Targeted Education Approach to Improve Peritoneal Dialysis Outcomes Cluster Randomised Trial (TEACH-PD)

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Why the TEACH-PD trial is so special

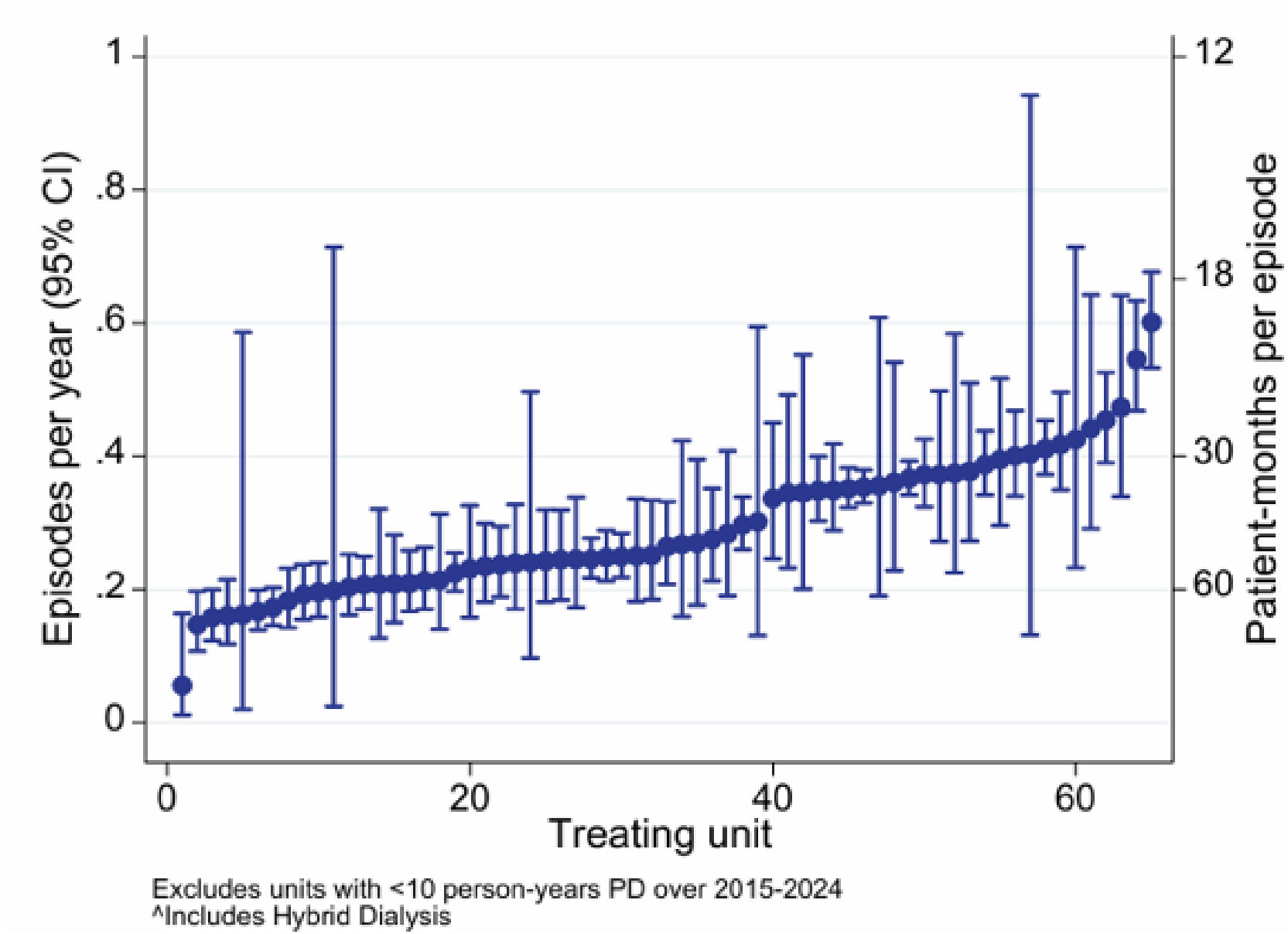
- The largest clinical trial of peritoneal dialysis ever
- Involved 42 dialysis units across Australia and Aotearoa New Zealand (all New Zealand units)
- Conducted during Covid-19 and was still completed on time
- Data follow up was entirely in the ANZDATA Registry and NZ PD Registry
- Gave us a definitive answer to the question of whether PD training techniques matter

