Australia & New Zealand Dialysis & Transplant Registry

Chapter 5

Peritoneal Dialysis

ANZDATA gratefully acknowledges the contributions of the Peritoneal Dialysis Working Group convened by Neil Boudville

Contents:

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Stock and Flow

Table 5.1 shows the proportion of home dialysis patients undergoing peritoneal dialysis (PD) in each state and country over 2009-2013. Overall around two-thirds of home dialysis patients undergo PD, although there is some variation between states.

The duration of time spent on PD by prevalent patients is shown in figure 5.1.

Table 5.1

Proportion (%) PD of all Home Dialysis Patients

State	2009	2010	2011	2012	2013
Queensland	67%	67%	65%	63%	62%
New South Wales	66%	66%	66%	66%	66%
Australian Capital Territory	46%	40%	38%	45%	48%
Victoria	67%	66%	67%	69%	72%
Tasmania	82%	78%	78%	68%	70%
South Australia	93%	88%	86%	87%	83%
Northern Territory	57%	59%	49%	47%	49%
Western Australia	87%	83%	80%	79%	79%
Australia	69%	68%	68%	68%	68%
New Zealand	68%	66%	65%	62%	64%

Figure 5.1.1

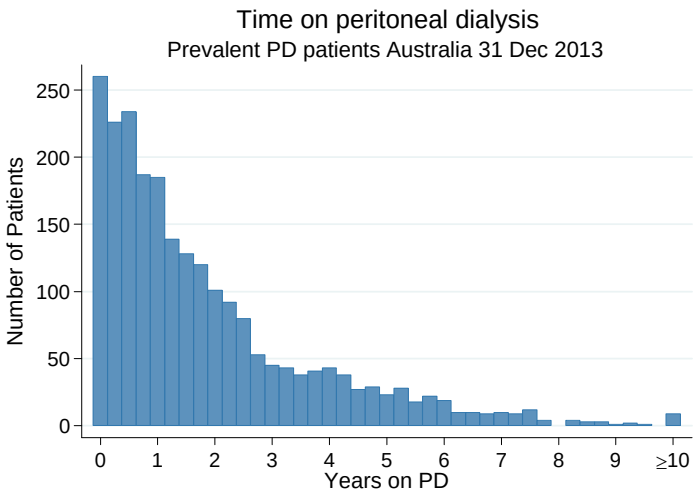


Figure 5.1.2

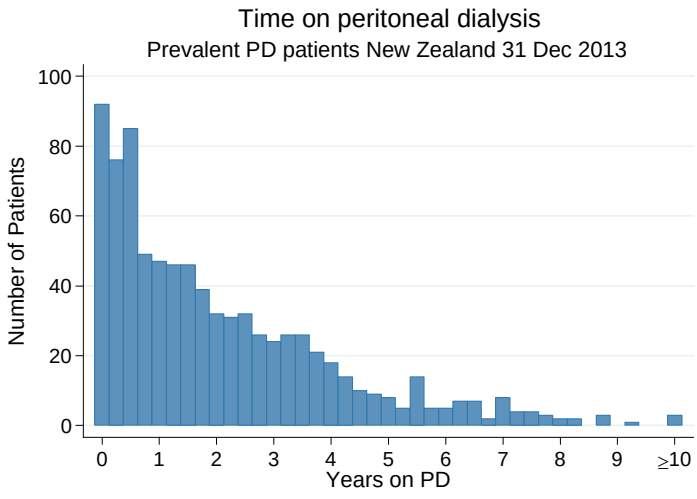


Table 5.2 shows the overall stock and flow of PD patients. The number of prevalent patients is stable in each country. Figure 5.2 presents some of these data graphically.

Table 5.2

Stock and Flow of Peritoneal Dialysis Patients 2009 - 2013

Year		2009	2010	2011	2012	2013
Australia	Patients new to PD	894	757	835	1000	968
	First Dialysis Treatment	589	500	553	672	698
	Previous HD	290	250	274	314	251
	Previous Transplant	15	7	8	14	19
	Transplanted	160	189	211	209	241
	Deaths	334	290	278	246	251
	Never Transplanted	322	286	271	239	241
	Previously Transplanted	12	4	7	7	10
	Transfer to HD	561	509	478	515	513
	Patients Dialysing 31 December	2203	2089	2078	2238	2306
New Zealand	Patients new to PD	284	276	244	268	290
	First Dialysis Treatment	200	163	154	167	173
	Previous HD	82	113	90	97	115
	Previous Transplant	2	0	0	4	2
	Transplanted	38	45	39	43	38
	Deaths	130	117	146	134	117
	Never Transplanted	127	111	140	131	113
	Previously Transplanted	3	6	6	3	4
	Transfer to HD	134	129	137	147	119
	Patients Dialysing 31 December	800	832	795	778	832

Figure 5.2.1

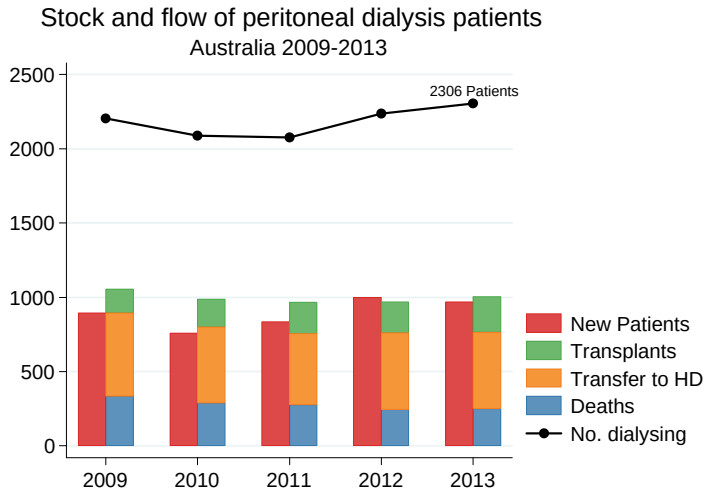
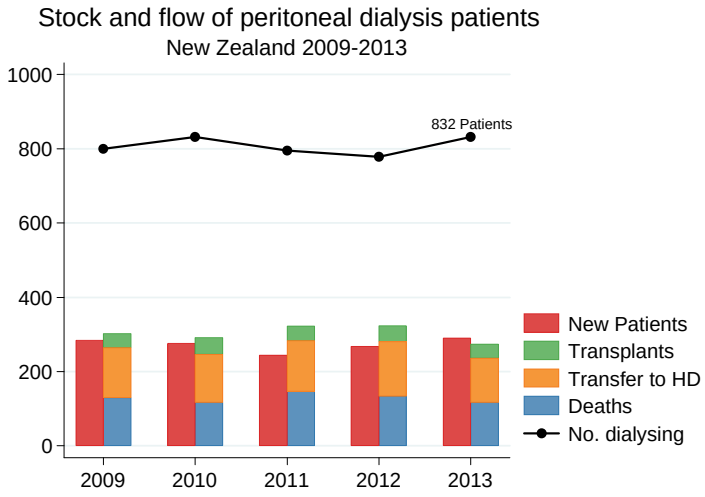


Figure 5.2.2



The age distributions of incident and prevalent PD patients are shown in figures 5.3 and 5.4 respectively.

Figure 5.3.1

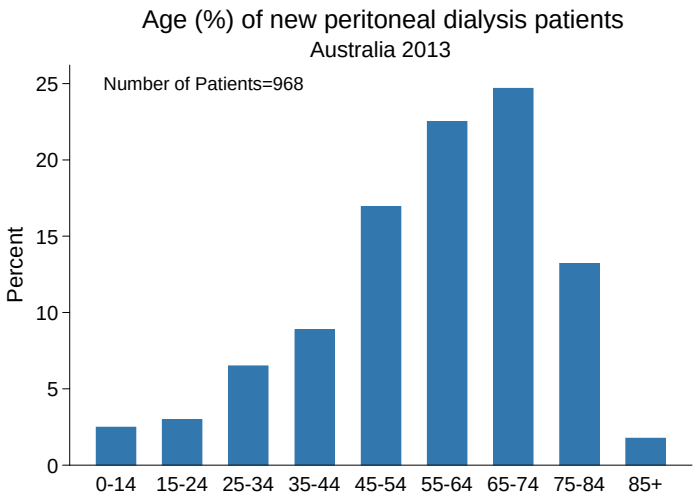


Figure 5.3.2

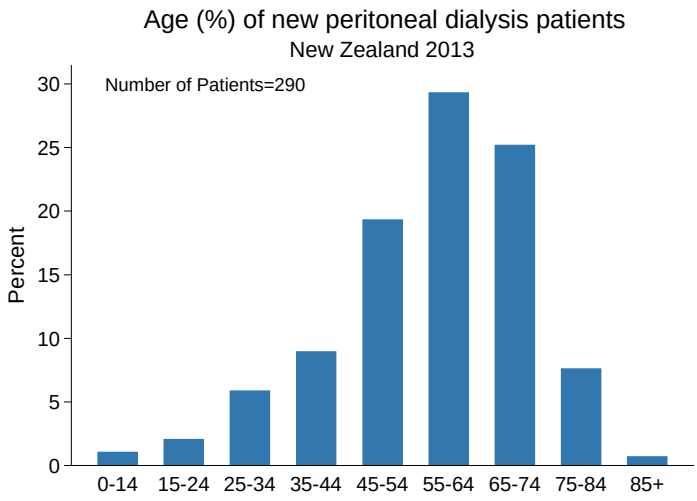


Figure 5.4.1

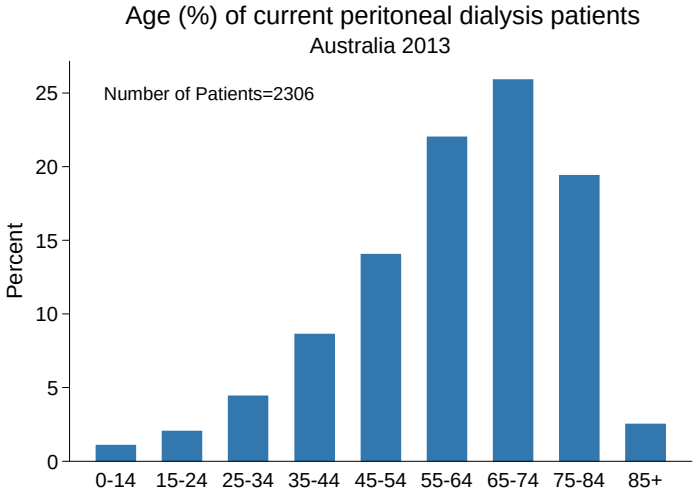


Figure 5.4.2

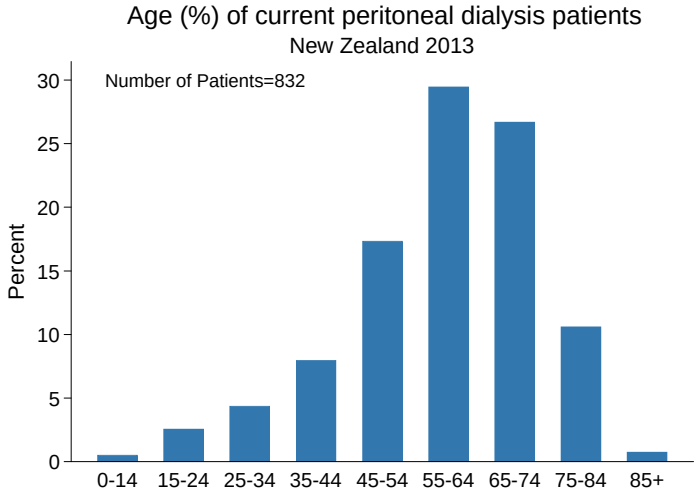


Table 5.3 presents the number and proportion of incident and prevalent patients by age group, and incident patients by primary renal disease.

Table 5.3.1

Incident and prevalent PD patients by age group and primary disease - Australia

Category	Age group	2009	2010	2011	2012	2013
New Patients	0-14	25 (3%)	20 (3%)	22 (3%)	20 (2%)	24 (2%)
	15-24	26 (3%)	17 (2%)	29 (3%)	27 (3%)	29 (3%)
	25-34	54 (6%)	42 (6%)	41 (5%)	61 (6%)	63 (7%)
	35-44	75 (8%)	80 (11%)	87 (10%)	121 (12%)	86 (9%)
	45-54	128 (14%)	134 (18%)	153 (18%)	144 (14%)	164 (17%)
	55-64	198 (22%)	169 (22%)	181 (22%)	227 (23%)	218 (23%)
	65-74	226 (25%)	180 (24%)	180 (22%)	235 (24%)	239 (25%)
	75-84	144 (16%)	107 (14%)	129 (15%)	151 (15%)	128 (13%)
	85+	18 (2%)	8 (1%)	13 (2%)	13 (1%)	17 (2%)
	Total	894	757	835	999	968
Patients Dialysing	0-14	32 (1%)	29 (1%)	26 (1%)	29 (1%)	25 (1%)
	15-24	52 (2%)	39 (2%)	44 (2%)	41 (2%)	47 (2%)
	25-34	97 (4%)	90 (4%)	96 (5%)	98 (4%)	102 (4%)
	35-44	171 (8%)	181 (9%)	185 (9%)	205 (9%)	199 (9%)
	45-54	337 (15%)	301 (14%)	308 (15%)	337 (15%)	324 (14%)
	55-64	482 (22%)	460 (22%)	455 (22%)	494 (22%)	507 (22%)
	65-74	579 (26%)	558 (27%)	514 (25%)	559 (25%)	597 (26%)
	75-84	400 (18%)	379 (18%)	400 (19%)	421 (19%)	447 (19%)
	85+	53 (2%)	52 (2%)	50 (2%)	54 (2%)	58 (3%)
	Total	2203	2089	2078	2238	2306
Primary Renal Disease	Glomerulonephritis	252 (28%)	200 (26%)	224 (27%)	261 (26%)	232 (24%)
	Analgesic Nephropathy	13 (1%)	13 (2%)	9 (1%)	13 (1%)	16 (2%)
	Hypertension	148 (17%)	97 (13%)	115 (14%)	117 (12%)	142 (15%)
	Polycystic Disease	55 (6%)	53 (7%)	45 (5%)	53 (5%)	49 (5%)
	Reflux Nephropathy	39 (4%)	22 (3%)	23 (3%)	34 (3%)	22 (2%)
	Diabetic Nephropathy	267 (30%)	251 (33%)	273 (33%)	322 (32%)	316 (33%)
	Miscellaneous	81 (9%)	83 (11%)	96 (11%)	142 (14%)	132 (14%)
	Uncertain	39 (4%)	38 (5%)	50 (6%)	57 (6%)	59 (6%)
	Total	894	757	835	999	968

Table 5.3.2

Incident and prevalent PD patients by age group and primary disease - New Zealand

