



PD Retention and Drop Out Metric of Success

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Objectives

Identify certain causes of dropout:

- Infectious complications
- Hospitalization
- Catheter Dysfunction
- Psychosocial factors
- Other causes

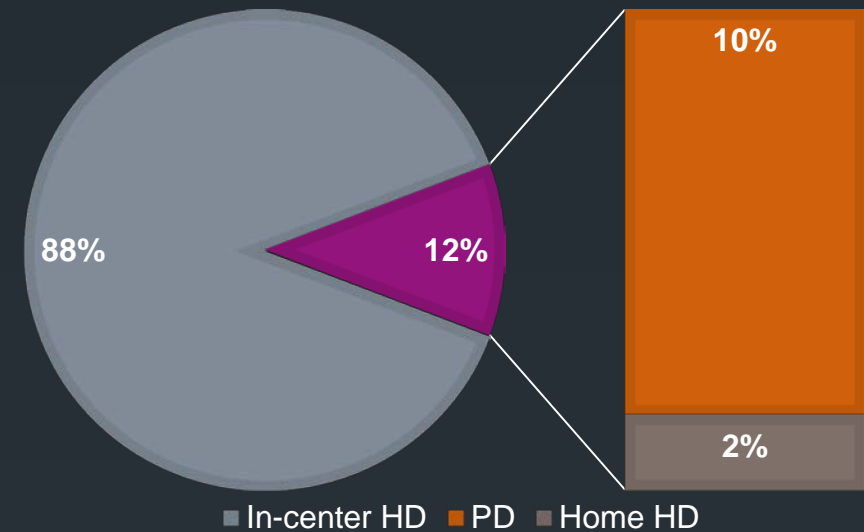
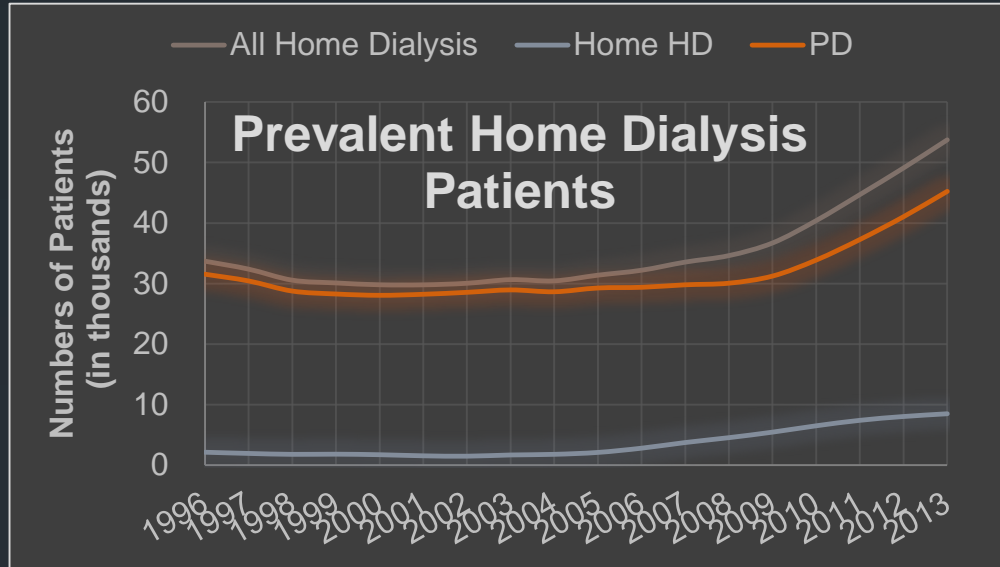
Discuss strategies to prevent these causes of PD dropout



