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 2010-2014. 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	2010	2011	2012	2013	2014
Queensland	67%	65%	63%	62%	63%
New South Wales	66%	66%	66%	66%	68%
Australian Capital Territory	40%	38%	45%	48%	52%
Victoria	66%	67%	69%	72%	73%
Tasmania	78%	78%	68%	69%	61%
South Australia	88%	86%	87%	80%	80%
Northern Territory	59%	50%	48%	47%	40%
Western Australia	83%	80%	78%	79%	78%
Australia	**68%**	**67%**	**67%**	**67%**	**68%**
New Zealand	**66%**	**65%**	**62%**	**64%**	**63%**

Figure 5.1.1

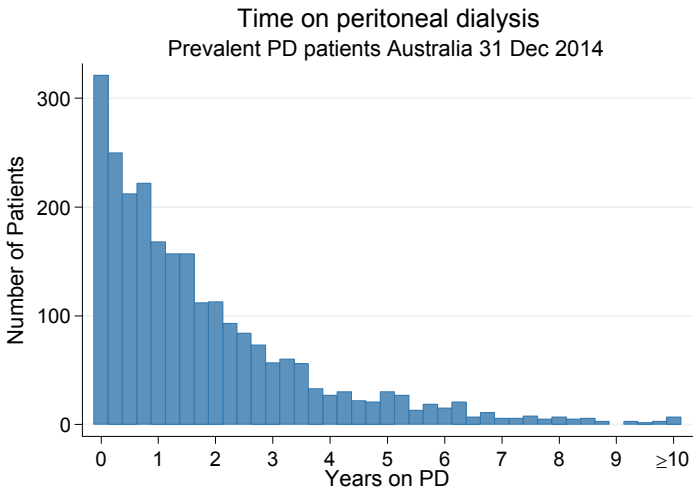


Figure 5.1.2

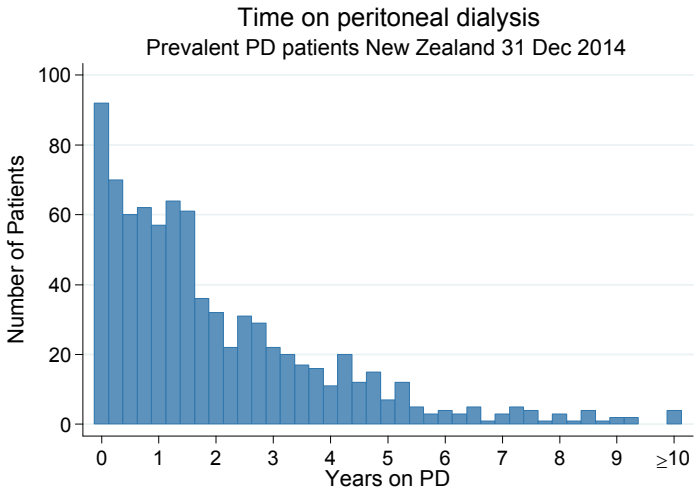


Table 5.2 shows the overall stock and flow of PD patients. The number of prevalent patients is stable in each country. Figure 5.2 presents some of these data graphically.

Table 5.2

Stock and Flow of Peritoneal Dialysis Patients 2010 - 2014

Year		2010	2011	2012	2013	2014
Australia	**Patients new to PD**	757	837	1009	978	1051
	First Dialysis Treatment	500	554	675	708	752
	Previous HD	250	275	320	251	281
	Previous Transplant	7	8	14	19	18
	Transplanted	189	211	209	242	232
	Deaths	290	278	246	257	274
	Never Transplanted	286	271	239	247	266
	Previously Transplanted	4	7	7	10	8
	Transfer to HD	511	478	518	552	452
	Patients Dialysing 31 December	**2089**	**2080**	**2247**	**2307**	**2472**
New Zealand	**Patients new to PD**	276	244	268	296	269
	First Dialysis Treatment	163	154	167	179	183
	Previous HD	113	90	97	115	84
	Previous Transplant	0	0	4	2	2
	Transplanted	45	39	43	38	45
	Deaths	117	146	134	121	142
	Never Transplanted	111	140	131	117	139
	Previously Transplanted	6	6	3	4	3
	Transfer to HD	129	137	148	132	139
	Patients Dialysing 31 December	**832**	**795**	**777**	**834**	**819**