Category	Age group	2009	2010	2011	2012	2013
New Patients	0-14	3 (1%)	3 (1%)	5 (2%)	6 (2%)	3 (1%)
	15-24	4 (1%)	8 (3%)	5 (2%)	11 (4%)	6 (2%)
	25-34	10 (4%)	9 (3%)	13 (5%)	11 (4%)	17 (6%)
	35-44	31 (11%)	22 (8%)	21 (9%)	26 (10%)	26 (9%)
	45-54	60 (21%)	44 (16%)	39 (16%)	64 (24%)	56 (19%)
	55-64	62 (22%)	88 (32%)	76 (31%)	76 (28%)	85 (29%)
	65-74	86 (30%)	70 (25%)	66 (27%)	59 (22%)	73 (25%)
	75-84	27 (10%)	32 (12%)	18 (7%)	14 (5%)	22 (8%)
	85+	1 (0%)	0 (0%)	1 (0%)	1 (0%)	2 (1%)
	Total	284	276	244	268	290
Patients Dialysing	0-14	10 (1%)	7 (1%)	9 (1%)	4 (1%)	4 (0%)
	15-24	27 (3%)	22 (3%)	24 (3%)	19 (2%)	21 (3%)
	25-34	33 (4%)	28 (3%)	26 (3%)	33 (4%)	36 (4%)
	35-44	62 (8%)	67 (8%)	58 (7%)	66 (8%)	66 (8%)
	45-54	157 (20%)	141 (17%)	121 (15%)	125 (16%)	144 (17%)
	55-64	213 (27%)	235 (28%)	240 (30%)	228 (29%)	245 (29%)
	65-74	216 (27%)	231 (28%)	224 (28%)	218 (28%)	222 (27%)
	75-84	72 (9%)	98 (12%)	89 (11%)	82 (11%)	88 (11%)
	85+	10 (1%)	3 (0%)	4 (1%)	3 (0%)	6 (1%)
	Total	800	832	795	778	832
Primary Renal Disease	Glomerulonephritis	57 (20%)	65 (24%)	55 (23%)	60 (22%)	70 (24%)
	Analgesic Nephropathy	0 (0%)	3 (1%)	3 (1%)	4 (1%)	2 (1%)
	Hypertension	33 (12%)	36 (13%)	29 (12%)	22 (8%)	25 (9%)
	Polycystic Disease	18 (6%)	7 (3%)	12 (5%)	13 (5%)	15 (5%)
	Reflux Nephropathy	5 (2%)	3 (1%)	4 (2%)	7 (3%)	9 (3%)
	Diabetic Nephropathy	128 (45%)	134 (49%)	107 (44%)	122 (46%)	136 (47%)
	Miscellaneous	31 (11%)	20 (7%)	23 (9%)	31 (12%)	27 (9%)
	Uncertain	12 (4%)	8 (3%)	11 (5%)	9 (3%)	6 (2%)
	Total	284	276	244	268	290

Figure 5.5 shows the proportion of dialysis patients using PD as their modality by age. In both Australia and New Zealand PD is the predominant modality for paediatric patients, but HD is the predominant modality for adult patients.

Figure 5.5.1

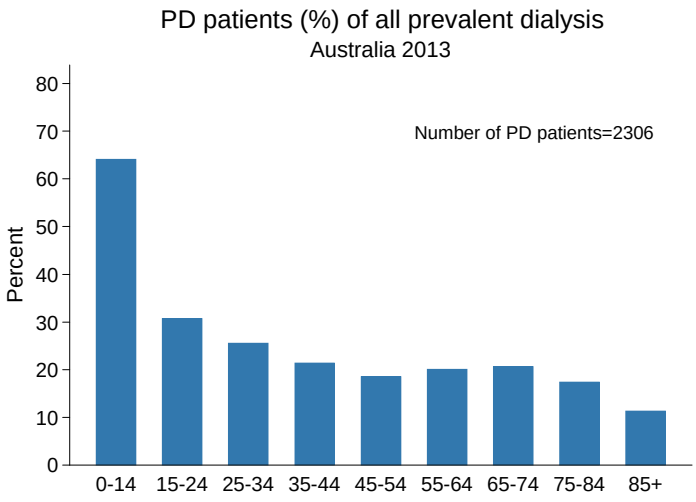


Figure 5.5.2

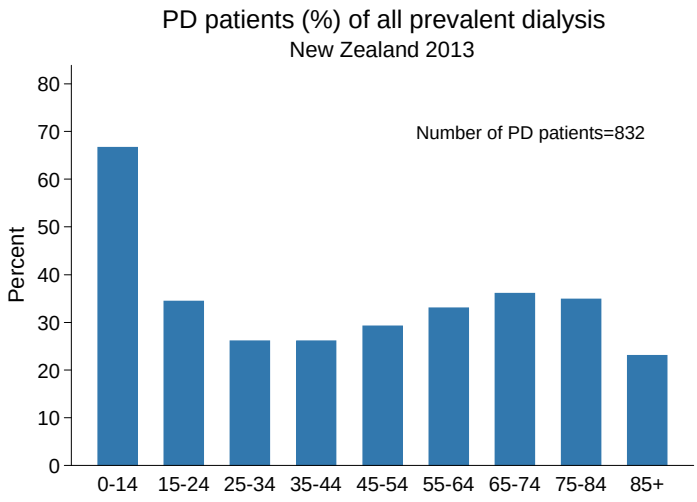


Table 5.4 shows the number of prevalent PD patients, and number per million population, according to PD type.

Table 5.4.1

Number (per Million) of Prevalent PD Patients, Australia 2009-2013

	2009	2010	2011	2012	2013
Total	**2203 (101.57)**	**2089 (94.83)**	**2078 (93.03)**	**2238 (98.48)**	**2306 (99.71)**
APD	1314 (60.58)	1279 (58.06)	1285 (57.53)	1400 (61.61)	1448 (62.61)
CAPD	889 (40.99)	810 (36.77)	793 (35.50)	838 (36.88)	858 (37.10)

Table 5.4.2

Number (per Million) of Prevalent PD Patients, New Zealand 2009-2013

	2009	2010	2011	2012	2013
Total	**800 (185.93)**	**832 (191.23)**	**795 (181.34)**	**778 (176.50)**	**832 (187.30)**
APD	337 (78.32)	359 (82.52)	352 (80.29)	377 (85.53)	389 (87.57)
CAPD	463 (107.61)	473 (108.72)	443 (101.05)	401 (90.97)	443 (99.73)

Peritoneal Dialysis Fluids

Table 5.5 shows the use of icodextrin by country and PD type at the end of 2013. Figure 5.6 shows the trends in icodextrin use over the last three years; the proportion of patients using icodextrin is relatively stable. Finally, figure 5.7 shows icodextrin use by state and PD type at the end of 2013.

Table 5.5

Icodextrin Usage by Modality Type - December 2013

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	475	335	48	858	243	186	14	443
	%	55.36%	39.04%	5.59%		54.85%	41.99%	3.16%	
APD	n	780	622	46	1448	111	274	4	389
	%	53.87%	42.96%	3.18%		28.53%	70.44%	1.03%	
Total	n	1255	957	94	2306	354	460	18	832
	%	54.42%	41.50%	4.08%		42.55%	55.29%	2.16%	

Figure 5.6.1

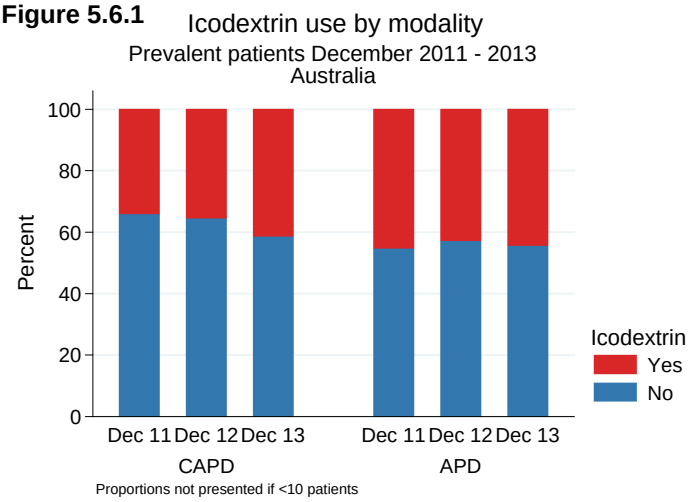


Figure 5.6.2

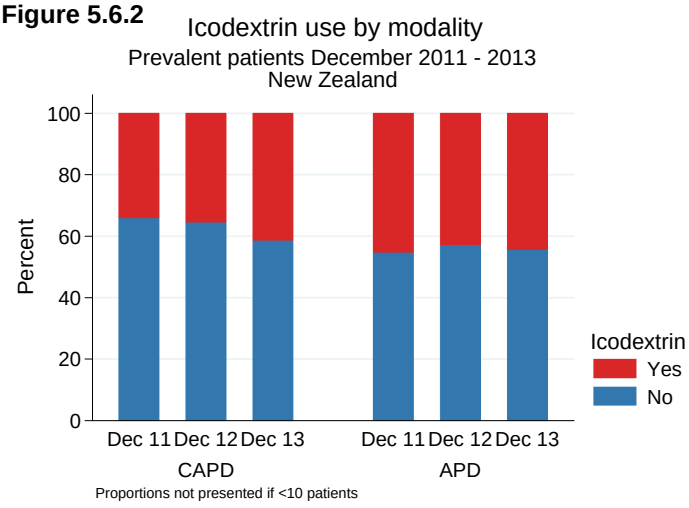


Figure 5.7

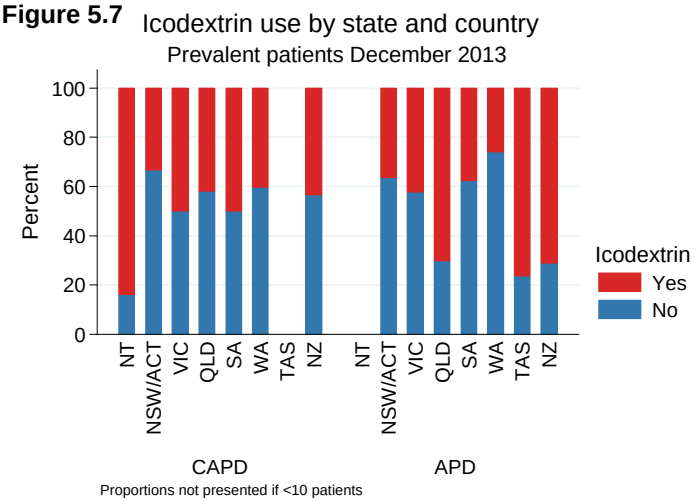


Table 5.6 and figure 5.8 present similar data for low lactate PD solutions, and table 5.7 and figure 5.9 present similar data for low bicarbonate PD solutions. The use of these PD solutions in both Australia and New Zealand is uncommon.

Table 5.6

Low GDP - Lactate Usage by Modality Type - December 2013

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	704	106	48	858	402	27	14	443
	%	82.05%	12.35%	5.59%		90.74%	6.09%	3.16%	
APD	n	1309	93	46	1448	378	7	4	389
	%	90.40%	6.42%	3.18%		97.17%	1.80%	1.03%	
Total	n	2013	199	94	2306	780	34	18	832
	%	87.29%	8.63%	4.08%		93.75%	4.09%	2.16%	

Figure 5.8.1

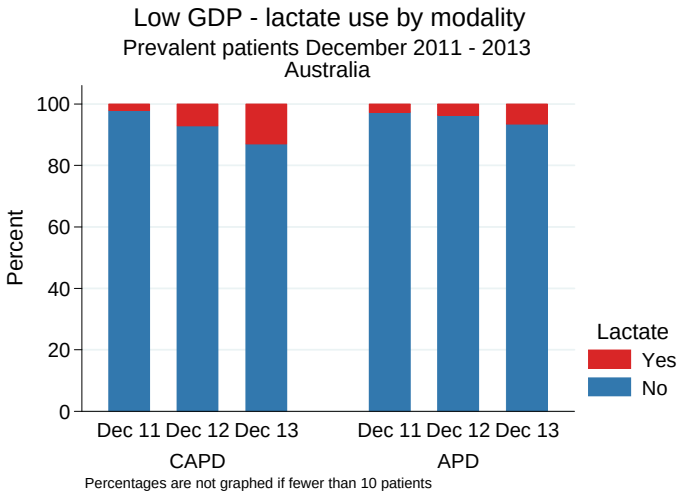


Figure 5.8.2

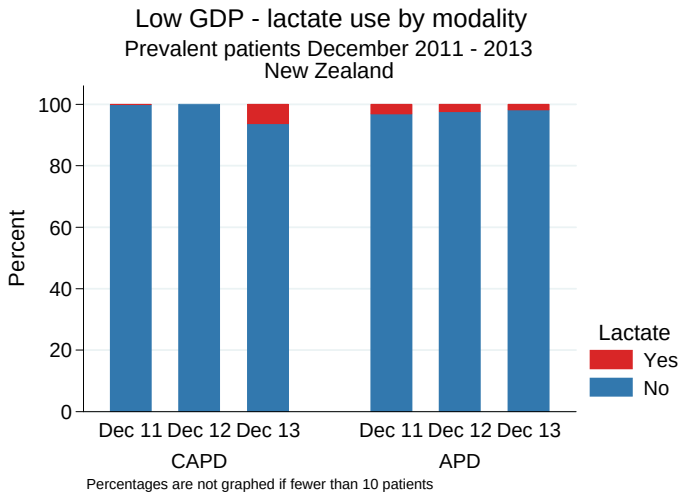


Table 5.7

Low GDP - Bicarb Usage by Modality Type - December 2013

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	785	25	48	858	426	3	14	443
	%	91.49%	2.91%	5.59%		96.16%	0.68%	3.16%	
APD	n	1373	29	46	1448	380	5	4	389
	%	94.82%	2.00%	3.18%		97.69%	1.29%	1.03%	
Total	n	2158	54	94	2306	806	8	18	832
	%	93.58%	2.34%	4.08%		96.88%	0.96%	2.16%	

Figure 5.9.1

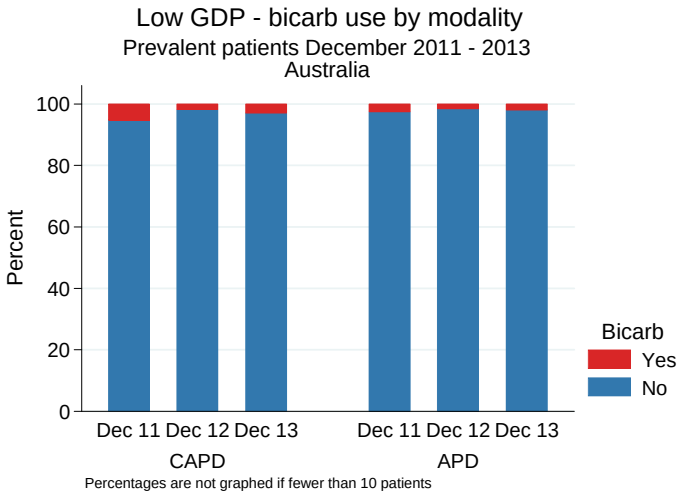
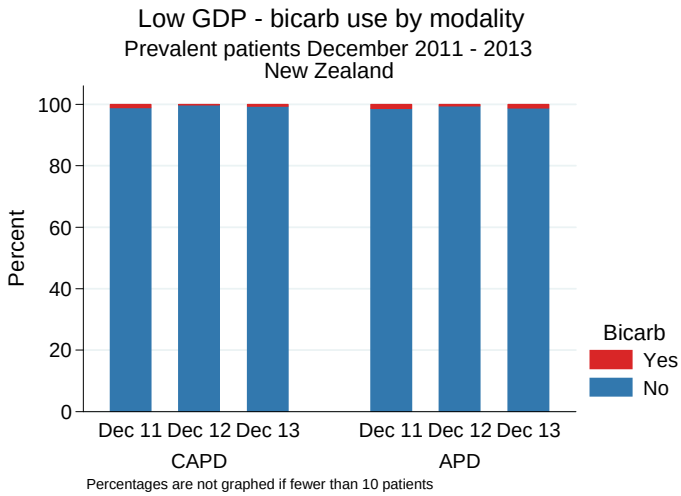


Figure 5.9.2



Patient Survival

The next section examines PD patient survival. Survival time is for those on PD at day 90, from day 90, and censored at transplantation.

