventional, Daily, or Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strongly Encourage Home HD</strong></td>
</tr>
<tr>
<td>Any patient who wants to do home HD or has no barriers to it</td>
</tr>
<tr>
<td>Employed full- or part-time</td>
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<tr>
<td>Lives in a car – walk is very similar to learning home HD</td>
</tr>
<tr>
<td>Caregiver for a child, elderly, or person with disability</td>
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<tr>
<td>Lives off of clinic and/or has unreliable transportation</td>
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<tr>
<td>Student: grade school to high school</td>
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<tr>
<td>Needs/wants to travel for work or entertainment</td>
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<tr>
<td>Wants a flexible schedule for any reason</td>
</tr>
<tr>
<td>Has reacted a transplant</td>
</tr>
<tr>
<td>Has hemophilia, sickle cells, HIV, uncontrolled EPT</td>
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<tr>
<td>Obese/leather, conventional HD or PD are not adequate IT</td>
</tr>
<tr>
<td>Can’t/won’t follow in-center HD diet &amp; fluid limit</td>
</tr>
<tr>
<td>Is pregnant or wants to be IT</td>
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<tr>
<td>Fasting ability with dialysis, helping care or who wants at it</td>
</tr>
<tr>
<td>Wants control, unhappy in-center</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Encourage Home HD After Assessing and Eliminating Barriers</strong></td>
</tr>
<tr>
<td>No employer insurance – not a barrier to nocturnal home HD, which Medicare/Medicaid cover</td>
</tr>
<tr>
<td>Unhealthy – provide hygiene education; assess results</td>
</tr>
<tr>
<td>Has past/present/past/present cause barriers – bar from room of least while consulting/consulting access</td>
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<tr>
<td>Fear or can’t walk/stand – assess lifting ability, offer PT</td>
</tr>
<tr>
<td>Laboratory – use pictures to train, return demonstrations to verify learning, tape recorders for patient records</td>
</tr>
<tr>
<td>Hearing impaired – use light/optimization for alarm</td>
</tr>
<tr>
<td>Depressed, angry, or disruptive – interested control with home HD may help</td>
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<tr>
<td>No help &amp; clinic requires one – reconcilable policy, monitor monitoring, use U-line device to call for help</td>
</tr>
<tr>
<td>Fears – check with local need change medicines</td>
</tr>
<tr>
<td>Can’t/won’t self-administer: use patient monitoring, practice room, local/nursing home, doctor, pharmacist</td>
</tr>
<tr>
<td>No running water, poor water quality, low water pressure – assess machines &amp; water treatment options</td>
</tr>
<tr>
<td>Unlimited space for supplies – must home, 24/7, delivery, consider machines with fewer supply needs</td>
</tr>
<tr>
<td>Drug or alcohol abuse – consider after rehabilitation</td>
</tr>
<tr>
<td>Bedridden and/or has had chemotherapy/ventilator – assess self-care and helper ability</td>
</tr>
<tr>
<td>No drugs for maintenance – consider drug change</td>
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</tbody>
</table>

**FOR PATIENTS:**

- **MY LIFE, MY DIALYSIS CHOICE**

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**Summary**

<table>
<thead>
<tr>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Values</td>
</tr>
<tr>
<td>Week / School</td>
</tr>
<tr>
<td>Hospital Stay</td>
</tr>
<tr>
<td>Travel</td>
</tr>
</tbody>
</table>

**Send Life**

Check all the boxes that apply: keep a copy of the [Life CHOICE](#) guide and send it to a friend.

**Send Life**

1. I use be able to do with a [Life CHOICE](#) guide to help others.
2. I consider daily home HD

**Send Life**

**Medial Education Institute. Methods to Assess Treatment Choices for Home Dialysis; Version 4; 2013; Medical Education Institute. My Life, My Dialysis Choice**

RATIONALE FOR CHOOSING PD FIRST

- PRESERVATION OF RENAL FUNCTION
- PRESERVATION OF QOL AND INDEPENDENCE
- BETTER OUTCOME DATA, ESPECIALLY EARLY IN DIALYSIS
- SAFETY
- SIMPLICITY OF TRAINING
- TIME FOR EDUCATION AND PREPARATION FOR FUTURE THERAPIES:
  - HOME HEMODIALYSIS
  - TRANSPLANTATION
- TIME TO CREATE A NATIVE AV FISTULA AND PREVENT HD CATHETER USE

CHAUDHARY K, ET AL. CLIN J AM SOC NEPHROL. 2011;6(2):447-456
RATIONALE FOR CHOOSING HOME HD FIRST

- Better outcomes than in-center conventional HD:
  - May confer a survival advantage
  - Improved QOL, blood pressure, and phosphate control
  - Reduced risk of infectious complications
  - Reduction in dialysis related side-effects
  - Convenience and flexibility for patient
  - Less dietary and fluid restrictions for patients using frequent dialysis

IN-CENTER PATIENTS WHO MAY BENEFIT FROM INTENSIFIED HHD

- Patient not tolerating therapy (CHF, hypotension, long recovery times)
- Persistent HTN greater than 150/90 for 3-6 months, greater than 2-3 meds
- LVH with or without reduced systolic function, LVMi >125 g/m²
- Continued CHF progression (monitored as NP-pro BNP, troponins)
- Persistently high PO₄ (>5.5 mg/dL) for 3-6 months

More frequent and/or longer treatment times at home

LOCKRIDGE R, ET AL. HEMODIAL INT. 2015;19(S1):S112-S127
JINDAL K, ET AL. J AM SOC NEPHROL. 2006;17(SUPPL 1):S24 LP-S27
OUTCOMES IN PATIENTS WHO TRANSITION FROM PD TO HHD

- ANALYSIS OF USRDS DATA ON HHD PATIENTS WHO HAD PREVIOUS EXPOSURE TO PD SUGGESTS:
  - VERY FEW PATIENTS TRANSFER TO HHD FROM PD (3.8%)
  - LOWER RISK OF DEATH COMPARED TO PD INHD PATIENTS
  - HIGHER INCIDENCE OF TRANSPLANT COMPARED TO PD INHD PATIENTS
DISCUSSION

How to start
Who to educate
Prescriptions?
What is the role of more frequent dialysis
What about urgent start
What should I expect?
How do I plan?