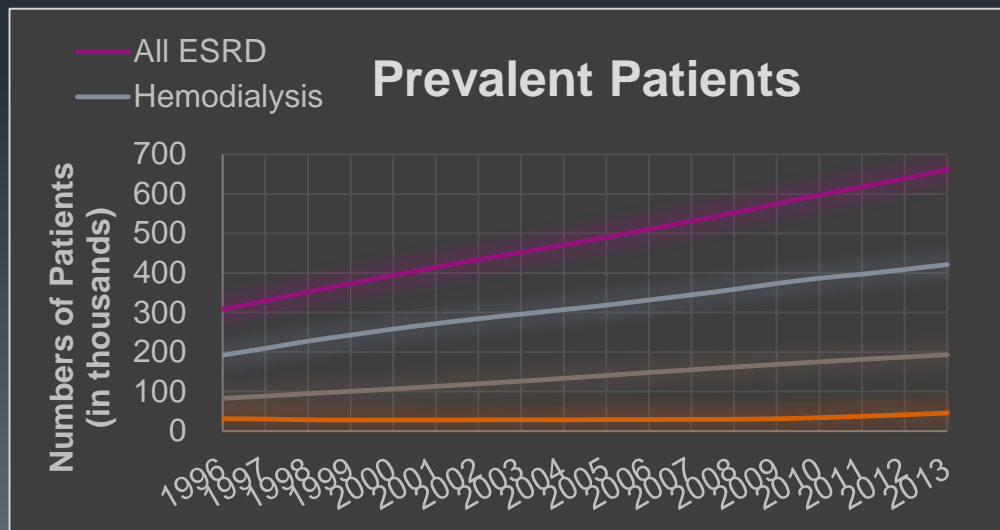
UCLA PD Program

- 150 patients and growing
- Very low drop out rate due to technique failure
- High transplant rate
- Home penetration 25 – 55 percent
- Home first
- Strong leadership

