Trends in Home-based Dialysis

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PD in the news

• “Home Dialysis Slowly Gaining Ground”

The New York Times (July 27, 2012) "New Old Age" blog:

"peritoneal dialysis at home is gaining a little ground... Home dialysis costs less than treatment provided at a dialysis center and offers patients a lot more flexibility to lead a more normal life.”
Dialysis easier done at home

Patients aren’t tied to rigorous schedules.

Doing it at their home gives them their life and flexibility back.
The early days: Home hemodialysis

• “Since its initiation in Boston in 1963 and in Seattle and London in 1964, home hemodialysis has become well established. Indeed, home hemodialysis is becoming generally accepted as the preferred form of regular dialysis therapy for most patients.”

Gross, Keane, McDonald. Survival and rehabilitation of patients on home hemodialysis. *Annals of Internal Medicine* 1973

• As of January 1972, 40% of US dialysis patients were at home
After 1973

- By 1978 less than 15% of US dialysis patients were at home

- By 1980, less than 5% were at home

  - **However**: HHD use was higher in some states, e.g. Indiana (60%) and Washington (over 75%)

  - Rettig RA. *Implementing the End-Stage Renal Disease Program of Medicare*. Santa Monica, Rand, 1980
USRDS: Home Dialysis Trends  
**1980-2010**

- **Source:** Table D.1, 2012 Annual Data Report
  [www.usrds.org](http://www.usrds.org)

- **1980-1986:** Increasing PD use, small gain for HHD
- **1986-1995:** Increasing PD use, declining HHD
- **1995-2010:** Declining use of CAPD and HHD
1980-1986: Increasing PD use, small HHD gain

• Growing use of PD therapies, especially CAPD
• HHD use grew from 4.7% to 6.8% of patients
• Total home-based dialysis reached 20.5% of patients in 1986, the high point during 1980-2010

- %HHD
- %CAPD
- %CCPD

Year:
- 1980
- 1981
- 1982
- 1983
- 1984
- 1985
- 1986
Home-based dialysis use, prevalent patients
Overall %, 1980-1986
The quality of life of patients with end-stage renal disease. Evans et al., *New England Journal of Medicine* 312:553-9

- 859 patients from 11 US dialysis and transplant centers were interviewed
- Among patients treated with dialysis, those undergoing treatment at home, especially HHD, had the highest quality of life
- All quality-of-life differences persisted after adjustment for patient case mix
1986-1995: Increasing PD use, declining HHD

- CAPD use remained at about 12% of patients
- CCPD: small but steady growth
- Decline in HHD to less than 2% of patients

- Total home-based dialysis in 1995 was 16.6% of patients, with PD (almost 15%) accounting for most of this
Home-based dialysis use, prevalent patients
Overall %, 1986-1995
Continuing research interest in PD outcomes

- CHOICE study 1995-98 and USRDS DMMS Wave 2 1996-97: PD associated with work opportunity, QoL, and satisfaction with care

- Series of studies conducted to compare mortality outcomes between HD and PD patients; in most recent cohorts, similar outcomes observed
1995-2010: Declining use of CAPD and HHD

- % of patients using home-based dialysis fell to 8.2% of prevalent patients in 2010
- CCPD (4.6%) was the largest component of home-based dialysis by 2010
December 31 Point Prevalent Patients 1995-2010: Home dialysis trends
Home-based dialysis use, prevalent patients
Overall %, 1995-2010
December 31 Point Prevalent Dialysis Patients 1980-2010: % HHD, % CAPD, and % CCPD

From 2012 ADR, USRDS, Table D.1
Incident Dialysis Patients 1980-2010: % HHD, % CAPD, and % CCPD

From 2012 ADR, USRDS, Table D.1
2010 and beyond

• 2010: Predialysis education benefit was included in the Medicare Improvement of Patients and Providers Act

• Continued interest in more frequent dialysis

• Technology advances

• Cost management imperatives
Rehabilitation and quality of life benefits of home therapies

- “The level of independence it provides is very empowering. It changed my life.”

— Chuck Letner, age 49, quoted in AJC story October 18, 2012, p.D1. HHD user for 17 years
Does this simply reflect patient selection?

• “By almost all measures, patients who do HHD do better...that could be because those patients are self-sufficient, organized and willing to be in charge of their health care, so they’d probably do better anyway. But any time a patient can take responsibility for their own care, it’s a good thing.”

--Stephen Pastan, Emory University School of Medicine, quoted in AJC October 18, 2012, p.D5
August 2012
“Some bright spots for home dialysis”
_Nephrol News Issues_

- Annual survey of 10 largest dialysis providers
- 352,235 patients (roughly 70% of US population)

- Home-based dialysis (HHD + PD) patients
  - Represented 8.3% of their patients in 2008
  - But had increased to 10% of patients in 2012
“But at 10% of the population, we can do better.”
(Nephrol News Issues August 2012)

• % of home-based dialysis varies across providers

• and is higher for providers such as Northwest Kidney Centers (16%) and Satellite Healthcare (22.5%)
What is possible?

• USRDS data since 1980: Use of home-based dialysis by prevalent patients exceeded 20% at one point

• “The consistently high proportion of dialysis patients in the home setting found in some regions of the United States suggests that the clinical upper limit may be relatively high for the nation as a whole—even with age, race, and other factors taken into account.”

• Rettig RA. *Implementing the End-Stage Renal Disease Program of Medicare.* Santa Monica, Rand, 1980