The goal of the TEACH-PD trial

- To determine whether implementing a guideline-based standardised training curriculum for nurse trainers and new PD patients reduces the risk of PD-related infections compared with usual practices

Why was the TEACH-PD trial needed

- Peritoneal dialysis-related infections are a priority outcome for patients and whānau, clinicians, and policy-makers
- Infection rates across patient cohorts and dialysis units vary widely
- Our global approach to PD training is not standardised


Episodes per year (95% CI)
0
.2
.4
.6
.8
1
Patient-months per episode
60
30
18
12
0
20
40
60
Treating unit
Excludes units with <10 person-years PD over 2015-2024
^Includes Hybrid Dialysis

Background

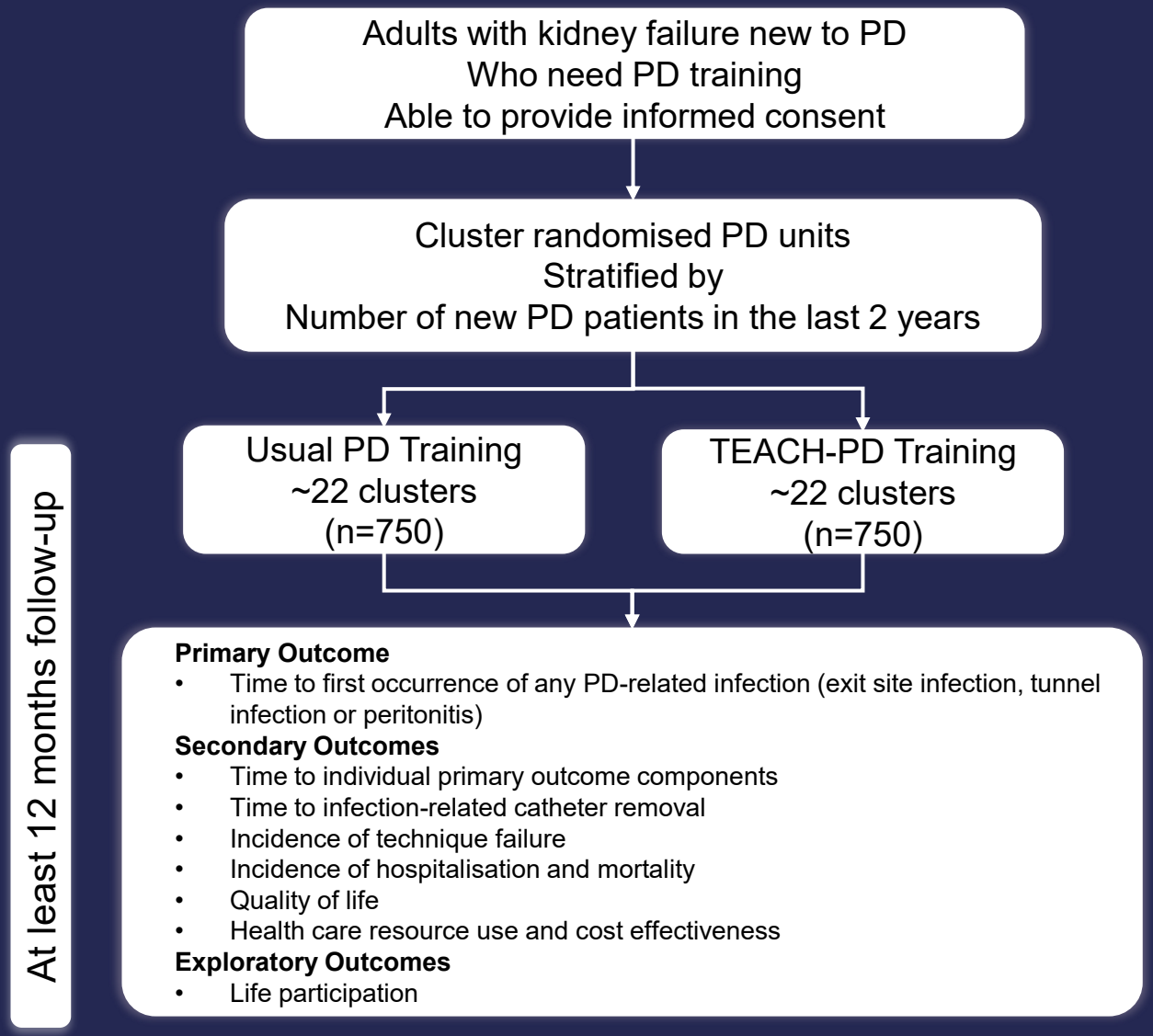
- We don’t have high certainty evidence about what works and whether methods we use to train patients in PD make a difference