Home penetration in the US

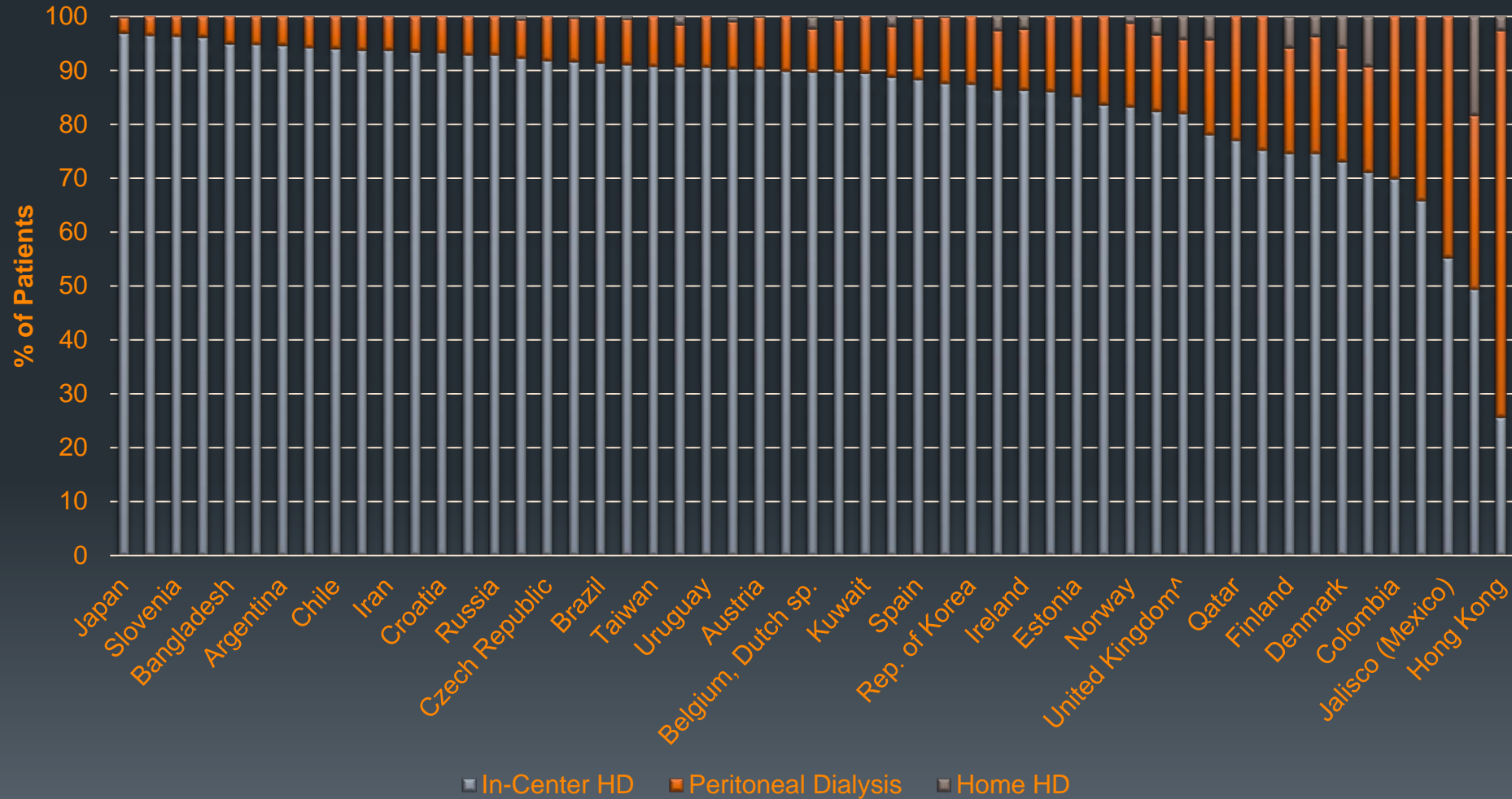


Total Dialysis Population
466,607



Country specific modalities

Percentage of Patients, by Modality for 2013





“True” gains and losses

PD Losses

- Technique Failure
- Transplant
- Death



Net Growth:

Adding new patients or preventing loss



PD Center of Excellence

- Medical Director – A True Champion and Leader
- Team approach
- Staffing
- Size of the program

Retention

- Psychology of trust
- Empowering the team
- Continuous engagement
- Involvement of family and friends
- HOPE
- Right patient selection
- Timely education
- Know when to transition to HD



Training and Education

- Start early and continue throughout
- Don't forget the family and care givers
- Staff training critical

The team retains the patient

- Retention of staff and consistency of team = critical
- Role of the MD = PD Champion
- Create a calling, not just a job
 - Offer work satisfaction and personal growth
 - Delegate

Work outside the comfort zone

Develop relationships with...

- CKD clinic staff
- Surgeons and IRs
- Hospital
- ICHD team
- Home Hemo Team

Technique Failure

- Peritonitis
- Catheter malfunction
- Hospitalizations
- Adequacy
- UF Failure
- Loss of residual renal function
- Psychosocial factors



Hospitalizations

Critical impact on retention metric

PD hospitalization rates

What should my rate be?

- Know your rate**
- Ensure it is at target**
- Aim for continual improvement**

UCLA approach to hospitalizations

- 1 Address whether hospitalization was related or unrelated to PD
- 2 Address preventable causes
- 3 Leverage hospital stay as opportunity to improve care

Reducing hospitalizations^{1,2}

- ↑ training days/retraining on aseptic technique
- Use prophylactic antibiotics at the CES
- Require optimal PDC placement
- Leverage pre-procedural prophylaxis
- Use prophylaxis to prevent fungal infections
- Utilize bridge antibiotics w/in 2 hrs. of symptoms

¹ Campbell DJ, et al. Prevention of peritoneal dialysis related infections. *C.Nephrology Dialysis Transplantation*. vol. 30 issue 9 September 2015. p. 1461-1472. Yang Z, Xu R, Zhuo M et al. Advanced nursing experience is beneficial for lowering the peritonitis rate in patients on peritoneal dialysis. *Perit Dial Int* 2012; 32: 60–66. ² Restrepo C, et al. Fungal peritonitis in peritoneal dialysis patients: successful prophylaxis with fluconazole, as demonstrated by prospective randomized control trial. *Perit Dial Int*. 2010; 30: 619–625.