Table 5.8 and figure 5.10 show patient survival by era; survival is gradually improving in each country.

Table 5.8

Peritoneal Dialysis at 90 Days
Patient Survival by Era 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**2002 - 2004**	1858	97[96,98]	91[89,92]	69[67,71]	53[51,55]
	2005 - 2007	2053	98[97,98]	92[91,93]	71[69,73]	57[55,59]
	2008 - 2010	2020	98[98,99]	94[93,95]	76[74,78]	61[58,63]
	2011 - 2013	2096	98[97,99]	95[94,96]	-	-
New Zealand	**2002 - 2004**	646	97[95,98]	90[87,92]	62[59,66]	44[40,48]
	2005 - 2007	614	98[97,99]	93[90,94]	70[67,74]	48[44,52]
	2008 - 2010	649	98[97,99]	93[91,95]	73[69,76]	54[50,58]
	2011 - 2013	620	99[98,100]	94[92,96]	-	-

Figure 5.10.1

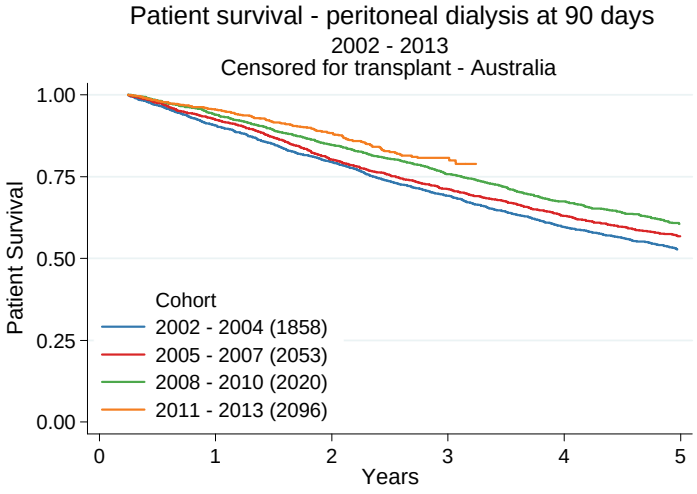


Figure 5.10.2

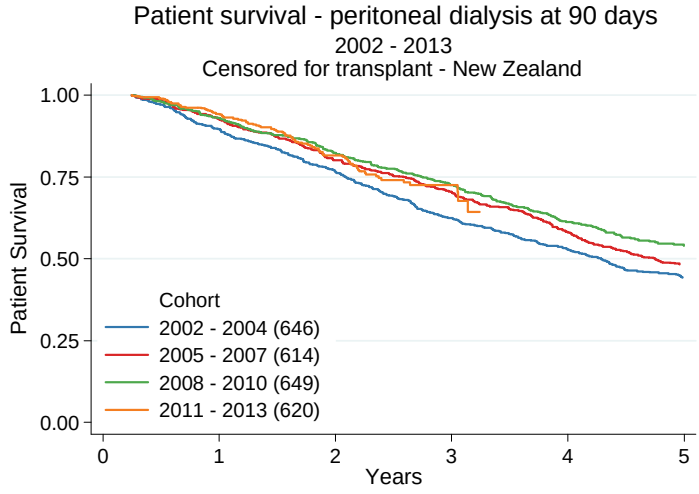


Table 5.9 and figure 5.11 demonstrate the strong association between patient age and survival.

Table 5.9

Peritoneal Dialysis at 90 Days
Patient Survival by Age Group 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	**<40**	1192	99[99,100]	98[98,99]	94[92,95]	91[89,93]
	40-59	2483	99[98,99]	96[96,97]	83[81,85]	72[70,74]
	60-74	2949	97[96,98]	91[90,92]	67[65,69]	46[44,48]
	≥75	1403	96[95,97]	87[85,89]	53[50,56]	28[25,31]
New Zealand	**<40**	284	99[97,100]	97[95,99]	90[85,93]	82[77,87]
	40-59	942	98[97,99]	94[93,96]	76[73,79]	58[55,62]
	60-74	1049	98[97,99]	91[89,93]	62[59,65]	38[34,41]
	≥75	254	94[91,97]	85[80,89]	47[40,53]	23[18,29]

Figure 5.11.1

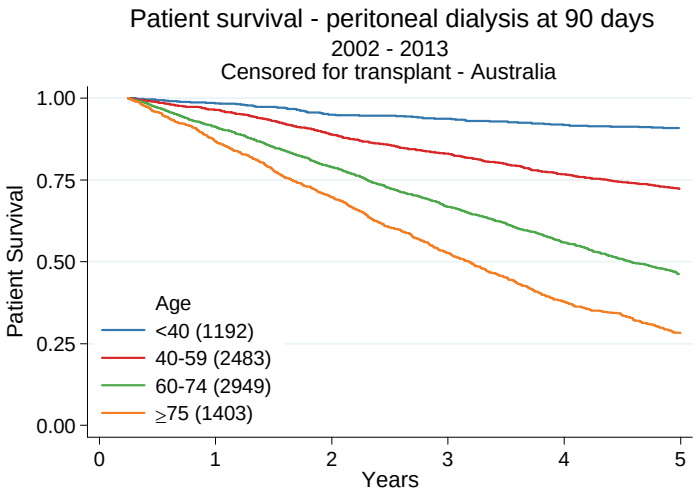


Figure 5.11.2

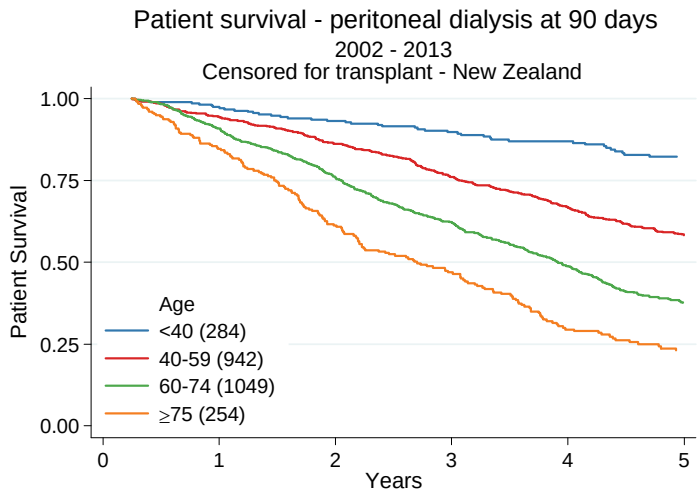


Table 5.10 and figure 5.12 present these data by diabetic status; as expected, survival is worse in diabetic patients.

Table 5.10

Peritoneal Dialysis at 90 Days
Patient Survival by Diabetic Status 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**Non-diabetic**	4742	98[98,98]	94[94,95]	79[78,80]	66[65,68]
	Diabetic	3283	97[97,98]	91[90,92]	65[63,67]	45[43,47]
New Zealand	**Diabetic**	1265	98[97,98]	93[92,95]	75[72,77]	60[57,63]
	Non-diabetic	1264	98[98,99]	91[89,93]	63[60,66]	37[34,40]

Figure 5.12.1

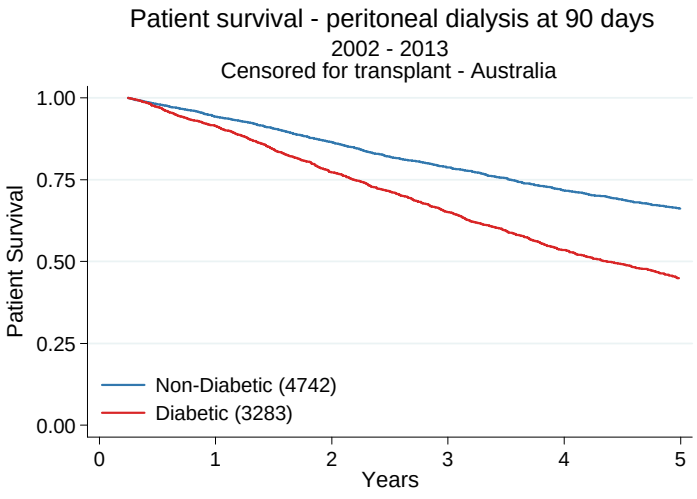
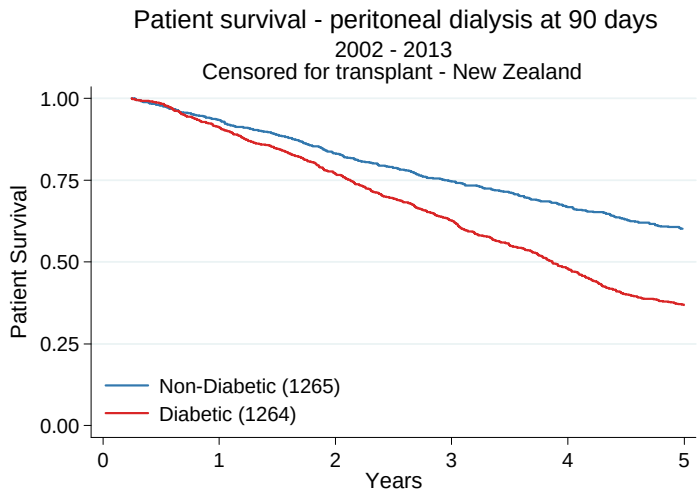


Figure 5.12.2



Technique Survival

This section examines PD technique survival, defined as the number of days the patient spent on PD before transferring to HD for at least 30 days or dying. Survival time is calculated from day 90 and censored at transplantation. Survival is shown for the same categories reported for patient survival above. Analogously to patient survival, technique survival is adversely affected by older age and diabetic status, and is improving gradually over time.

Table 5.11

Peritoneal Dialysis at 90 Days
Technique Survival by Era 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	2002 - 2004	1858	91[90,92]	77[75,79]	36[33,38]	15[13,17]
	2005 - 2007	2053	93[91,94]	78[76,79]	37[34,39]	17[15,18]
	2008 - 2010	2020	92[91,93]	80[78,81]	41[39,43]	21[18,23]
	2011 - 2013	2096	94[92,95]	82[80,84]	-	-
New Zealand	2002 - 2004	646	95[92,96]	82[79,85]	38[34,42]	16[13,19]
	2005 - 2007	614	95[93,97]	84[81,87]	45[41,49]	21[18,25]
	2008 - 2010	649	95[93,96]	84[81,87]	47[43,51]	23[18,27]
	2011 - 2013	620	96[94,97]	86[83,89]	-	-

Figure 5.13.1

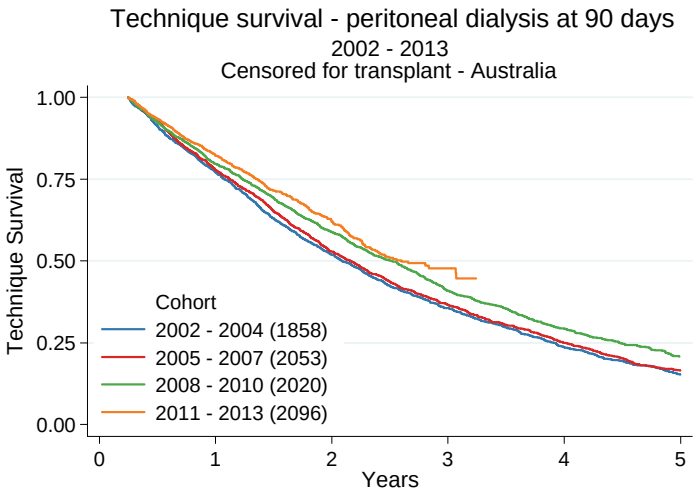


Figure 5.13.2

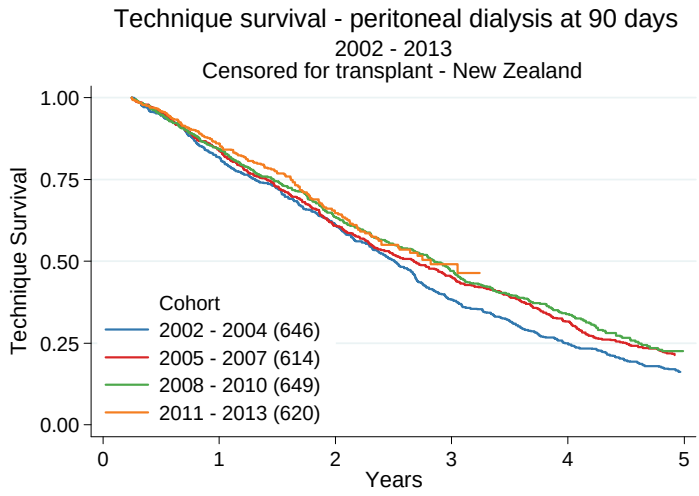


Table 5.12

Peritoneal Dialysis at 90 Days
Technique Survival by Age Group 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	**<40**	1192	94[93,95]	80[78,83]	45[41,49]	28[23,32]
	40-59	2483	93[92,94]	81[80,83]	43[40,45]	22[20,25]
	60-74	2949	92[91,93]	79[78,81]	38[36,40]	17[15,19]
	≥75	1403	91[89,92]	74[72,77]	32[29,35]	11[9,13]
New Zealand	**<40**	284	95[92,97]	88[83,91]	48[40,55]	30[22,39]
	40-59	942	96[94,97]	86[83,88]	46[43,50]	25[21,29]
	60-74	1049	96[94,97]	83[80,85]	44[40,47]	18[15,21]
	≥75	254	91[87,94]	78[72,83]	33[27,39]	10[6,15]

Figure 5.14.1

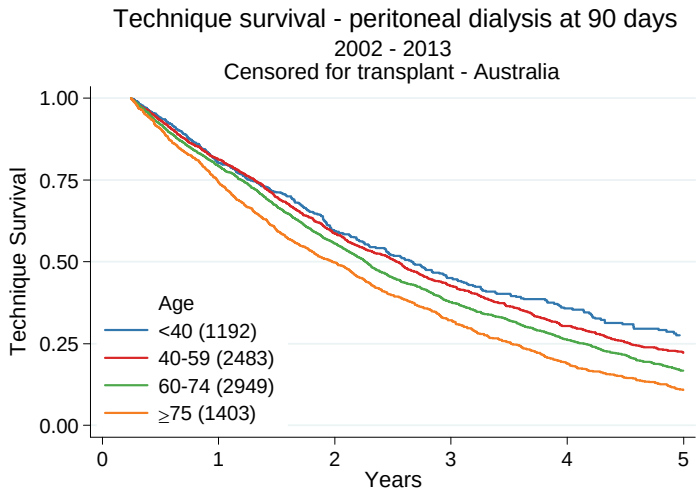


Figure 5.14.2

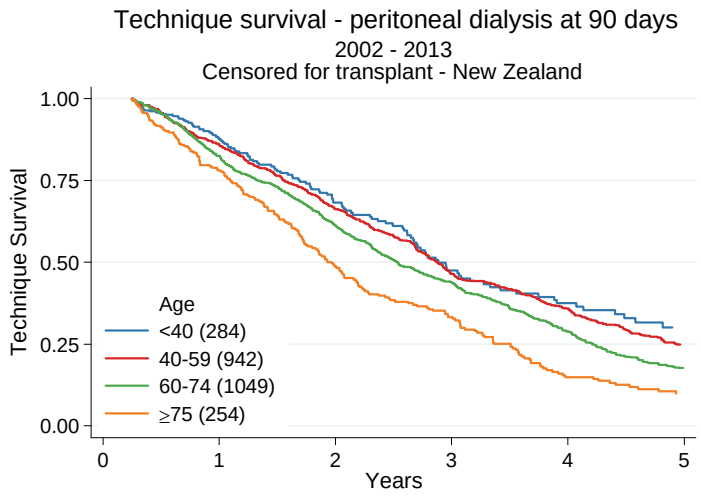


Table 5.13

Peritoneal Dialysis at 90 Days
Technique Survival by Diabetic Status 2002 - 2013
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**Diabetic**	3283	92[91,93]	78[76,79]	33[32,35]	13[11,14]
	Non-diabetic	4742	93[92,94]	80[79,81]	43[41,45]	22[20,24]
New Zealand	**Non-diabetic**	1264	96[94,97]	83[81,85]	41[38,44]	16[13,18]
	Diabetic	1265	95[93,96]	85[83,87]	48[44,51]	26[22,29]

