



## Variation in Peritoneal Dialysis Time on Therapy by Country

*Results from the Peritoneal Dialysis Outcomes and Practice Patterns Study (Lambie et al CJASN 2022)*



ANN ARBOR, MI, USA -

The Dialysis Outcomes and Practice Patterns Study (DOPPS) Program at Arbor Research Collaborative for Health is pleased to announce the publication of our Peritoneal DOPPS manuscript titled, **Variation in Peritoneal Dialysis Time on Therapy by Country** (Lambie et al), which is now accessible in the Clinical Journal of the American Society of Nephrology (CJASN) ([read the paper here](#)) and describes international peritoneal dialysis time on therapy, and related clinical outcomes.

### Background

Worldwide, among those receiving dialysis for end-stage kidney failure, 11% receive treatment with peritoneal dialysis (PD) with the majority receiving facility-based hemodialysis (HD). Recent initiatives have led to PD utilization increases in the United States. Quantifying how long patients remain on PD (i.e., time on therapy) is important for patients and providers. Here we have described: (1) time on PD in the context of outcomes of hemodialysis transfer (HDT), death, and kidney transplantation, and (2) patient-level and practice pattern determinants of these outcomes, in 7 countries (Australia/New Zealand, Canada, Japan, Thailand, UK, and the US). Data were from 218 randomly selected PD facilities (7121 patients) participating in the observational Peritoneal Dialysis Outcomes and Practice

Patterns Study (PDOPPS) from 2014 to 2017. Mean patient age ranged from 56 yrs in Thailand to 64 yrs in Japan.

### Key highlights from this manuscript include:

Countries with higher kidney transplantation (Tx) rates (range: 32% in the UK to 2% in Japan and Thailand, over 3 years) had shorter median times on PD (range: 1.7 years in the UK, 2.1-2.3 years in A/NZ, Canada, and the US, 2.8 years in Thailand, and 3.2 years in Japan (see Figure 1 at the end).

The table below shows the impact of these large Tx differences such that in the UK by 3 yrs after PD start, 57% of UK PD patients had received a Tx or were still on PD despite having the shortest median time on PD therapy (1.7 yrs). By contrast, Thailand and Japan have the longest median time on therapy (2.8 and 3.2 yrs, respectively), but a smaller % had received a Tx or were still on PD at 3 yrs. This exemplifies the shortcomings of the median time on PD therapy metric which does not account for Tx.

Country	% of patients, at 3yrs after PD start, according to type of 1st RRT modality switch, or still on PD or having died **			
	Rec'd kidney transplant	Still on PD	Had permanently transferred to HD	Had died while on PD
UK (1.7 yrs)*	32%	25%	28%	15%
Australia/ New Zealand (2.1 yrs)*	18%	34%	35%	13%
Canada (2.2 yrs)*	14%	34%	35%	16%
US (2.3 yrs)*	10%	40%	31%	18%
Thailand (2.8 yrs)*	2%	46%	16%	36%
Japan (3.2 yrs)*	2%	52%	35%***	11%

Derived from figure 1 in the paper; \*median time on PD; \*\*having died while on PD; \*\*\*includes 10% on HD/PD hybrid therapy.

Regarding risk of hemodialysis transfer (HDT), modest inter-country differences were seen except with Thailand having a notably lower risk of HD transfer. However, death risk, adjusted for patient case mix, was higher in Thailand and the US compared to most other countries.

#### Reasons for permanent hemodialysis transfer (HDT):

- infection was the leading reason PD patients permanently switched to HD
- higher HDT risks are seen in patients with psychiatric disorders or elevated BMI.