Catheter Dysfunction

Tracking catheter complications and loss rate

Surgeon reporting

Broad categories to cover

- Perioperative complications
- Infections early on
- Leak of dialysate fluid
- Catheter malfunction

Surgeon reporting

Placement metric goals

- Perforated bowel < 1%
- Extensive hemorrhage < 1%
- Peritoneal dialysis catheter exit site infection within 2 weeks of placement < 5%
- Peritonitis episodes within 2 weeks of catheter placement < 5%
- Functional catheter failure that requires catheter manipulation or replacement, or leading to technique failure < 20%
- 80% survival of catheter for one year

UCLA approach to catheter dysfunction



- Have RN contact surgeon / IR with results of placement – good or bad
- Maintain close communication with hospital team
- Visit patient in the hospital if possible



Adequacy

Where do we need to be?

Inadequate KT/V (<1.7) drives patient losses

- Measure**
- Avoid stale labs**
- Model patients not meeting target
(Adequest, PatientOnLine, etc.)**

UCLA approach to adequacy

- 1 Stress compliance with**
 - PD prescription
 - Medications
 - HCP visits
- 2 Address constipation at each visit and prevent through lifestyle and medications**
- 3 Conduct home visits when deemed necessary**



Peritonitis

Infections, especially gram negative, drive patient losses

After hours: bridge therapy protocol following FDA Guidelines (Fluorquinolones)

Oral Formulary Options for “After Hours” Initial Treatment of Peritonitis: within 2 hrs. of symptoms

- **Cephalexin 500 mg PO Q12 hrs**
 - Initial suggested loading dose of 1000 mg x 1
- **Cefdinir 300 mg PO QD**
 - Recommendation for dose to be taken 2 hrs before or 2 hrs after antacids, phosphate binders or oral iron supplements
- 3 days of medication included in the “After Hours” Therapy
- Prescribers can choose between the 2 Formulary “After Hours” antibiotics
- **See patients asap for initiation of IP antibiotics within 24-72 hrs.**

UCLA approach to peritonitis



- Implement protocol after every infection
- Focus on training / retraining patients and care partners
- Conduct root cause analysis and address

Importance of Residual Kidney Function



The Importance of Residual Kidney Function for Patients on Dialysis: A Critical Review