- Our ISPD guidelines don’t yet have evidence that they improve patient outcomes

Methods

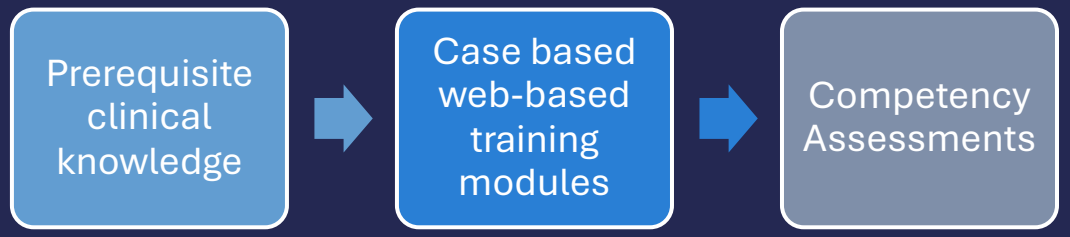
- ANZDATA and NZ PD Registry based trial
- Cluster randomised
- Embedded within existing clinical practices and procedures
- Dialysis units that had trained 10 or more patients in the previous 2 years
- All patients who could provide consent and new to PD

Study Design



TEACH-PD intervention

- PD Nurse trainers
- Online modules
- Competency assessments:
  - Written
  - Practical



- PD patients
  - Paper-based
  - Two training manuals
    - Preparing for training
    - Training
  - Competency assessments
    - Practical

Participants

- 2644 patients were assessed for eligibility between July 2019 and 1 September 2023

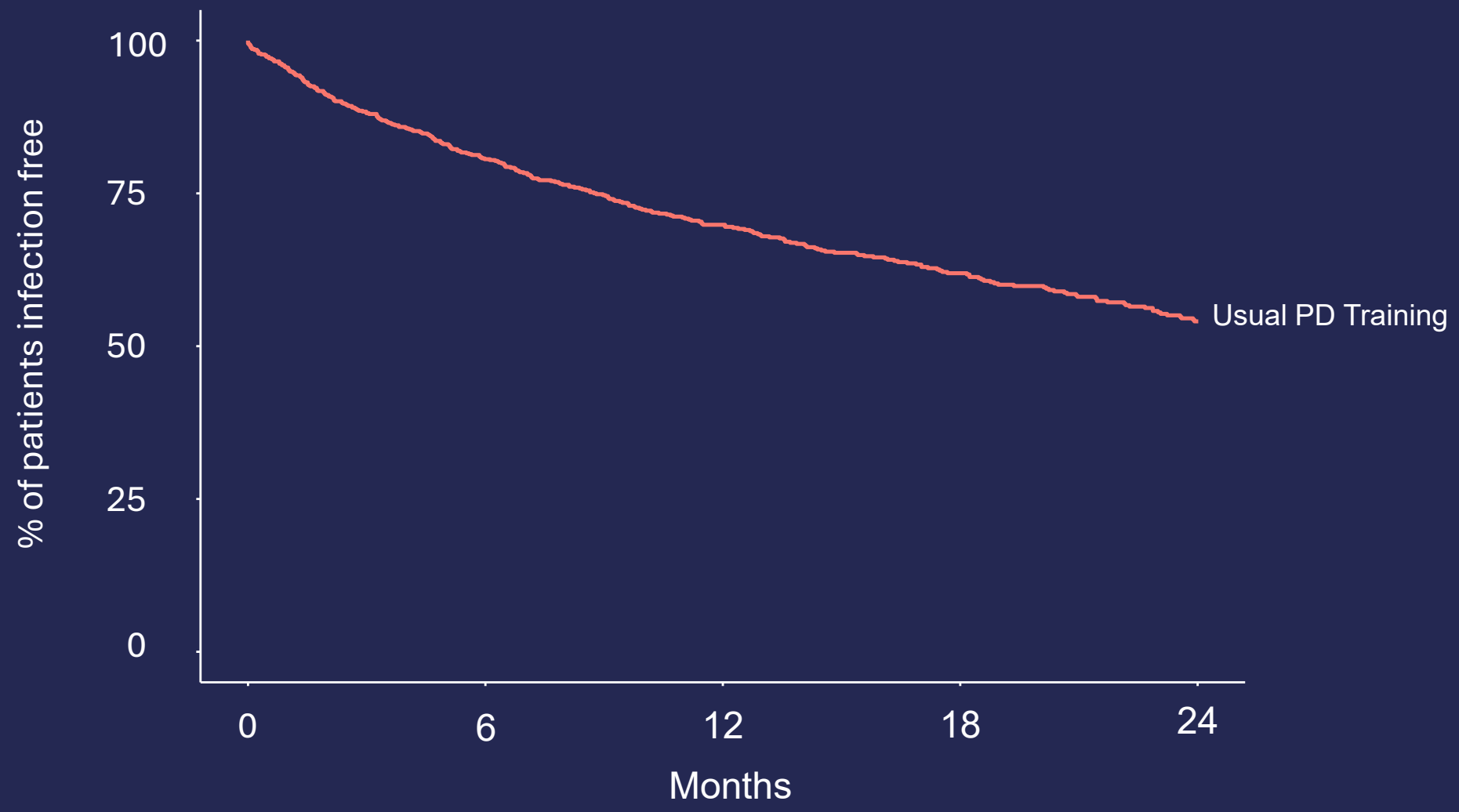
- 1462 (55.3%) were enrolled from 42 units across Australia and Aotearoa New Zealand