Figure 5.2.1

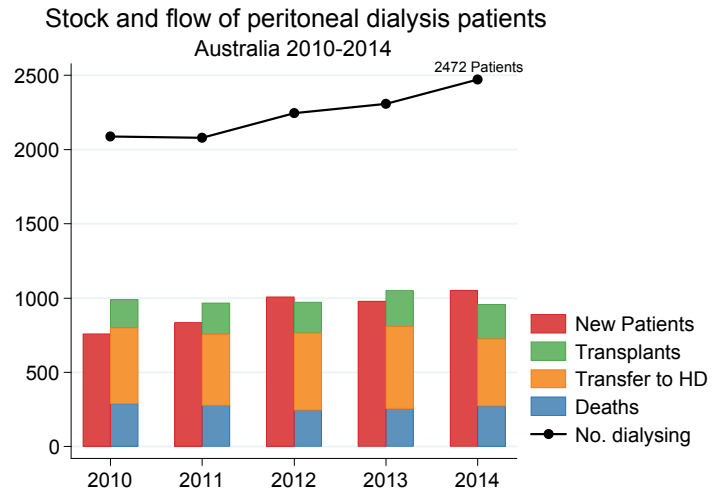
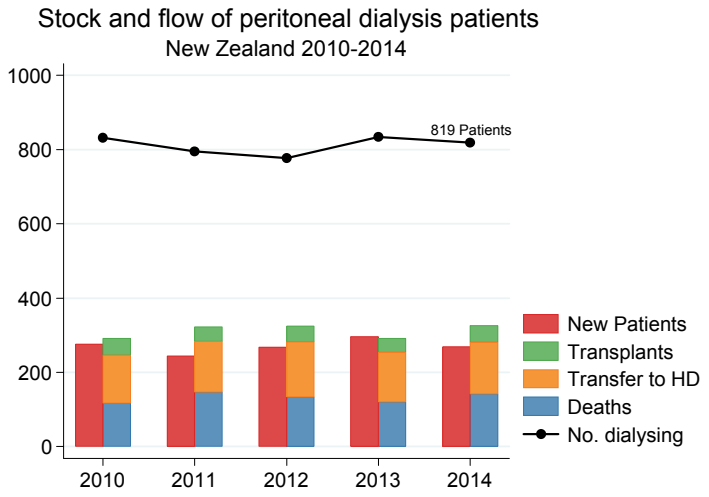