Figure 5.15.1

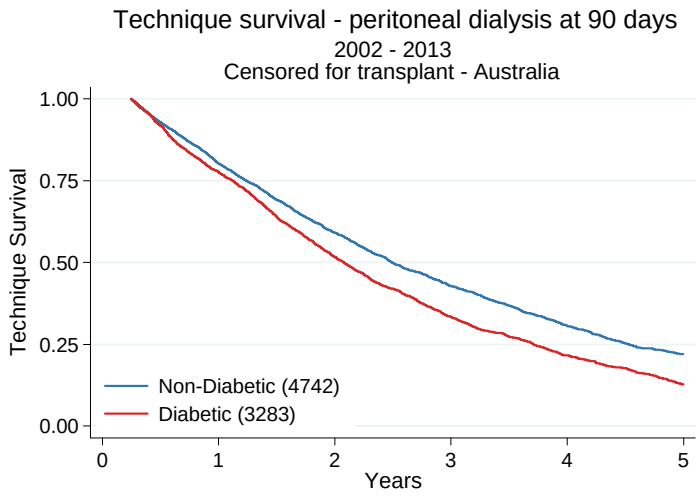
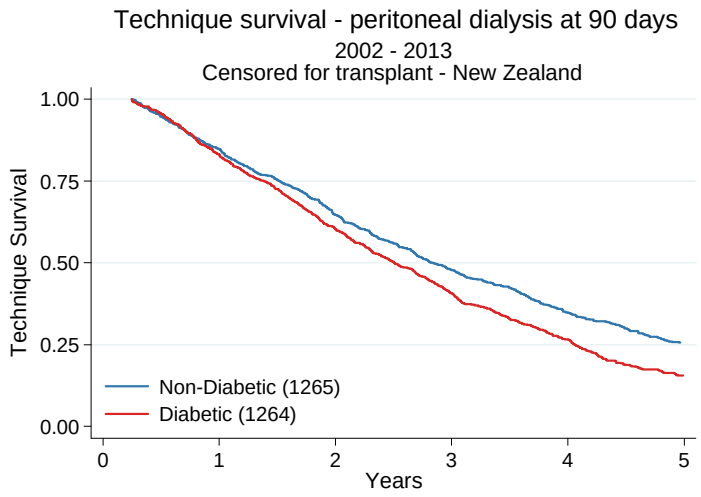


Figure 5.15.2



The causes of PD technique failure in 2013, apart from deaths on PD, are shown in table 5.14. Peritonitis remains the most common cause of technique failure in each country.

Table 5.14

Causes of Peritoneal Dialysis Technique Failure in 2013

Causes of technique failure	Australia	New Zealand
Abdominal Abscess	1	1
Acute Peritonitis	86	11
Recurrent/Persistent Peritonitis	50	20
Tunnel/Exit Site Infection	11	7
Unspecified Peritoneal Infection	3	2
Total Infective	151 (29%)	41 (34%)
Catheter Migrated	4	
Inadequate Fluid Ultrafiltration	27	10
Inadequate Solute Clearance	78	9
Total Dialysis	109 (21%)	19 (16%)
Abdominal Pain	5	
Cardiovascular Instability	1	3
Catheter Block	10	1
Dialysate Leak	20	10
Haemoperitoneum	1	
Hernia	18	10
Hydrothorax	3	
Multiple Adhesions	1	1
Pleural Effusion	5	1
Pregnancy		1
Scrotal Oedema		1
Surgery	30	11
Total Technical	94 (18%)	39 (33%)
Patient Preference	57	8
Unable To Manage Self-Care	33	3
Total Patient Preference	90 (18%)	11 (9%)
Other	24	3
Planned Transfer After Acute Pd Start	3	
Poor Nutrition	2	
Vascular access problems	2	
Total Other	31 (6%)	3 (3%)
Total Not Reported	38 (7%)	6 (5%)

Peritonitis

Table 5.15 and figure 5.16 present the time to first peritonitis over 2009-2013 by age at PD start. Peritonitis is more common in children, but otherwise there is little association between age and time to first peritonitis.

Table 5.15

First PD Treatment to First Episode of Peritonitis
By Age at Entry 01-Jan-2009 to 31-Dec-2013
%Survival[95% Confidence Interval]

Survival	Age Groups						
	00-14	15-34	35-54	55-64	65-74	≥75	All
Australia	(n=111)	(n=389)	(n=1172)	(n=994)	(n=1060)	(n=728)	(n=4454)
3 months	77 [68,84]	90 [86,92]	88 [86,89]	89 [87,91]	91 [89,93]	90 [87,92]	89 [88,90]
6 months	65 [54,73]	83 [79,87]	79 [76,81]	83 [80,85]	85 [82,87]	85 [82,87]	82 [81,83]
9 months	55 [44,65]	77 [72,81]	74 [71,76]	77 [74,80]	78 [75,81]	78 [75,81]	76 [75,77]
1 year	50 [38,60]	70 [64,75]	68 [65,71]	72 [69,75]	73 [69,76]	71 [67,74]	70 [69,72]
2 years	33 [17,50]	52 [44,60]	55 [51,58]	52 [48,57]	55 [50,59]	54 [49,59]	53 [51,55]
3 years	33 [17,50]	32 [21,43]	41 [35,46]	40 [35,46]	40 [35,45]	41 [35,47]	40 [37,42]
New Zealand	(n=20)	(n=94)	(n=389)	(n=387)	(n=354)	(n=118)	(n=1362)
3 months	83 [56,94]	93 [86,97]	89 [85,92]	89 [85,92]	87 [83,91]	90 [83,94]	89 [87,90]
6 months	64 [37,82]	82 [71,89]	79 [74,83]	82 [77,85]	80 [76,84]	83 [74,89]	80 [78,83]
9 months	64 [37,82]	75 [64,84]	72 [67,76]	75 [70,79]	74 [68,78]	77 [67,84]	74 [71,76]
1 year	55 [27,76]	70 [57,79]	64 [58,69]	66 [60,71]	66 [60,71]	70 [60,79]	66 [63,68]
2 years	55 [27,76]	62 [48,73]	48 [42,54]	50 [43,57]	47 [41,54]	50 [37,61]	49 [46,53]
3 years	-	37 [15,59]	33 [25,41]	39 [31,47]	30 [23,37]	40 [27,52]	35 [31,39]

Figure 5.16.1

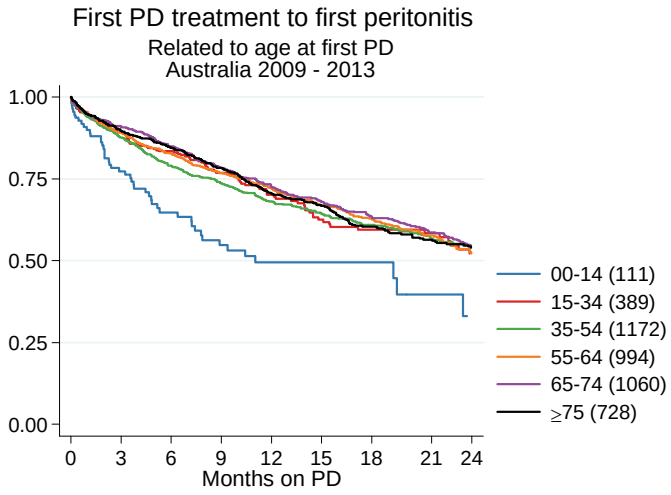
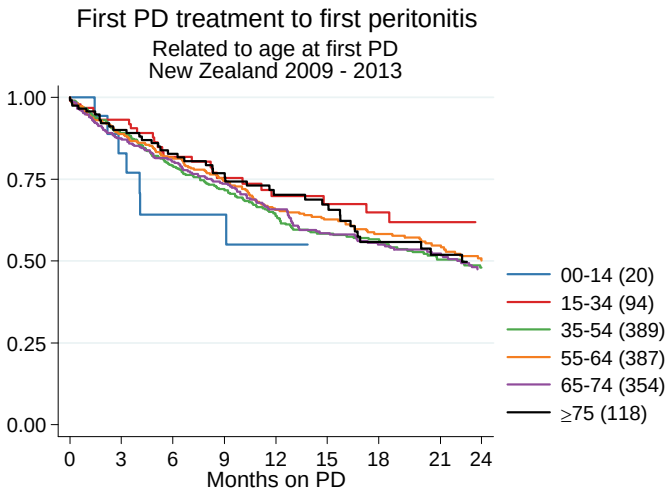


Figure 5.16.2



In Australia peritonitis is more common in indigenous patients and less common in Asians (figures 5.17 and 5.18). In New Zealand a similar but less pronounced pattern is seen, and the gap between races appears to be narrowing (figures 5.19 and 5.20).