	Usual PD Training N = 795 (%)	TEACH-PD training N = 667 (%)	Overall N = 1,462 (%)
Age (years)	59 ± 16	59 ± 16	59 ± 16
Male Sex (%)	499 (63)	432 (65)	931 (64)
Ethnicity (%)*			
• European	507 (64)	319 (48)	826 (57)
• Asian	95 (12)	118 (18)	213 (15)
• New Zealand Māori	54 (7)	70 (11)	124 (9)
• Pacific	53 (7)	43 (7)	96 (7)
• Indian	36 (5)	28 (4)	64 (4)
• Aboriginal or Torres Strait Islander	22 (3)	26 (4)	48 (3)
• African	18 (2)	20 (3)	38 (3)
• Arab	3 (<1)	27 (4)	30 (2)
• Other	3 (<1)	8 (1)	11 (1)
Body mass index	28.2 ± 6	28 ± 6.7	28.1 ± 6.4
Serum creatinine (μmol/L)	686 ± 301	658 ± 261	674 ± 283
Primary kidney disease#			
• Diabetes-related nephropathy	248 (31)	245 (37)	493 (34)
• Glomerular disease	213 (27)	184 (28)	397 (27)
• Hypertension/vascular disease	81 (10)	85 (13)	166 (11)
• Familial/hereditary	89 (11)	51 (8)	140 (10)
• Tubulointerstitial	71 (9)	51 (8)	122 (8)
• Other systemic disease	93 (12)	51 (8)	144 (10)