Figure 5.2.2



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

Figure 5.3.1

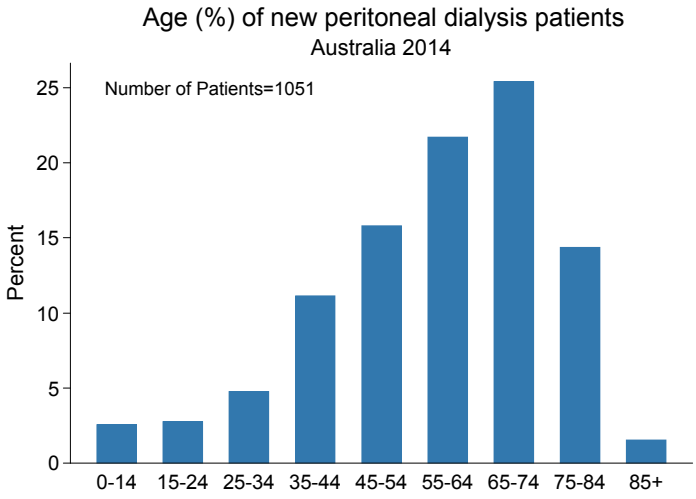


Figure 5.3.2

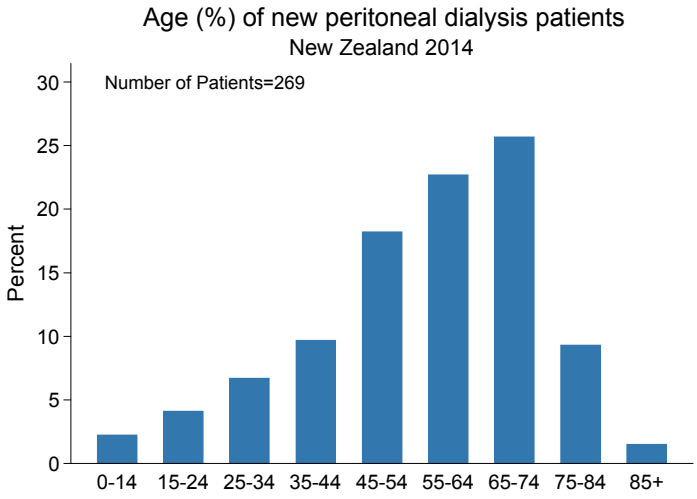


Figure 5.4.1

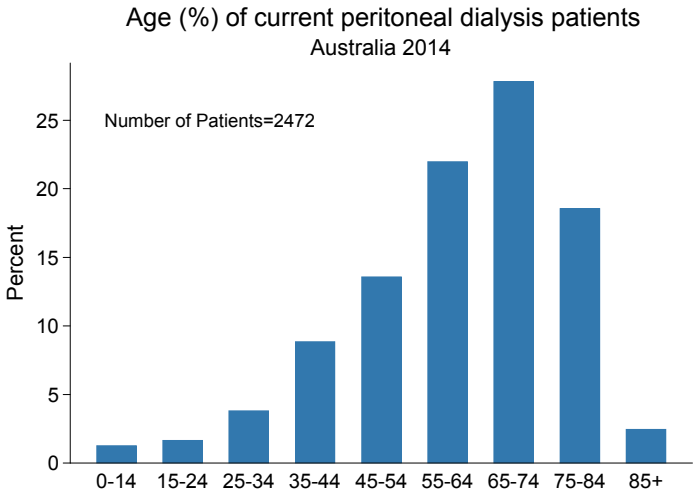


Figure 5.4.2

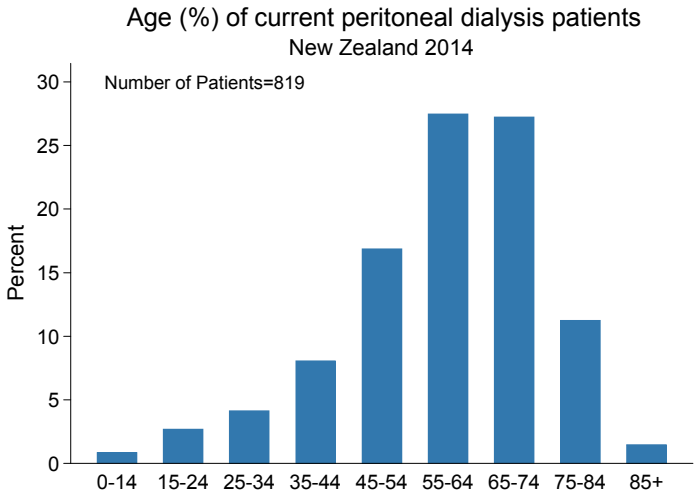


Table 5.3 presents the number and proportion of incident and prevalent patients by age group, and incident patients by primary renal disease.