Figure 5.17

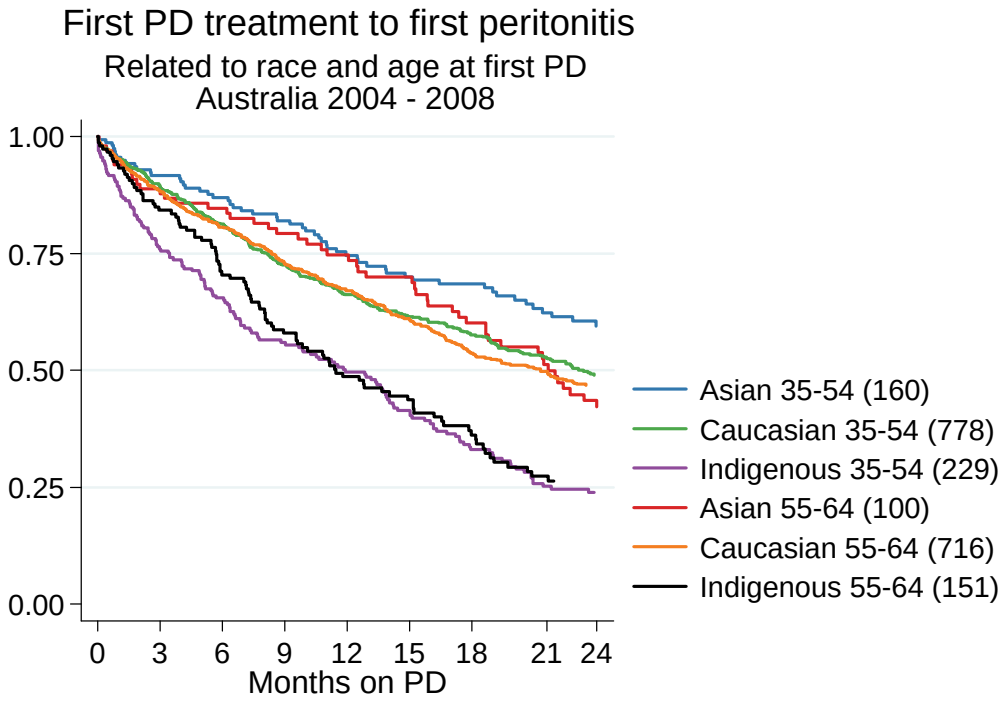


Figure 5.18

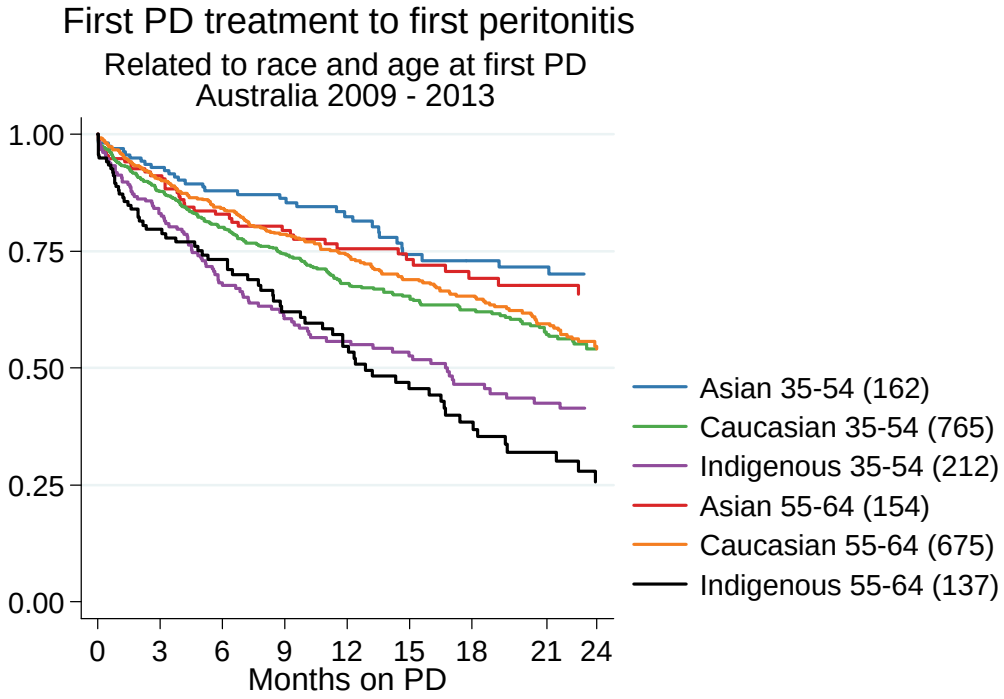


Figure 5.19

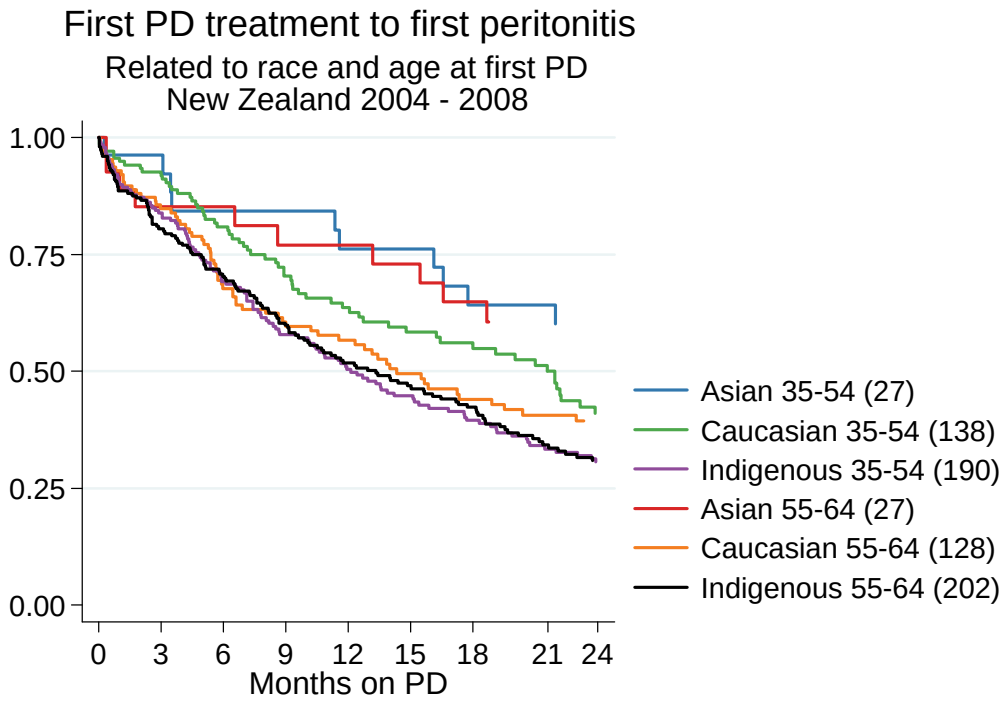


Figure 5.20

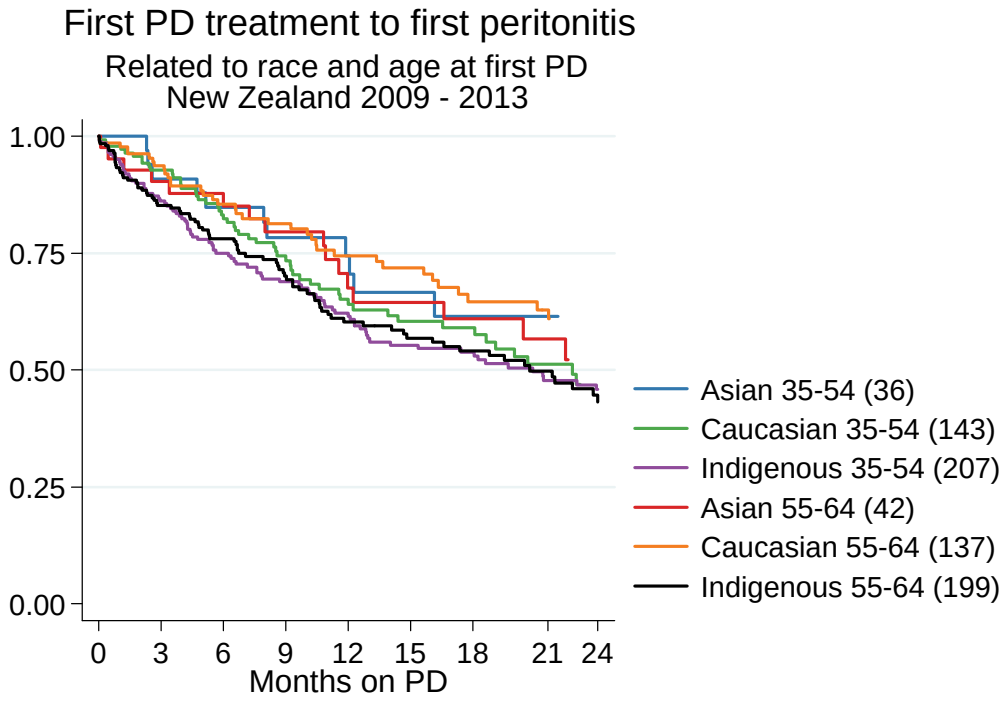


Table 5.16 and figure 5.21 show similar data by age group, but restricted to patients who commenced APD.

Table 5.16

First home APD Treatment to First Episode of Peritonitis
By Age at Entry 01-Jan-2009 to 31-Dec-2013
%Survival[95% Confidence Interval]

Survival	Age Groups						
	00-14	15-34	35-54	55-64	65-74	≥75	All
Australia	(n=103)	(n=321)	(n=864)	(n=658)	(n=714)	(n=457)	(n=3117)
3 months	83 [73, 89]	92 [88, 95]	91 [89, 93]	92 [89, 94]	95 [93, 96]	92 [89, 94]	92 [91, 93]
6 months	73 [62, 81]	86 [81, 89]	85 [83, 88]	87 [84, 90]	89 [86, 91]	88 [85, 91]	87 [85, 88]
9 months	68 [57, 77]	80 [74, 85]	80 [77, 83]	83 [79, 86]	83 [80, 86]	80 [76, 84]	81 [79, 82]
1 year	65 [52, 74]	74 [68, 80]	75 [71, 78]	78 [74, 82]	78 [74, 81]	77 [72, 81]	76 [74, 78]
2 years	49 [30, 65]	55 [45, 64]	64 [59, 68]	61 [55, 66]	62 [56, 67]	62 [56, 68]	61 [59, 64]
3 years	49 [30, 65]	35 [21, 49]	51 [44, 57]	57 [51, 63]	49 [42, 55]	47 [38, 56]	50 [46, 53]
New Zealand	(n=19)	(n=64)	(n=258)	(n=217)	(n=180)	(n=48)	(n=786)
3 months	83 [56, 94]	93 [83, 97]	90 [86, 93]	96 [92, 98]	92 [87, 95]	98 [85, 100]	93 [91, 94]
6 months	64 [37, 82]	89 [78, 95]	83 [77, 87]	87 [82, 92]	81 [74, 87]	95 [83, 99]	85 [82, 87]
9 months	55 [27, 76]	78 [64, 88]	79 [73, 84]	81 [74, 86]	77 [69, 83]	84 [68, 93]	79 [76, 82]
1 year	55 [27, 76]	78 [64, 88]	74 [67, 80]	75 [68, 81]	72 [63, 79]	78 [60, 88]	74 [70, 77]
2 years	55 [27, 76]	57 [37, 73]	65 [56, 72]	63 [53, 70]	59 [48, 68]	35 [16, 55]	60 [55, 65]
3 years	-	36 [12, 61]	47 [35, 58]	52 [41, 62]	54 [43, 65]	35 [16, 55]	49 [43, 55]

Figure 5.21.1

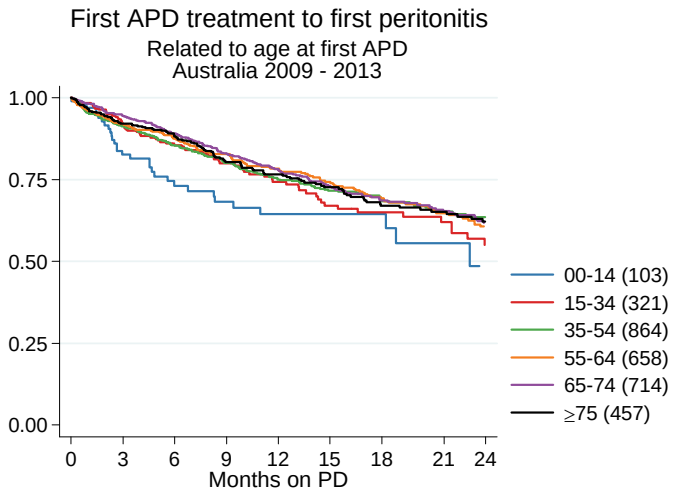
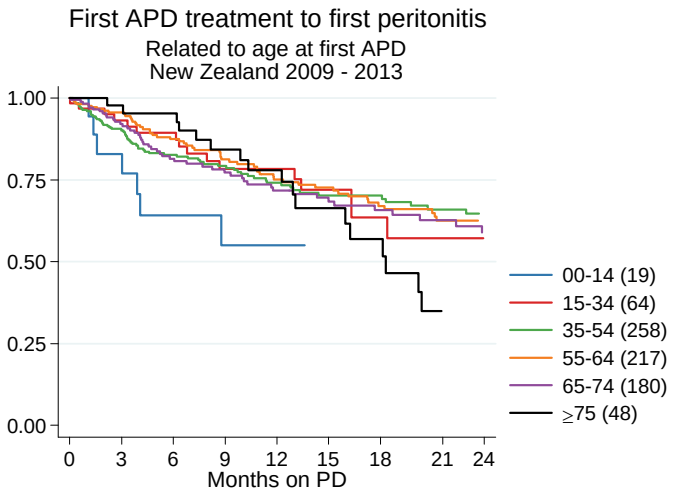


Figure 5.21.2



Australian Peritonitis Registry

Since October 2003 ANZDATA has collected detailed information on PD peritonitis episodes in Australian patients. A selection of those data are reported here. New Zealand has a separate PD registry and we are in the process of linking that with ANZDATA in order to report similar data for New Zealand. We expect this will occur during 2015 and appear in the 2015 Annual Report.

Figures 5.22-5.26 report the peritonitis rate, expressed as episodes per patient-year on the left y axis and patient-months per episode on the right y axis, according to different categories. The overall peritonitis rate in Australia has dropped considerably over the last few years (figure 5.22). However, there remains significant variation between states (figures 5.23 and 5.24) and individual treating hospitals (figures 5.25 and 5.26).