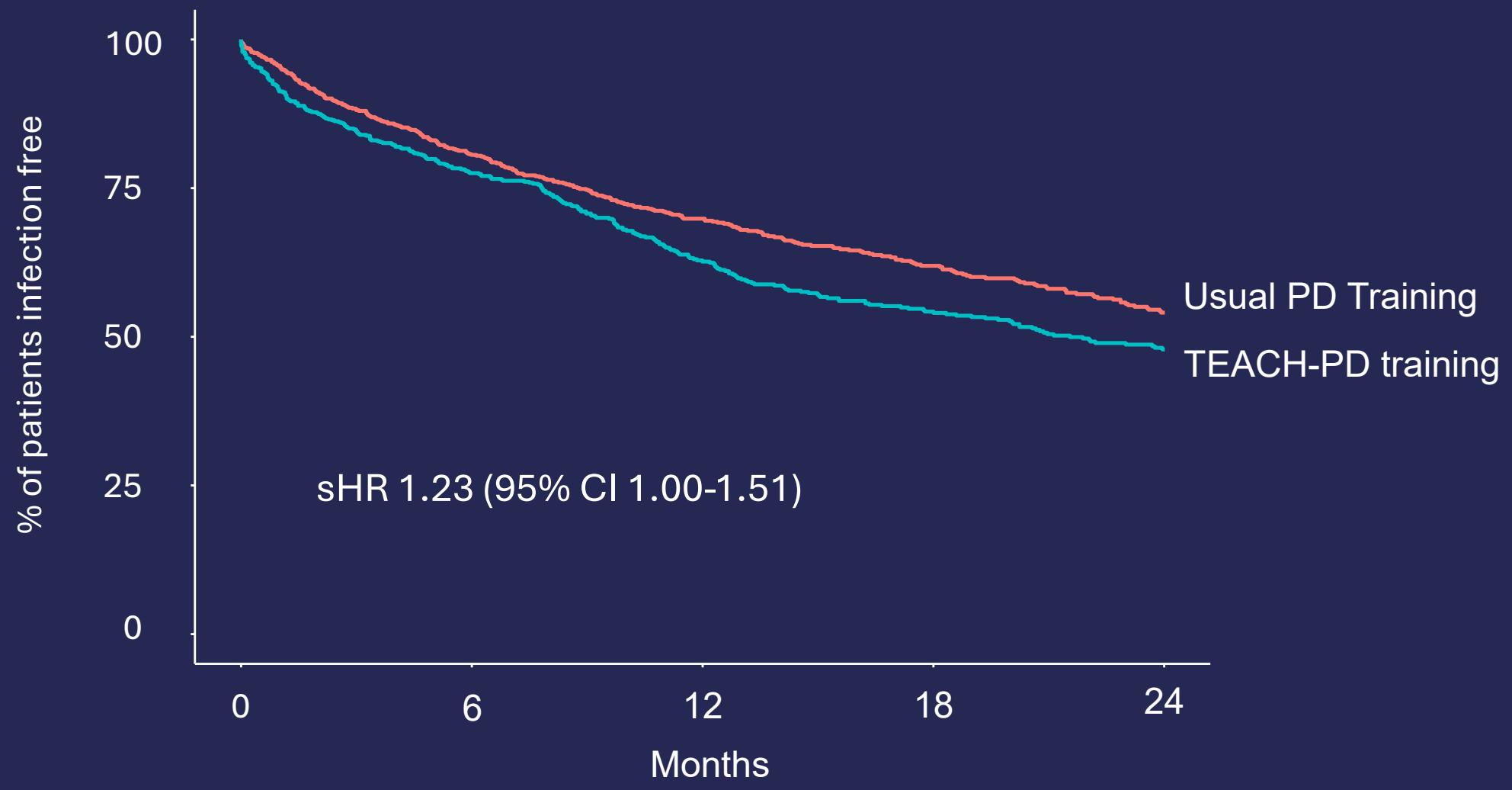
	Usual PD Training N = 795 (%)	TEACH-PD training N = 667 (%)	Overall N = 1,462 (%)
Diabetes	321 (40)	319 (48)	640 (44)
Coronary artery disease	189 (24)	164 (25)	353 (24)
Chronic lung disease	75 (9)	65 (10)	140 (10)
Peripheral vascular disease	98 (12)	111 (17)	209 (14)
Cerebrovascular disease	60 (8)	64 (10)	125 (9)
Australia	628 (79)	478 (72)	1106 (76)
Cluster Size Category			
• Small	65 (8)	46 (7)	111 (8)
• Medium	202 (25)	188 (28)	390 (27)
• Large	187 (24)	166 (25)	353 (24)
• Very large	341 (43)	267 (40)	608 (42)
Treatment method			
• CAPD	539 (68)	463 (69)	1,002 (69)
• APD/IPD	255 (32)	204 (31)	459 (31)