Table 5.3.1

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

Category	Age group	2010	2011	2012	2013	2014
New Patients	0-14	20 (3%)	22 (3%)	20 (2%)	24 (2%)	27 (3%)
	15-24	17 (2%)	29 (3%)	28 (3%)	28 (3%)	29 (3%)
	25-34	42 (6%)	41 (5%)	61 (6%)	66 (7%)	50 (5%)
	35-44	80 (11%)	87 (10%)	122 (12%)	89 (9%)	117 (11%)
	45-54	134 (18%)	155 (19%)	145 (14%)	165 (17%)	166 (16%)
	55-64	169 (22%)	181 (22%)	230 (23%)	218 (22%)	228 (22%)
	65-74	180 (24%)	181 (22%)	239 (24%)	242 (25%)	267 (25%)
	75-84	107 (14%)	128 (15%)	151 (15%)	129 (13%)	151 (14%)
	85+	8 (1%)	13 (2%)	13 (1%)	17 (2%)	16 (2%)
	Total	757	837	1009	978	1051
Patients Dialysing	0-14	29 (1%)	26 (1%)	29 (1%)	25 (1%)	31 (1%)
	15-24	39 (2%)	44 (2%)	42 (2%)	47 (2%)	41 (2%)
	25-34	90 (4%)	96 (5%)	98 (4%)	105 (5%)	94 (4%)
	35-44	181 (9%)	185 (9%)	206 (9%)	200 (9%)	219 (9%)
	45-54	301 (14%)	310 (15%)	340 (15%)	326 (14%)	336 (14%)
	55-64	460 (22%)	455 (22%)	496 (22%)	511 (22%)	543 (22%)
	65-74	558 (27%)	515 (25%)	563 (25%)	593 (26%)	688 (28%)
	75-84	379 (18%)	399 (19%)	419 (19%)	441 (19%)	459 (19%)
	85+	52 (2%)	50 (2%)	54 (2%)	59 (3%)	61 (2%)
	Total	2089	2080	2247	2307	2472
Primary Renal Disease	Glomerulonephritis	200 (26%)	224 (27%)	265 (26%)	236 (24%)	253 (24%)
	Analgesic Nephropathy	13 (2%)	9 (1%)	14 (1%)	16 (2%)	8 (1%)
	Hypertension	97 (13%)	115 (14%)	123 (12%)	146 (15%)	156 (15%)
	Polycystic Disease	53 (7%)	45 (5%)	53 (5%)	50 (5%)	62 (6%)
	Reflux Nephropathy	22 (3%)	23 (3%)	34 (3%)	23 (2%)	30 (3%)
	Diabetic Nephropathy	251 (33%)	277 (33%)	327 (32%)	322 (33%)	345 (33%)
	Miscellaneous	83 (11%)	96 (11%)	141 (14%)	128 (13%)	142 (14%)
	Uncertain	38 (5%)	48 (6%)	52 (5%)	57 (6%)	55 (5%)
	Total	757	837	1009	978	1051

Table 5.3.2

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

Category	Age group	2010	2011	2012	2013	2014
New Patients	0-14	3 (1%)	5 (2%)	6 (2%)	3 (1%)	6 (2%)
	15-24	8 (3%)	5 (2%)	11 (4%)	6 (2%)	11 (4%)
	25-34	9 (3%)	13 (5%)	11 (4%)	18 (6%)	18 (7%)
	35-44	22 (8%)	21 (9%)	26 (10%)	27 (9%)	26 (10%)
	45-54	44 (16%)	39 (16%)	64 (24%)	57 (19%)	49 (18%)
	55-64	88 (32%)	76 (31%)	77 (29%)	85 (29%)	61 (23%)
	65-74	70 (25%)	66 (27%)	58 (22%)	76 (26%)	69 (26%)
	75-84	32 (12%)	18 (7%)	14 (5%)	22 (7%)	25 (9%)
	85+	0 (0%)	1 (0%)	1 (0%)	2 (1%)	4 (1%)
	Total	276	244	268	296	269
Patients Dialysing	0-14	7 (1%)	9 (1%)	4 (1%)	4 (0%)	7 (1%)
	15-24	22 (3%)	24 (3%)	19 (2%)	21 (3%)	22 (3%)
	25-34	28 (3%)	26 (3%)	33 (4%)	36 (4%)	34 (4%)
	35-44	67 (8%)	58 (7%)	66 (8%)	66 (8%)	66 (8%)
	45-54	141 (17%)	121 (15%)	125 (16%)	144 (17%)	138 (17%)
	55-64	235 (28%)	240 (30%)	229 (29%)	246 (29%)	225 (27%)
	65-74	231 (28%)	224 (28%)	216 (28%)	223 (27%)	223 (27%)
	75-84	98 (12%)	89 (11%)	82 (11%)	88 (11%)	92 (11%)
	85+	3 (0%)	4 (1%)	3 (0%)	6 (1%)	12 (1%)
	Total	832	795	777	834	819
Primary Renal Disease	Glomerulonephritis	65 (24%)	55 (23%)	59 (22%)	70 (24%)	52 (19%)
	Analgesic Nephropathy	3 (1%)	3 (1%)	4 (1%)	2 (1%)	0 (0%)
	Hypertension	36 (13%)	29 (12%)	22 (8%)	27 (9%)	28 (10%)
	Polycystic Disease	7 (3%)	12 (5%)	13 (5%)	15 (5%)	14 (5%)
	Reflux Nephropathy	3 (1%)	4 (2%)	7 (3%)	10 (3%)	8 (3%)
	Diabetic Nephropathy	134 (49%)	107 (44%)	124 (46%)	137 (46%)	115 (43%)
	Miscellaneous	20 (7%)	23 (9%)	30 (11%)	27 (9%)	44 (16%)
	Uncertain	8 (3%)	11 (5%)	9 (3%)	8 (3%)	8 (3%)
	Total	276	244	268	296	269