Figure 5.22

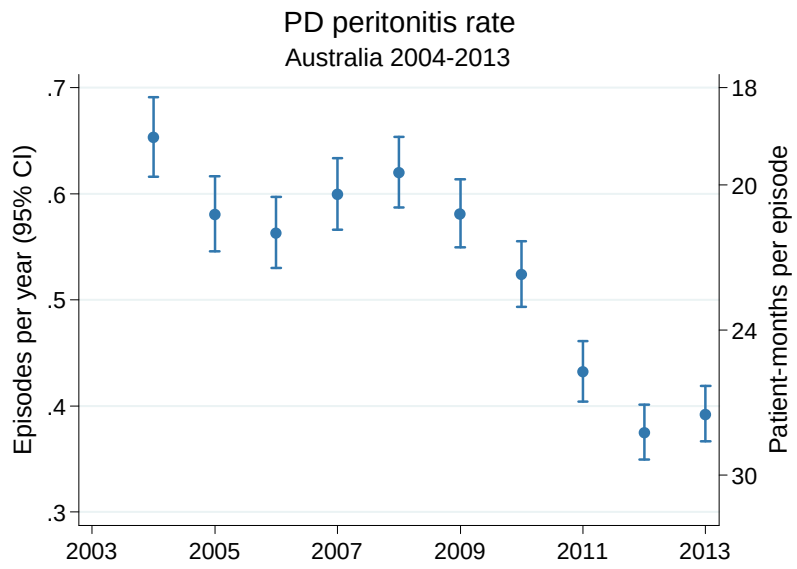


Figure 5.23

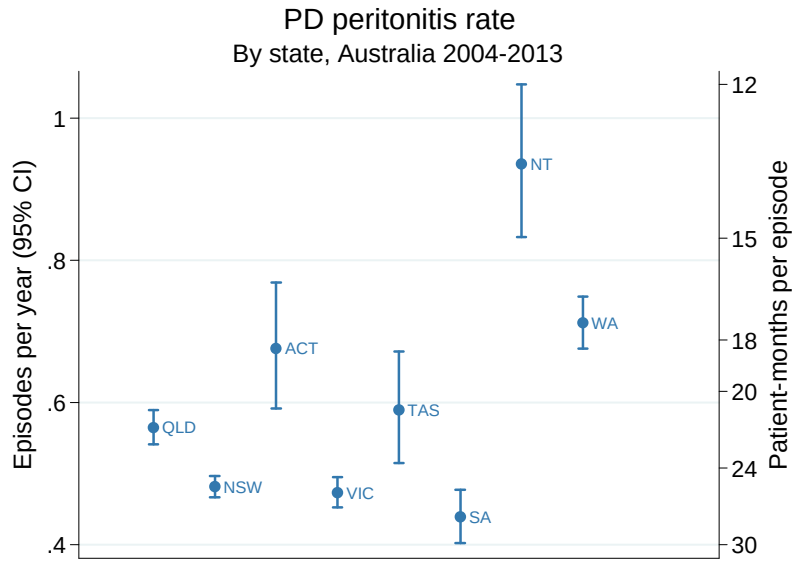


Figure 5.24

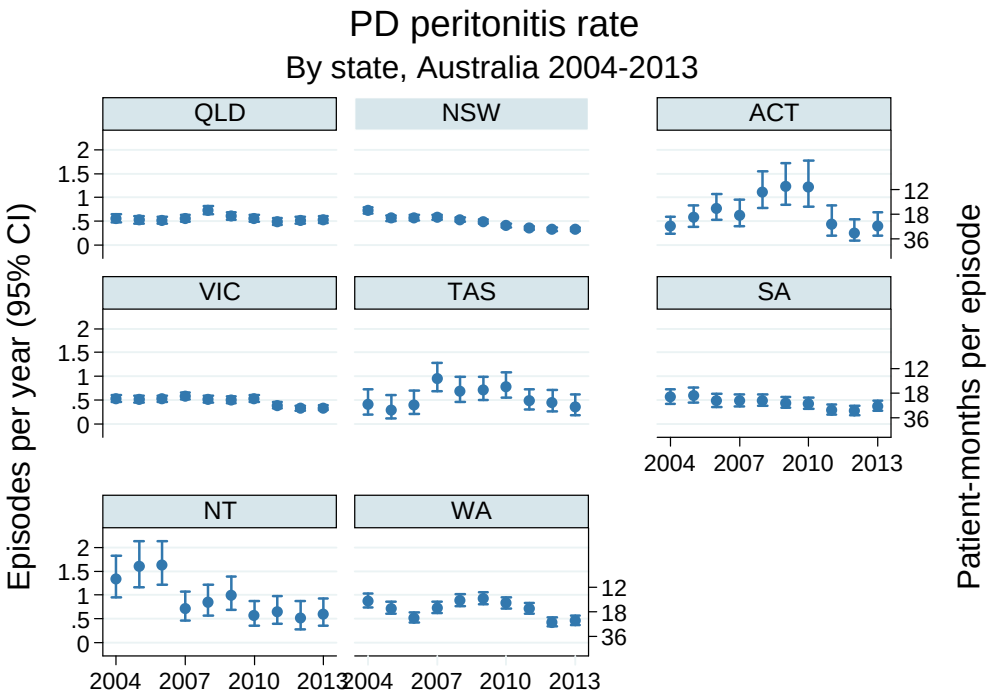


Figure 5.25

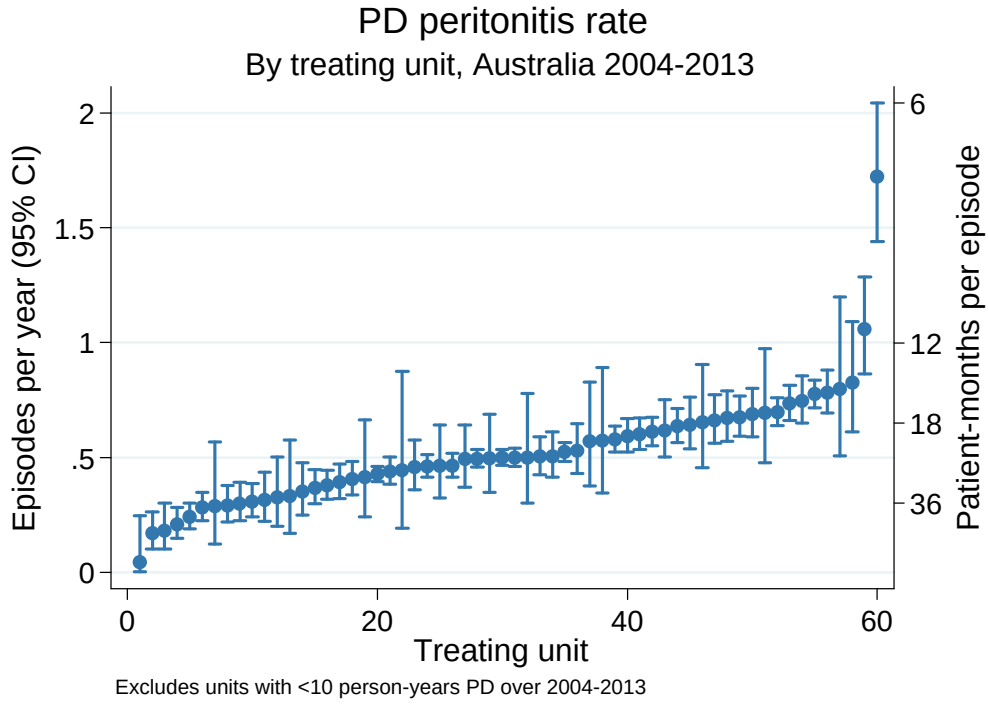
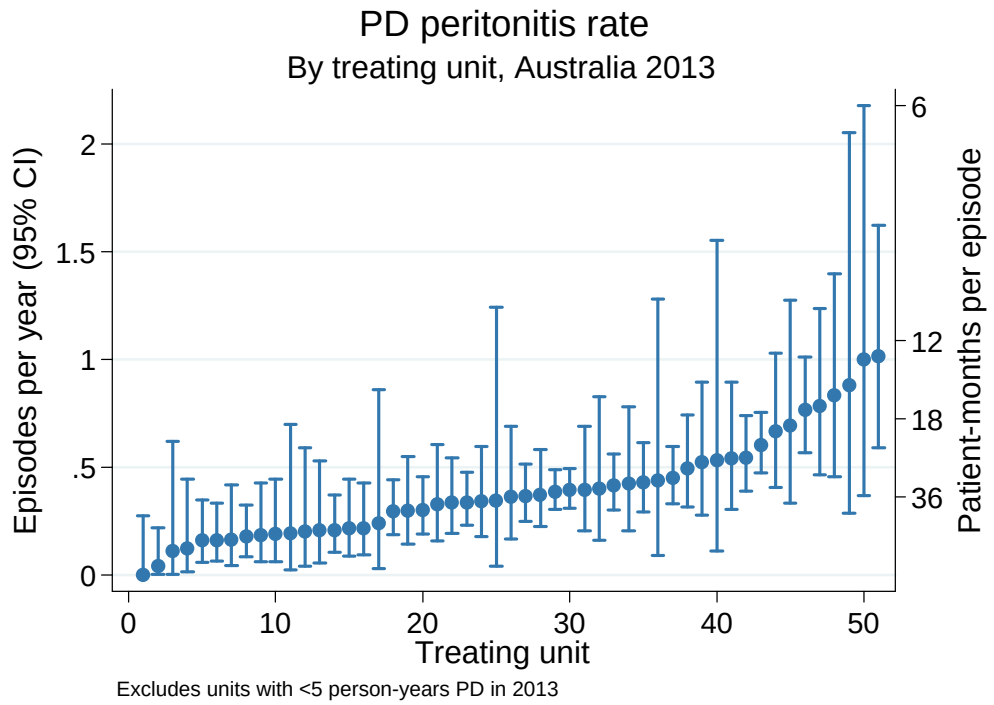


Figure 5.26



The organisms causing peritonitis are presented in figure 5.27. The distribution of organisms is quite stable, although there has been a gradual increase the proportion of culture negative infections. Figure 5.28 shows these data for 2013 stratified by state.

Figure 5.27

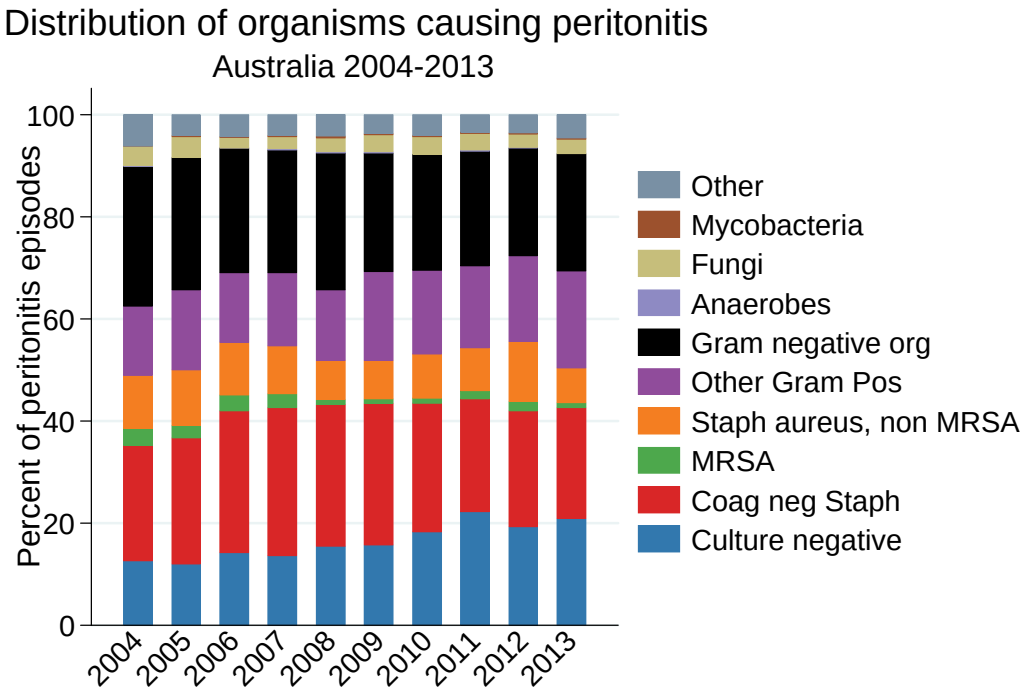
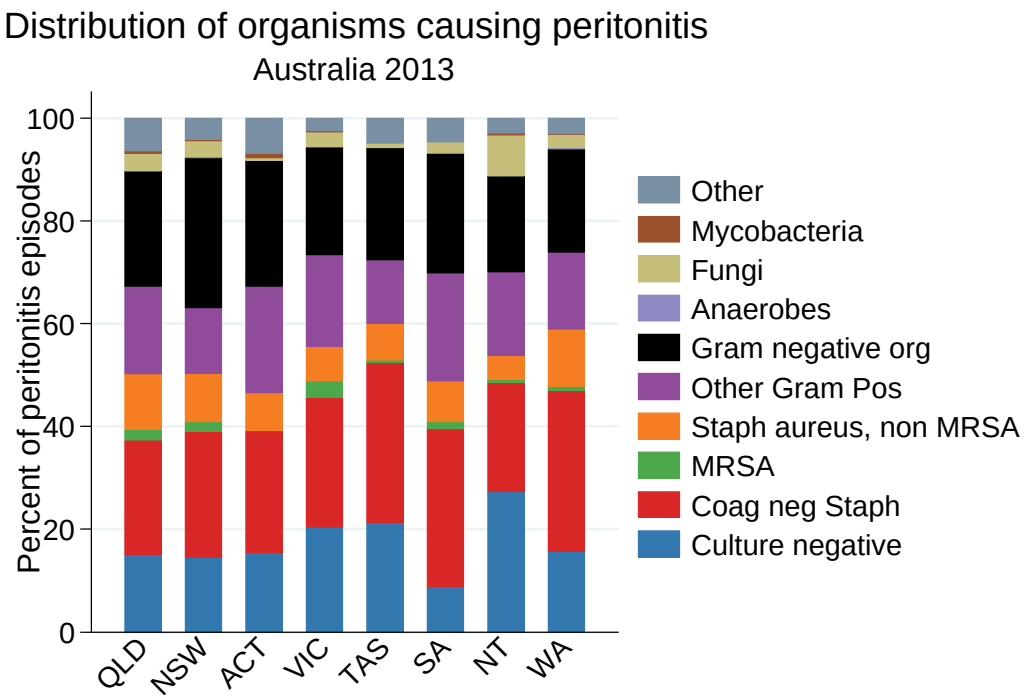


Figure 5.28



Around half of episodes are initially treated with vancomycin, and the majority receive an aminoglycoside (figure 5.29). Second and third regimens are shown in figure 5.30.

Figure 5.29

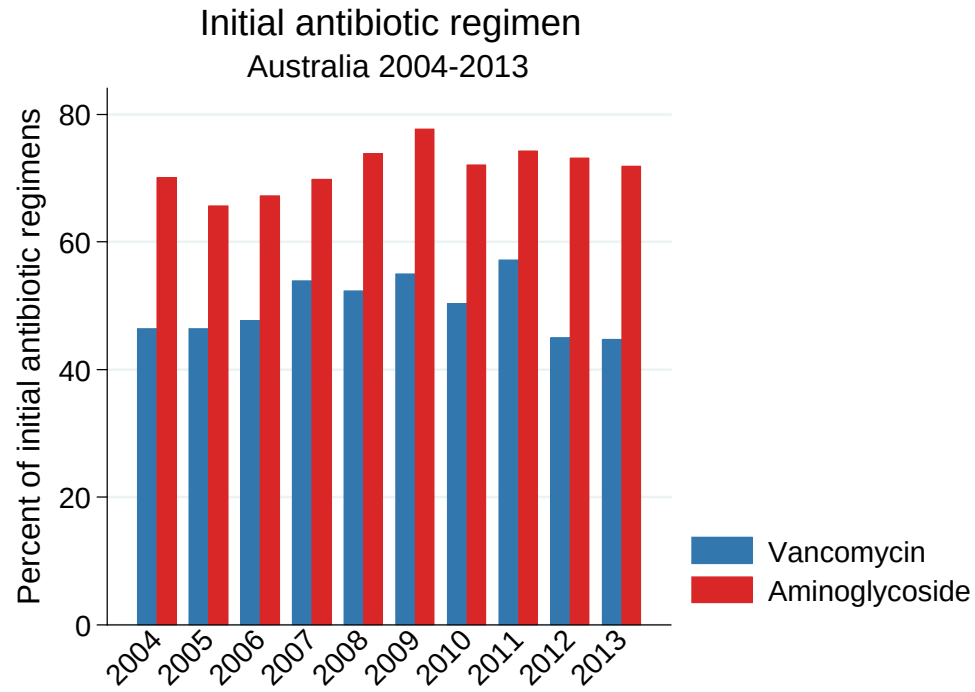
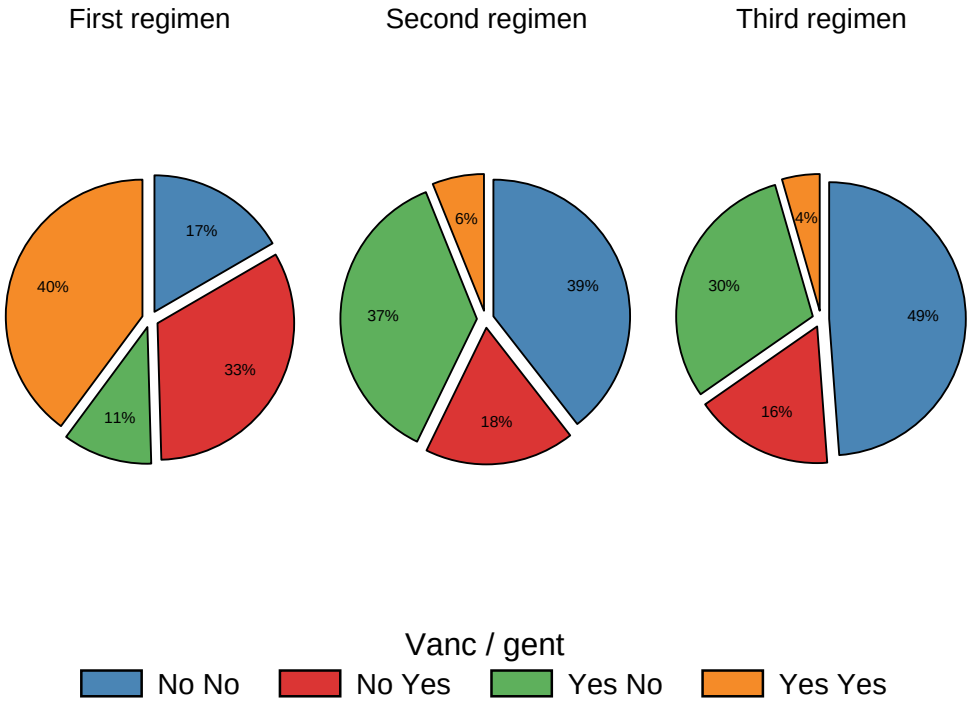
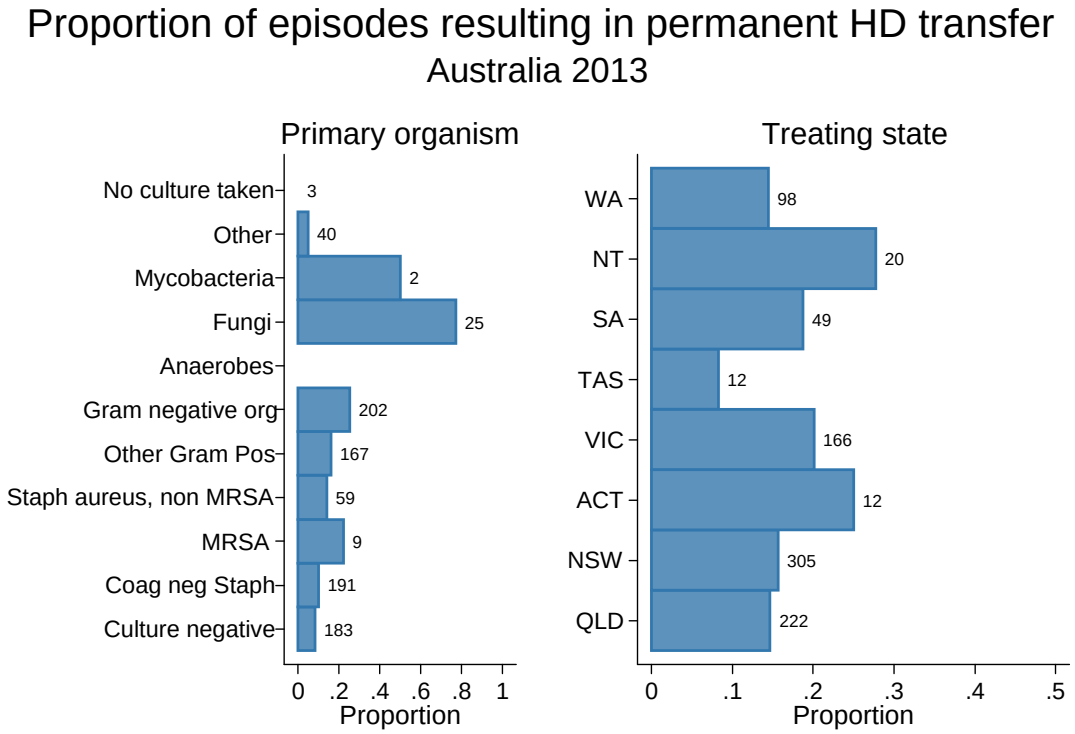


Figure 5.30



The proportion of peritonitis episodes resulting in a permanent transfer to haemodialysis varies by organism and, to a lesser extent, state (figure 5.31).