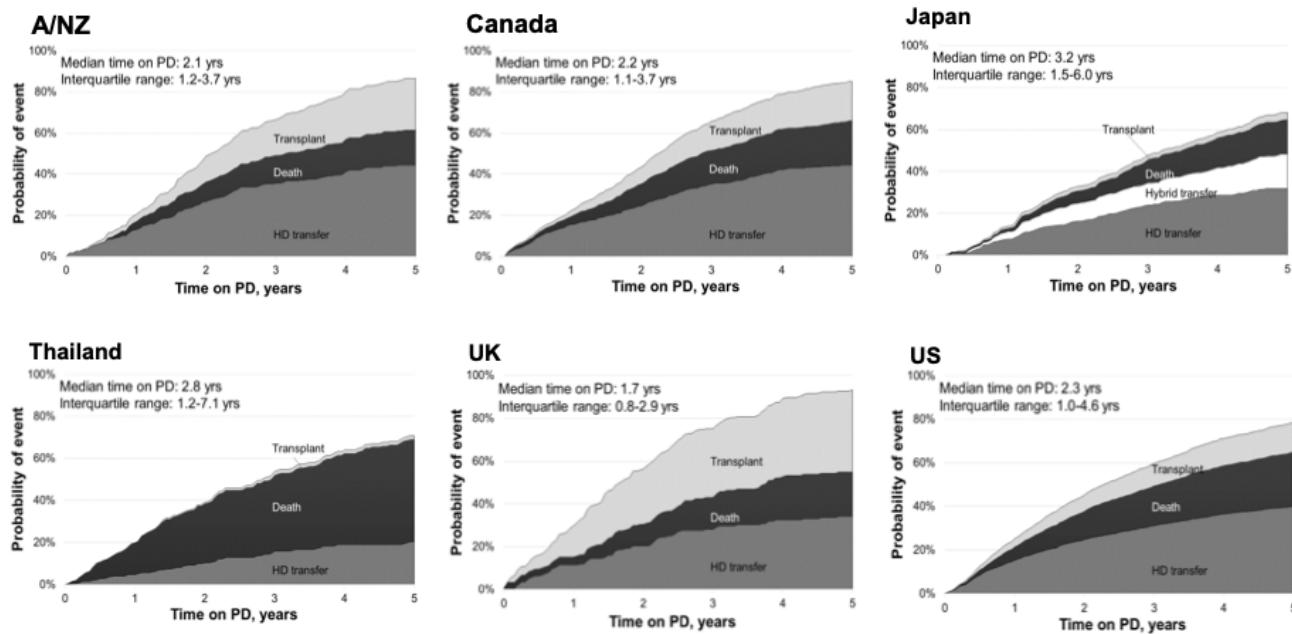
- solute clearance issues were common HDT reasons in A/NZ (19%) and Japan (16%), while water removal problems were common in Japan (29%), but not in other countries (4%-10%).
- PD catheter-related problems accounted for 17% of HD transfers in Thailand, and <6% elsewhere.
- As PD vintage increased, there were more infections, solute/water clearance problems, and psychosocial/medical problems, but fewer peritoneal leaks/hernia and catheter-related problems.

### Conclusion:

Median time on PD therapy varied substantially across countries in PDOPPS, but shorter median times on PD especially correlated with higher rates of kidney transplantation. Identification of infection as a leading cause of HD transfer, and patient and facility factors associated with HD transfer risk can facilitate interventions to reduce these events. Infection remains a leading cause of HD transfer across all countries. In all countries, opportunities exist to improve time on PD. For future consideration: Patients considering PD as a dialysis modality likely would find it meaningful to have a quality metric that reflects the likelihood of either remaining on PD or receiving a kidney transplant rather than the current metric of how time on therapy is typically presented (which typically does not consider transplantation).

Please see the buttons below for podcast and editorial

## International Comparisons of Outcomes



Lambie et al. CJASN (2022)

[Click Here to Read the Manuscript](#)

## Additional Resources

**CJASN Podcast Episode: Variation in Peritoneal Dialysis Time on Therapy by Country: Results from the Peritoneal Dialysis Outcomes and Practice Patterns Study**

[Listen to Podcast](#)

**Informative CJASN editorial by Matthew B. Rivara related to this paper**

[Visit CJASN Editorial](#)

**About the DOPPS Program:** Our goals are to improve the experience of patients with kidney disease by understanding current clinical practice, identifying practices associated with best outcomes, and serving as a resource for the kidney community. Started as a hemodialysis study in 1996, the DOPPS Program now follows over 70,000 patients at more than 750 clinical sites in approximately 20 countries. We focus on the lives of individuals with advanced non-dialysis chronic kidney disease (CKDopps) or with kidney failure treated by in-center hemodialysis (DOPPS) or peritoneal dialysis (PDOPPS). DPM-PD data are from the US arm of PDOPPS.

The DOPPS Program is funded by a consortium of private industry, professional societies, and public funding sources. Please visit [DOPPS.org](http://DOPPS.org) to learn more about the DOPPS Program, our support, and opportunities for collaboration.

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