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

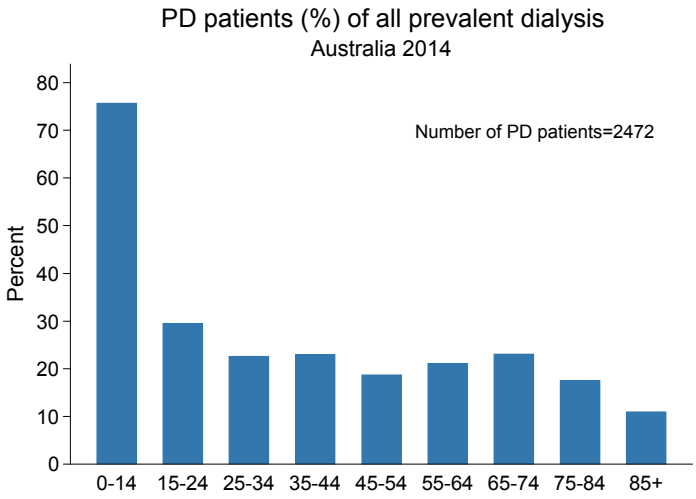


Figure 5.5.2

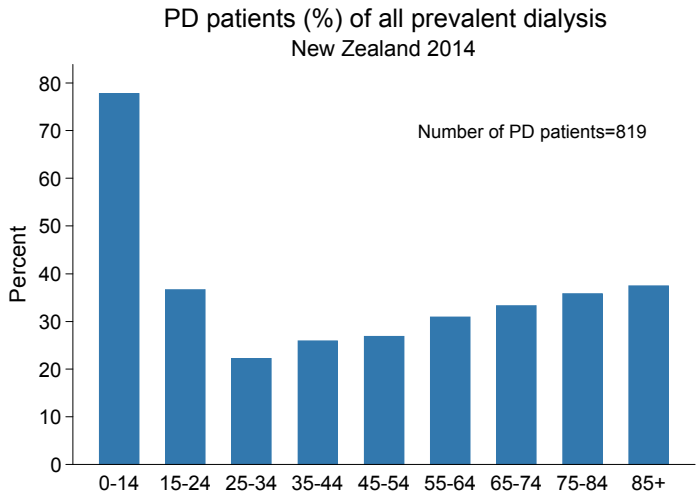


Table 5.4 shows the number of prevalent PD patients, and number per million population, according to PD type.

Table 5.4.1

Number (per Million) of Prevalent PD Patients, Australia 2010-2014

	2010	2011	2012	2013	2014
Total	**2089 (94.82)**	**2080 (93.11)**	**2247 (98.86)**	**2307 (99.76)**	**2472 (105.23)**
APD	1280 (58.10)	1290 (57.74)	1406 (61.86)	1477 (63.87)	1596 (67.94)
CAPD	809 (36.72)	790 (35.36)	841 (37.00)	830 (35.89)	876 (37.29)

Table 5.4.2

Number (per Million) of Prevalent PD Patients, New Zealand 2010-2014

	2010	2011	2012	2013	2014
Total	**832 (191.93)**	**795 (182.02)**	**777 (176.96)**	**834 (188.49)**	**819 (182.34)**
APD	359 (82.82)	353 (80.82)	376 (85.63)	391 (88.37)	377 (83.94)
CAPD	473 (109.11)	442 (101.20)	401 (91.32)	443 (100.12)	442 (98.41)

Peritoneal Dialysis Fluids

Table 5.5 shows the use of icodextrin by country and PD type at the end of 2014. Figure 5.6 shows the trends in icodextrin use over the last three years; the proportion of patients using icodextrin is gradually increasing. Finally, figure 5.7 shows icodextrin use by state and PD type at the end of 2014.