Figure 5.31



Values are total number of peritonitis episodes reported in 2013

Anaemia

Figure 5.32 shows the distribution of Hb in PD patients over the last 3 years, and figure 5.33 presents the same data stratified by the presence or absence of coronary artery disease.

Figure 5.32

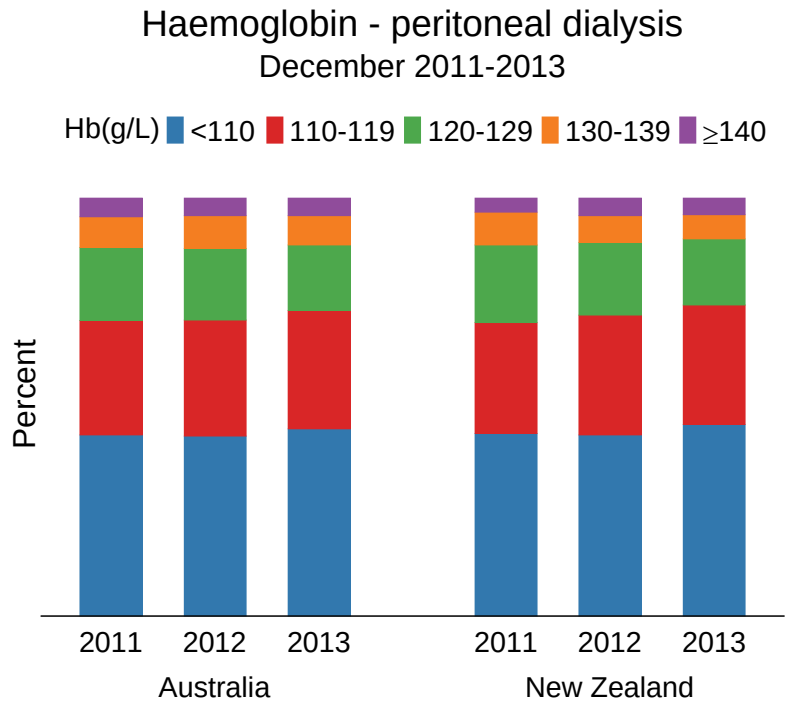


Figure 5.33.1

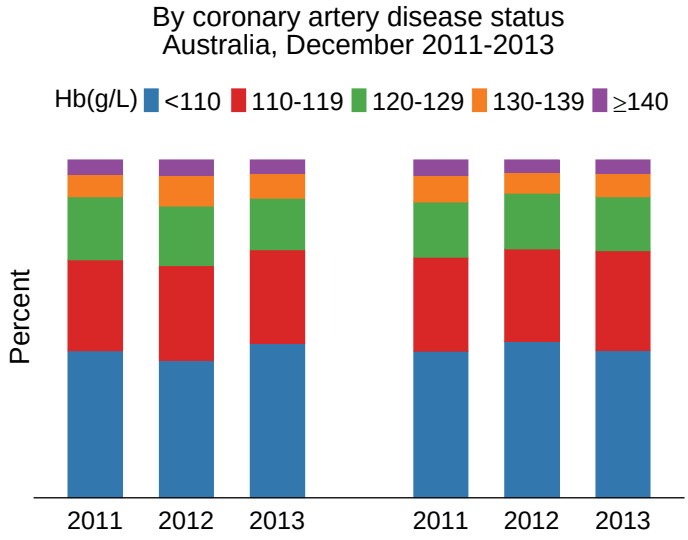


Figure 5.33.2

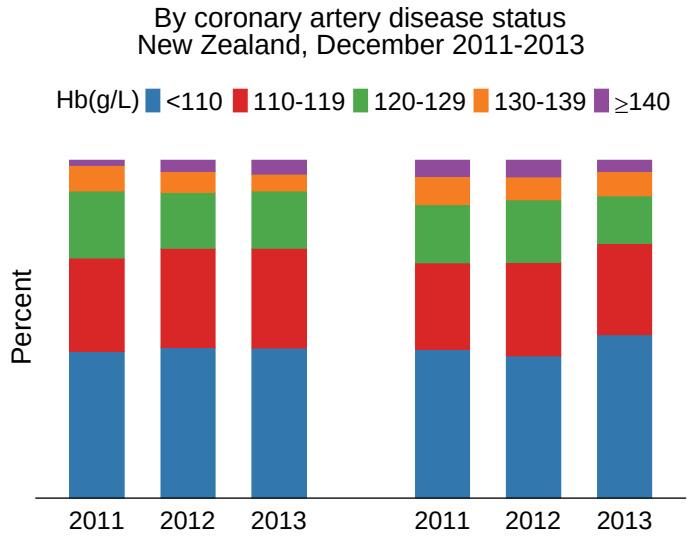


Figure 5.34 shows the variation in Hb between treating hospitals; median Hb ranged from 103 to 122g/L in Australia and 107-115g/L in New Zealand. Figure 5.35 shows the proportion of patients with Hb between 110-129g/L; the proportion ranged from 23-78% in Australia and 34-61% in New Zealand.

Figure 5.34.1

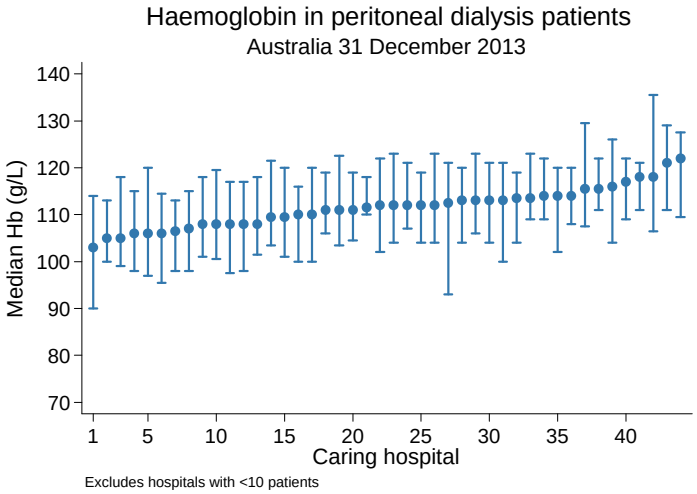


Figure 5.34.2

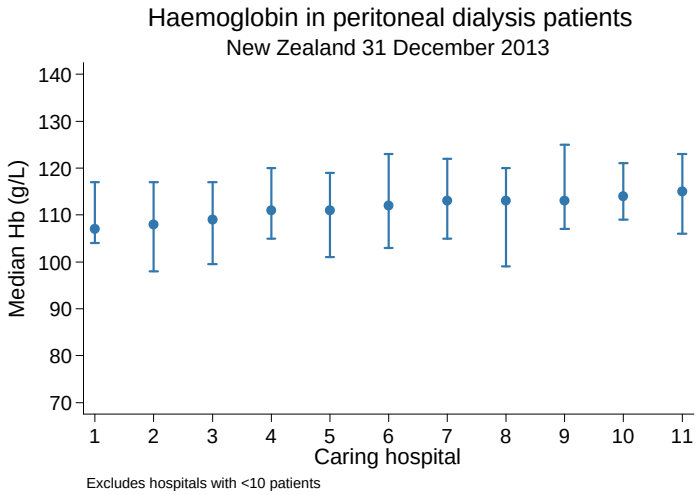


Figure 5.35.1

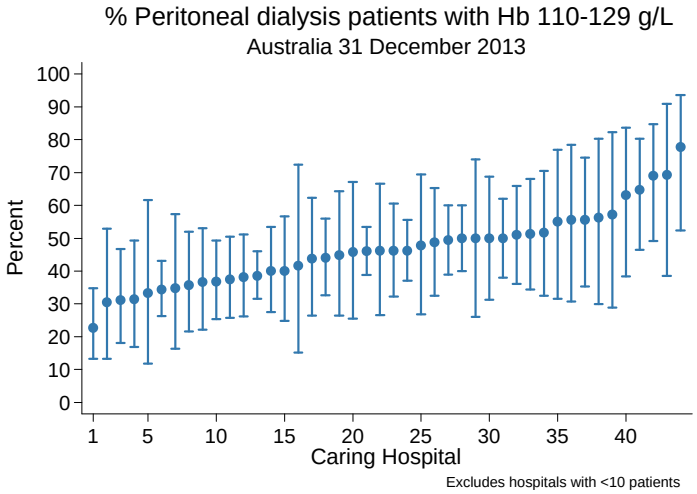


Figure 5.35.2

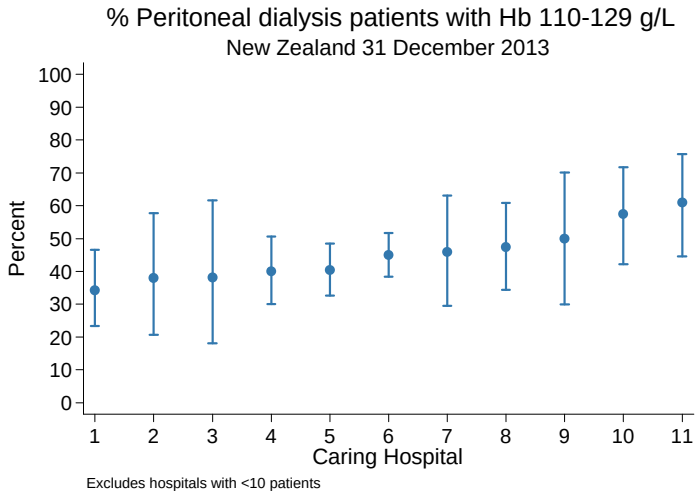


Figure 5.36 shows the distribution of ferritin in HD patients over 2011-13. The proportion of patients with ferritin between 200-500µg/L ranged from 5-61% in Australia and 22-53% in New Zealand (figure 5.38). Figures 5.37 and 5.39 present equivalent data for transferrin saturation.