Jeffrey Perl, MD, and Joanne M. Bargman, MD

Benefits of Residual Kidney Function in ESRD

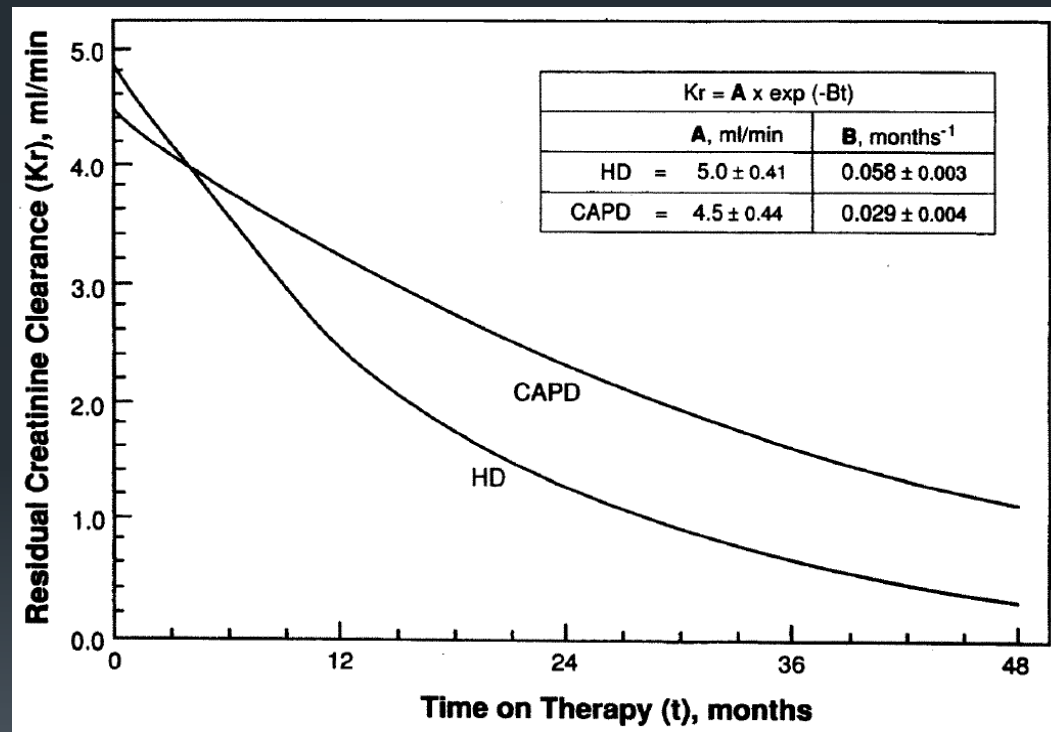
- Fluid removal¹
- Sodium removal¹
- Phosphate removal^{1,2}
- Middle molecule clearance^{1,2}
- Vitamin D production²
- Erythropoietin production¹
- Reduced Left ventricular hypertrophy^{1,2}
- Survival benefit¹

¹Wang AYM, Lai KN. The importance of residual renal function in dialysis patients. *Kidney Int* 2006;69:1726-1732.

²Perl J, Bargman JM. The importance of residual kidney function for patients on dialysis: a critical review. *Am J Kidney Dis*. 2009;53:1068-1081.

Preservation of Residual Kidney Function: PD Compared to HD

Lysaght 1991¹: Early, small study



Comparison of best-fit lines of residual creatinine clearance vs. time from the onset of therapy for HD and CAPD patients. The two regression lines are drawn on a common scale.¹

1. Lysaght M, Vonesh EF, Gotch F, et al. The influence of dialysis treatment modality on the decline of remaining residual function. *Trans Am Soc Artif Intern Organs*. 1991;37:598-604.