The Result

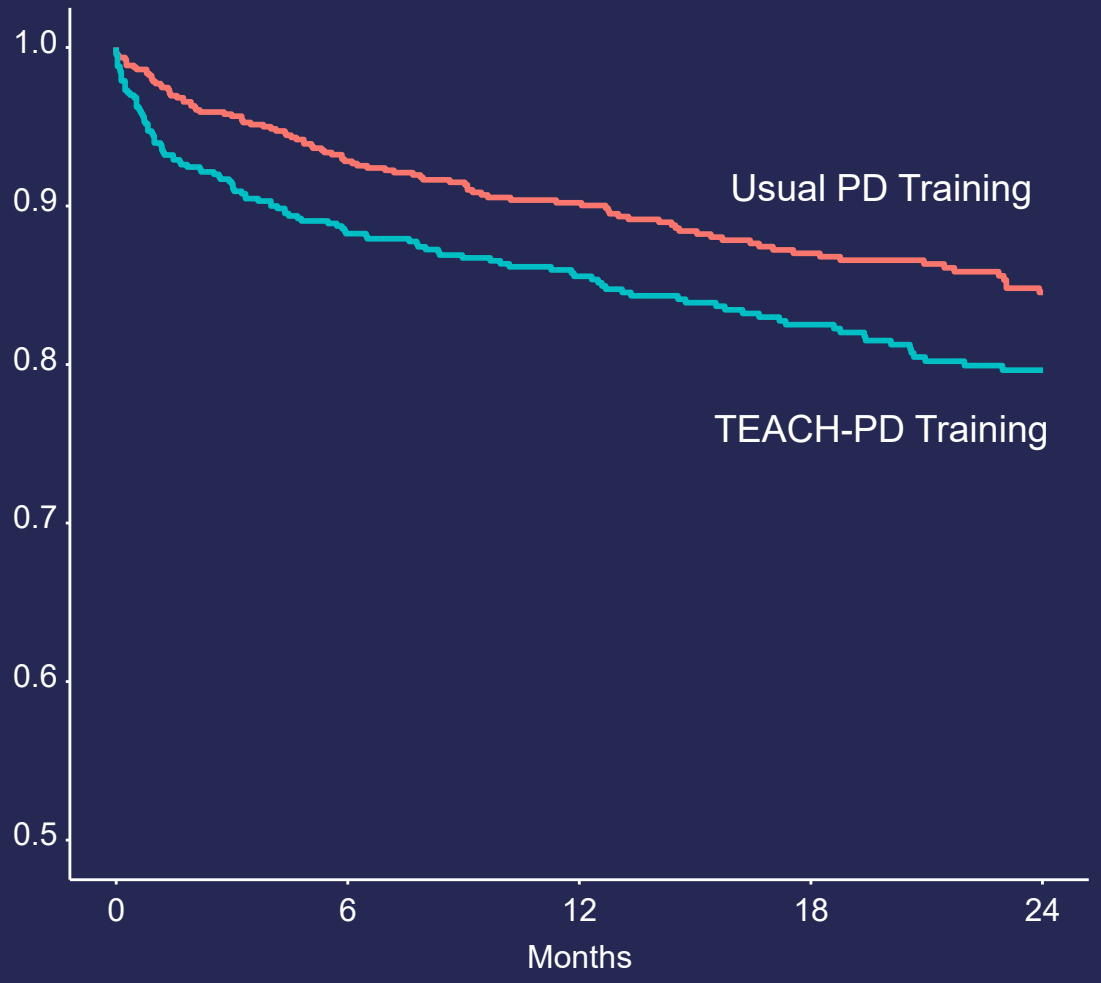
PD peritonitis, exit site infection or tunnel infection



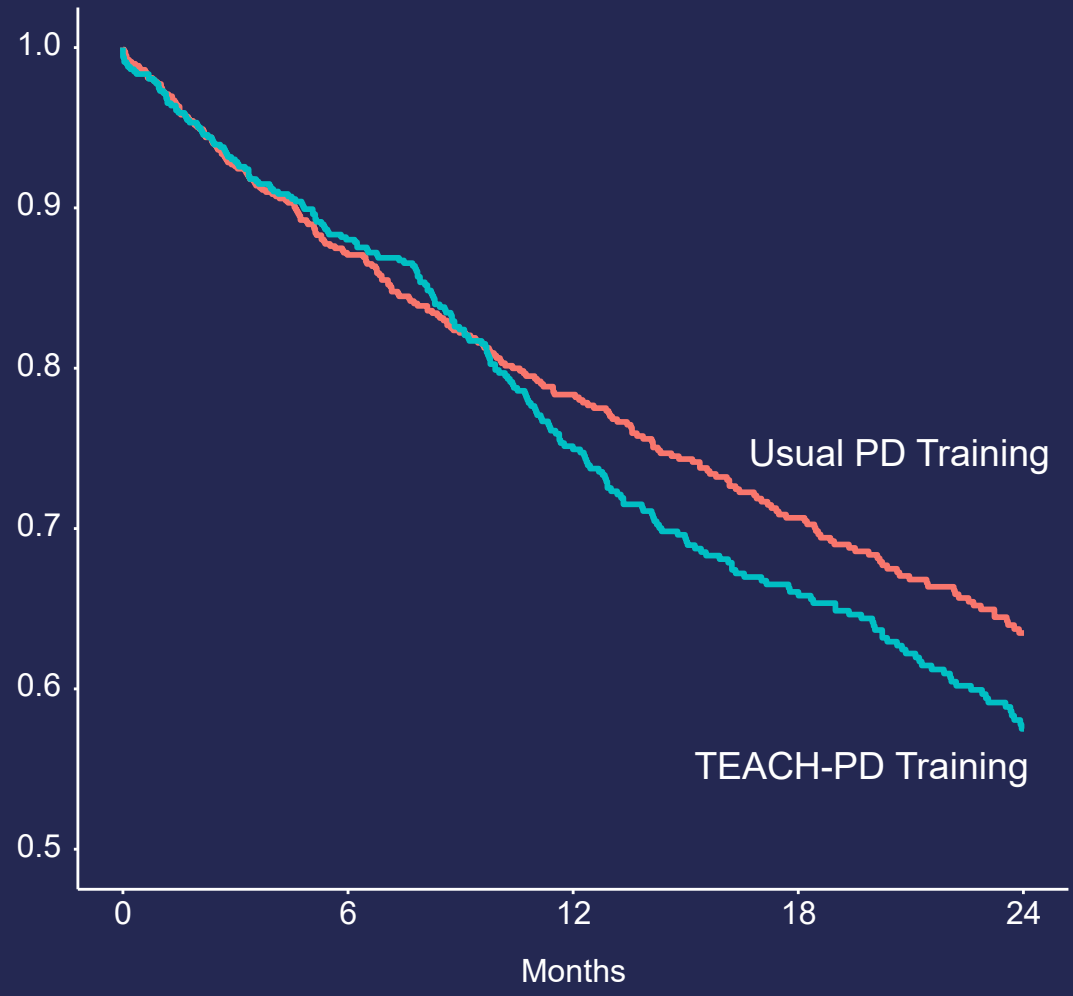
PD peritonitis, exit site infection or tunnel infection