Figure 5.36

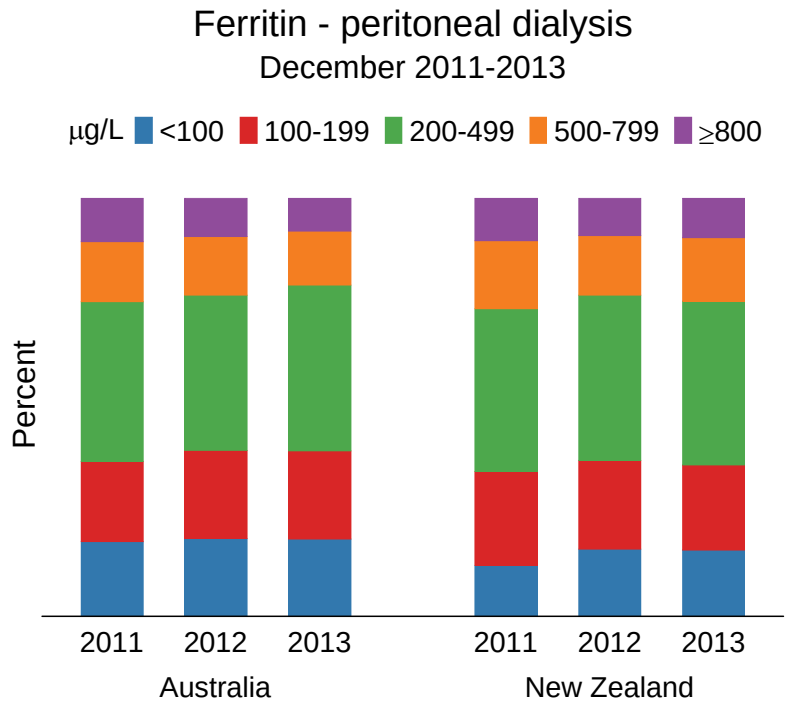


Figure 5.37

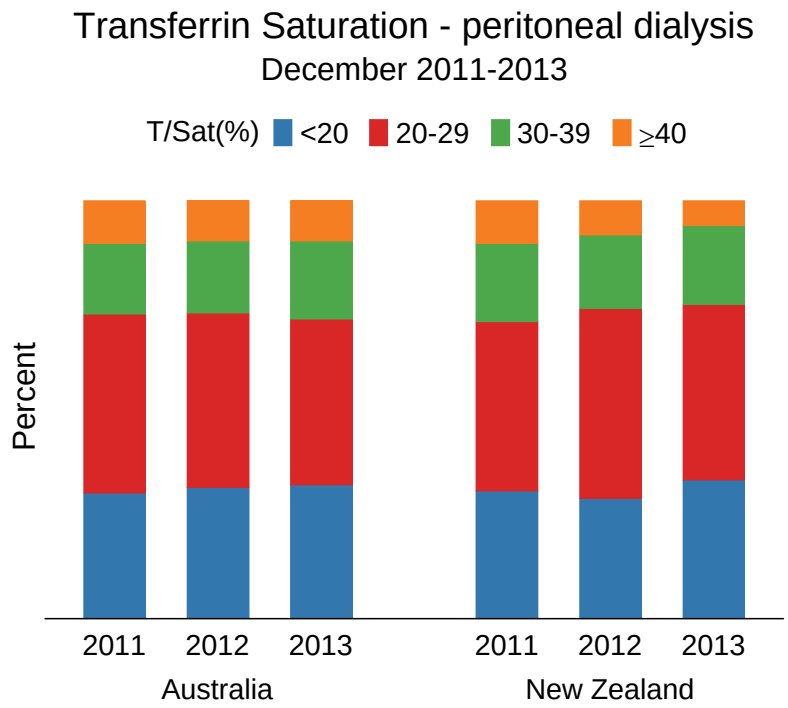


Figure 5.38.1

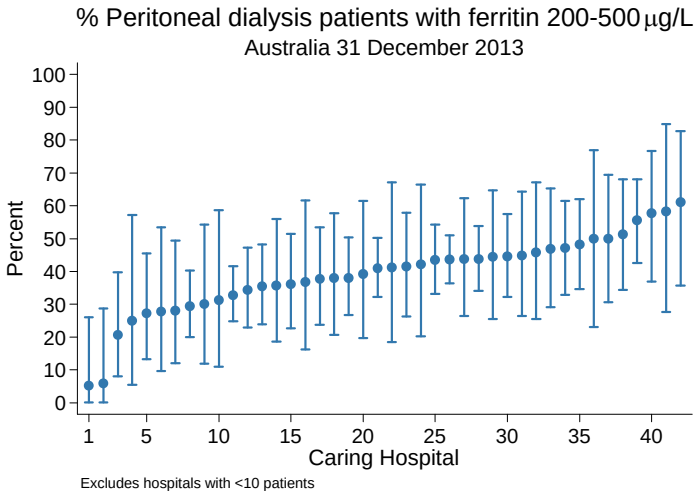


Figure 5.38.2

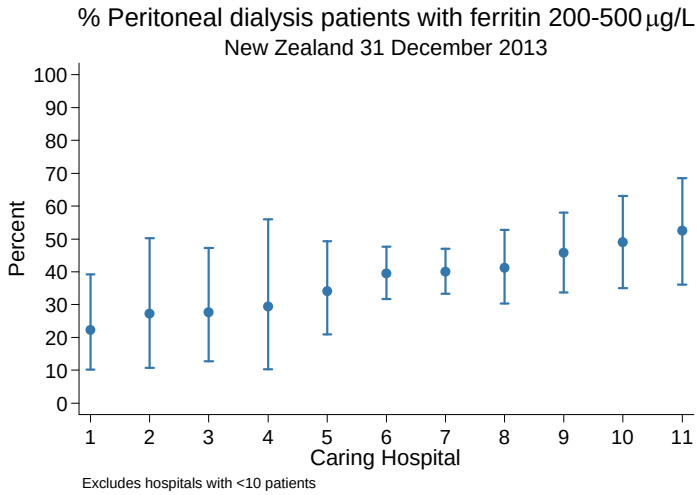


Figure 5.39.1

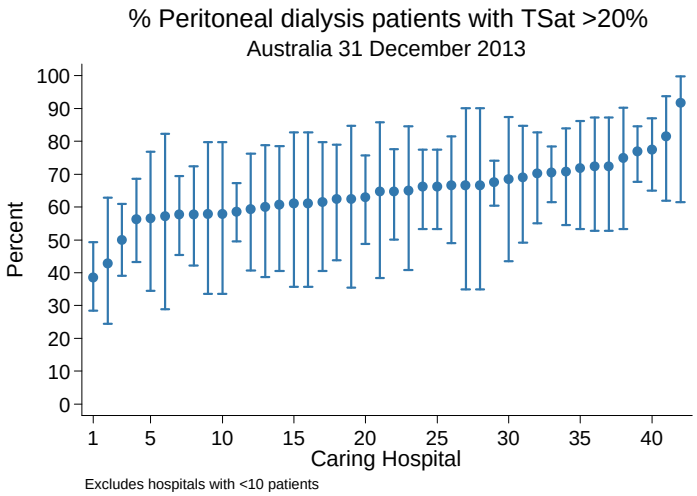
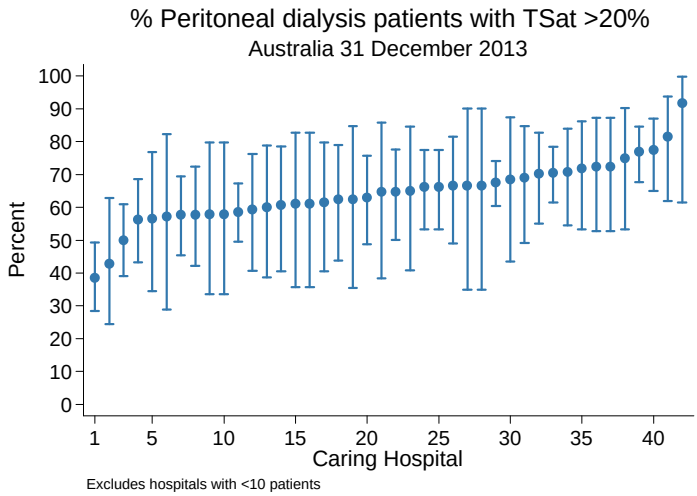


Figure 5.39.2



Biochemistry

Figures 5.40-5.45 present the distribution of calcium, phosphate and calcium-phosphate product. These numbers remain stable compared with previous years.

Figure 5.40

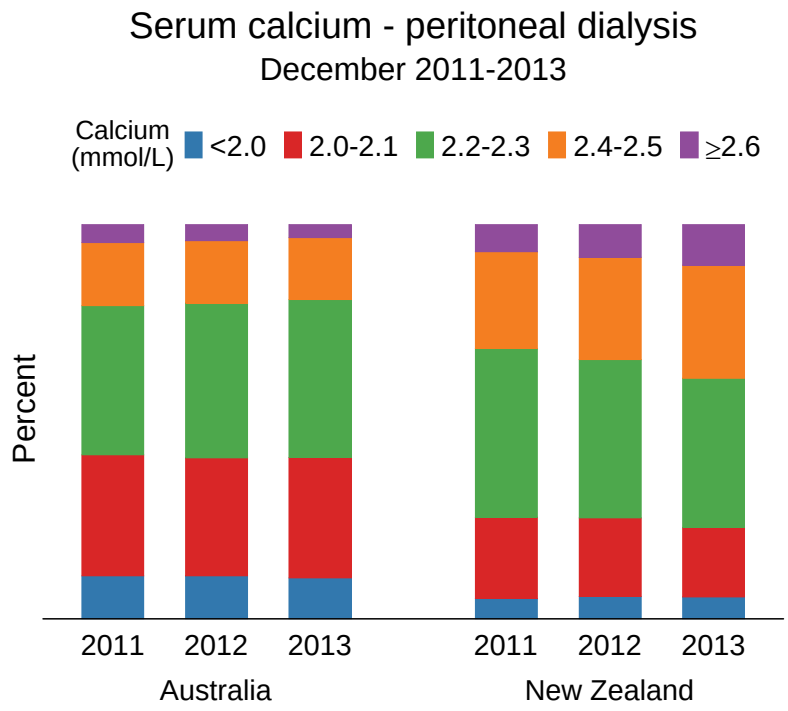


Figure 5.41.1

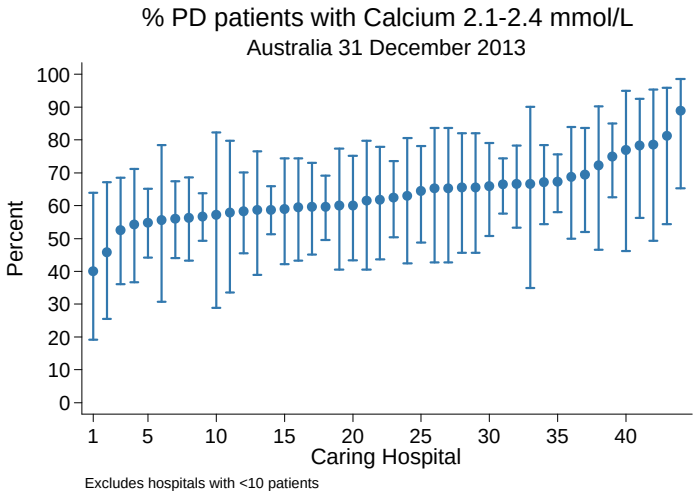


Figure 5.41.2

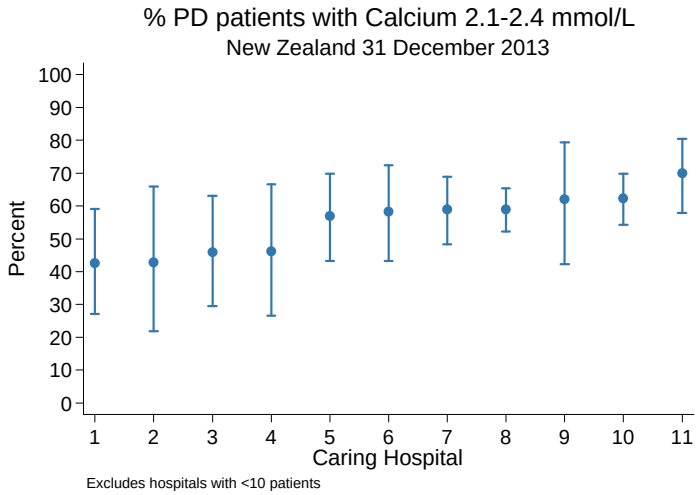


Figure 5.42

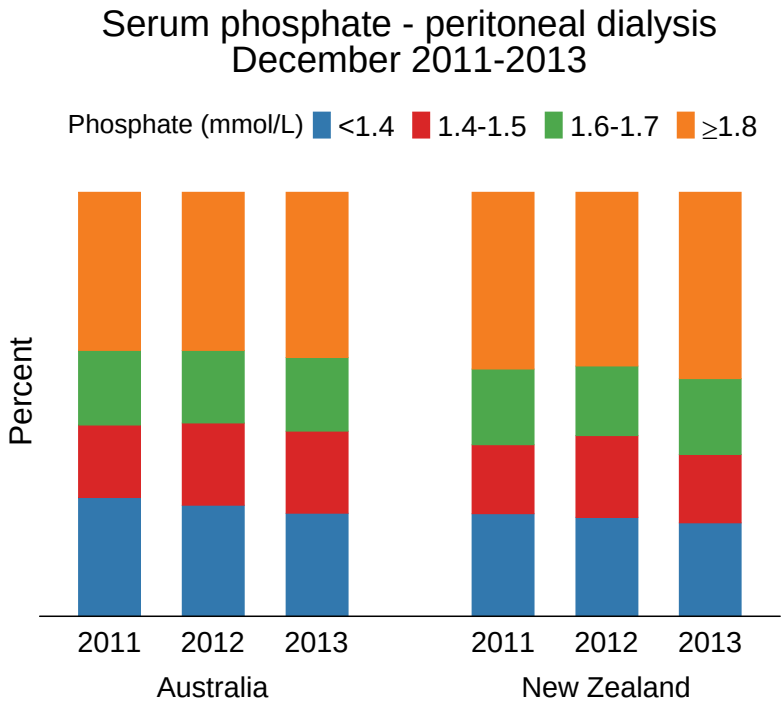


Figure 5.43.1

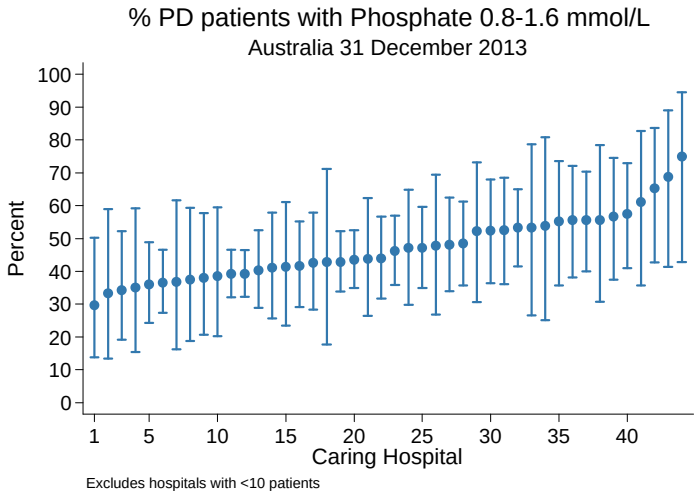


Figure 5.43.2

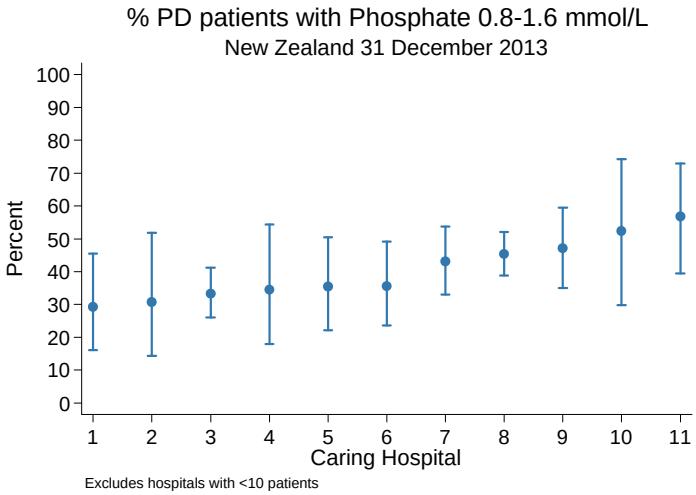


Figure 5.44

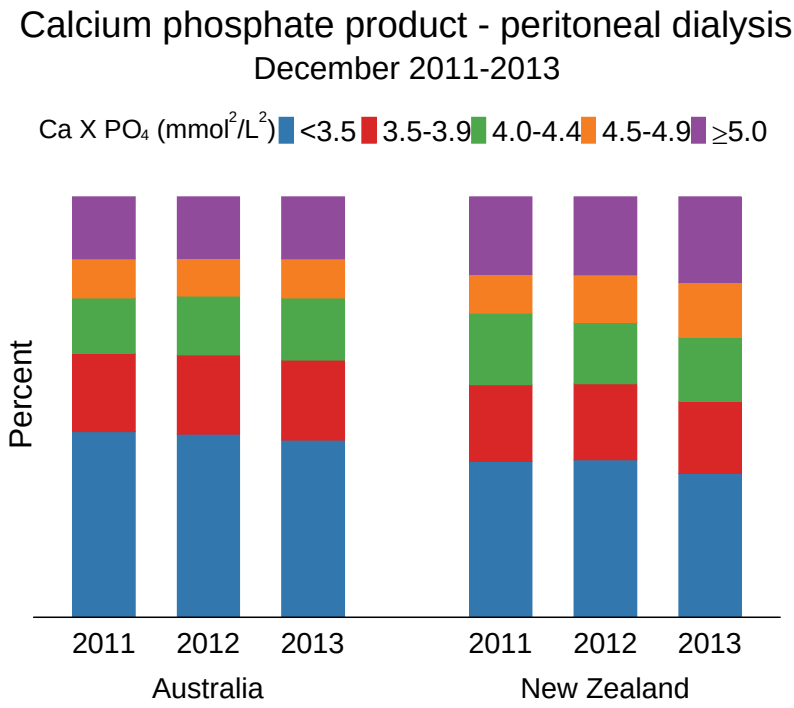


Figure 5.45.1

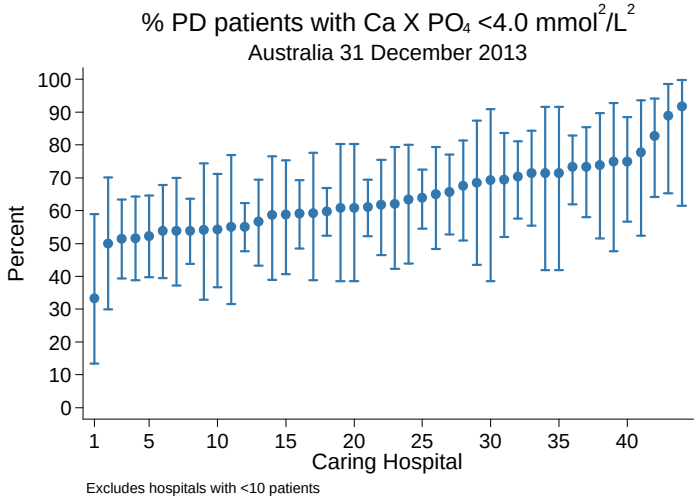
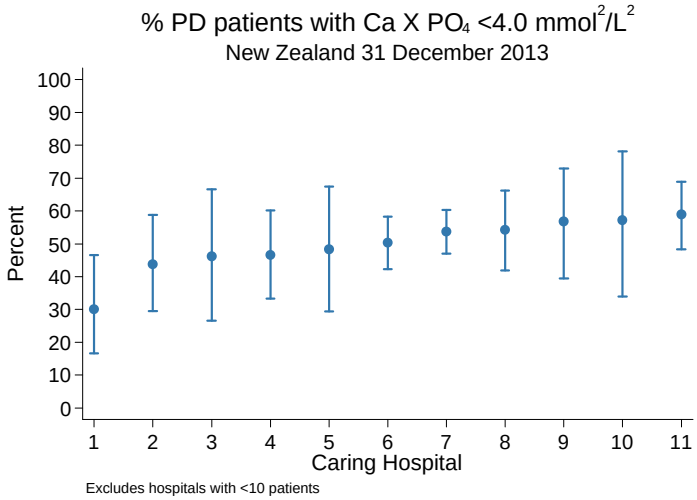


Figure 5.45.2



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