Loop Diuretic Use in PD

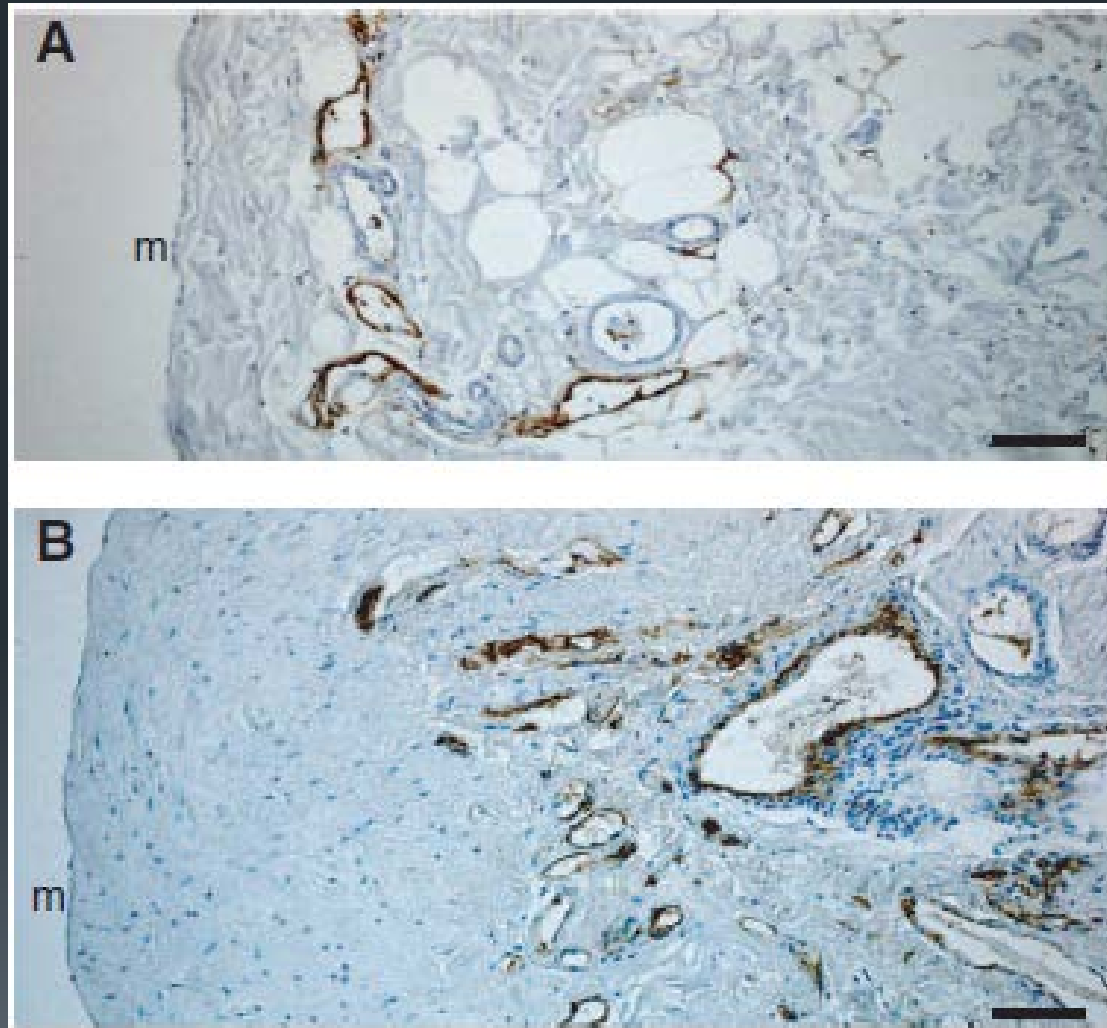
Kidney International, Vol. 59 (2001), pp. 1128–1133

Role of diuretics in the preservation of residual renal function in patients on continuous ambulatory peritoneal dialysis

JAMES F. MEDCALF, KEVIN P.G. HARRIS, and JOHN WALLS

Department of Nephrology, Leicester General Hospital, Leicester, England, United Kingdom

Longitudinal Membrane Changes



Devuyst O, Margetts P, Topley N. The pathophysiology of the peritoneal membrane. *J Am Soc Nephrol* 2010;21:1077-1085.

Membrane preservation

- RAASi
Solutions
Infections



Some recent advances

- Tele-Health
- Remote monitoring
- Technological advances including new cyclers
- Incremental PD



Extensivists

- PCP
- Deal with more complex cases
- Have a team that supports them like pharmacists, psychotherapists
- Decrease hospitalizations

Sclerosing Encapsulating Peritonitis

- It is rare serious complication of peritoneal dialysis
- Characterized by:
 - Progressive fibrosis of the peritoneum
 - Entrapment of the intestine in fibrous tissue
 - Complete intestinal obstruction

Summary: PD retention action steps



MD role = key to ↑ retention

Build strongest team possible

Achieve maximum retention

Diligently track and address metrics by setting

- Hospitalization targets

- Catheter complication targets

- Adequacy targets (>98%)

- PTN improvement plans



Retention

The true metric of a successful
PD Program!!!



Thank you!