Exit site infection free survival



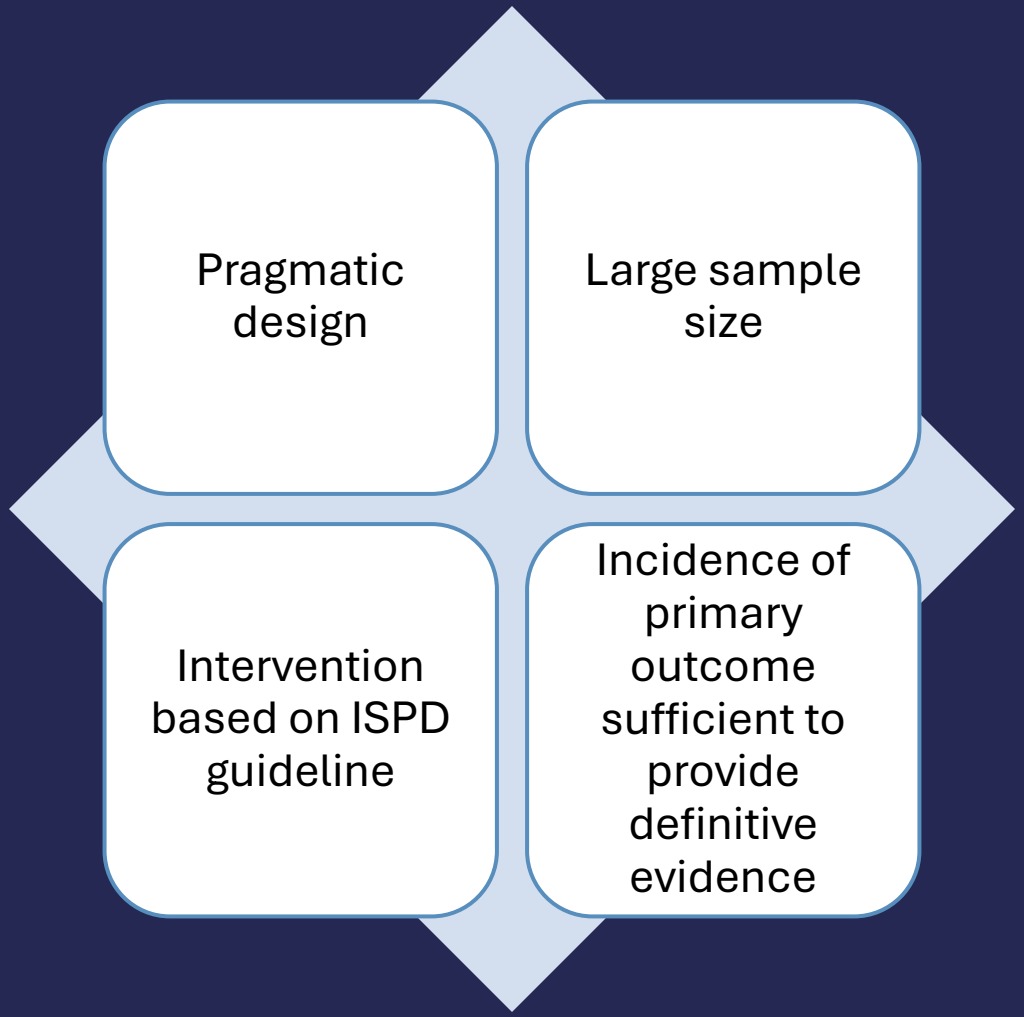
Peritonitis free survival



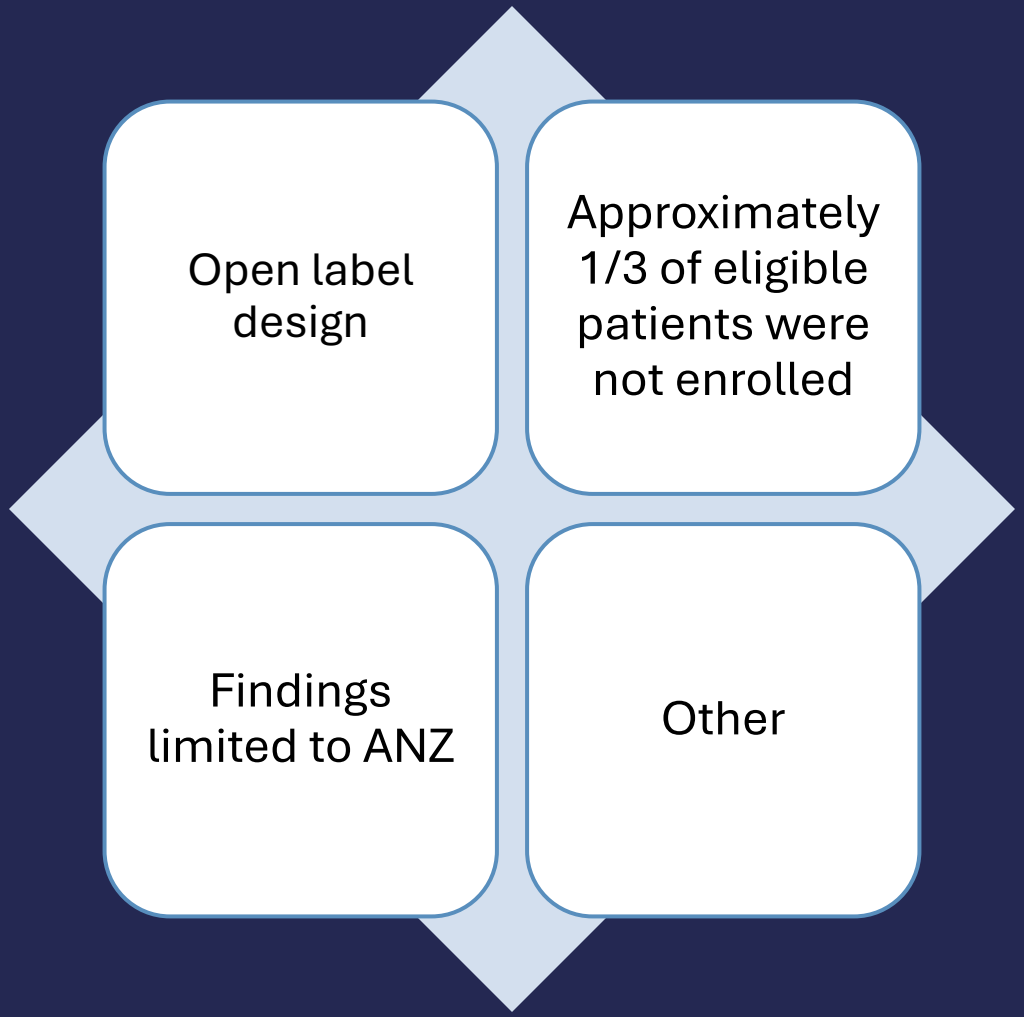
No evidence of difference for all other outcomes

- Catheter removal
- Technique failure 30 days
- Technique failure 180 days
- Death
- Quality of life

Strengths of the trial



Potential limitations



What does this mean?

- Training patients for PD using a standardised curriculum *increases* infection risk compared to standard practice

- This finding was consistent even when we took account of patient and unit factors

- Training matters! It has an impact on infection risk – but we don't know which aspects of training are beneficial or harmful

Thank you

- 1462 patients and whānau
- 94 investigators
- Collaborators
  - ANZDATA Registry
  - NZ PD Registry
- Funders
- Teams from AKTN

  and The HOME Network



He pātai
Questions