Table 5.5

Icodextrin Usage by Modality Type - December 2014

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	461	358	57	876	214	204	24	442
	%	52.63%	40.87%	6.51%		48.42%	46.15%	5.43%	
APD	n	801	737	58	1596	104	270	3	377
	%	50.19%	46.18%	3.63%		27.59%	71.62%	0.80%	
Total	**n**	**1262**	**1095**	**115**	**2472**	**318**	**474**	**27**	819
	%	**51.05%**	**44.30%**	**4.65%**		**38.83%**	**57.88%**	**3.30%**	

Figure 5.6.1

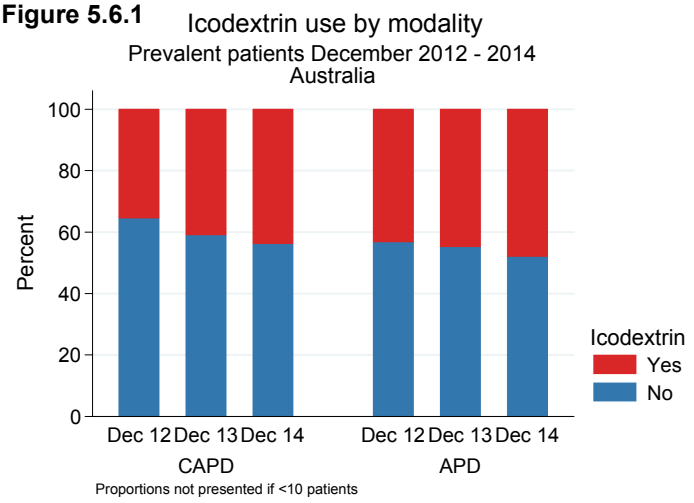


Figure 5.6.2

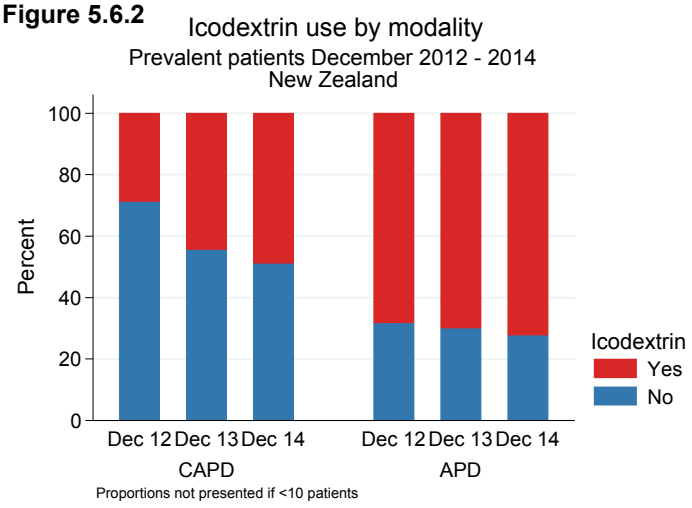


Figure 5.7

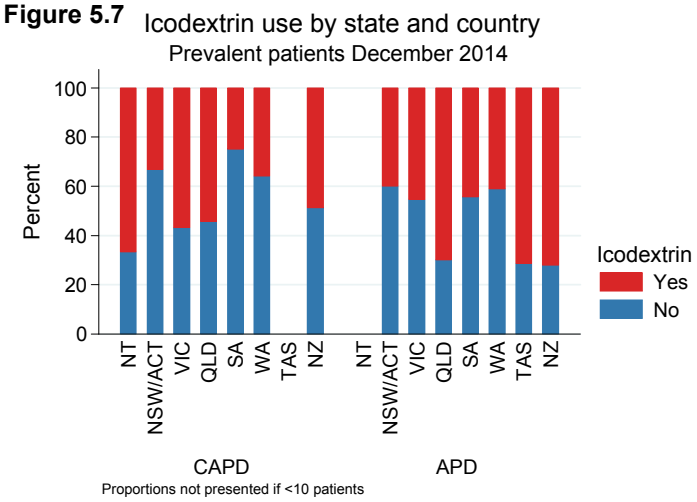


Table 5.6 and figure 5.8 present similar data for low lactate PD solutions, and table 5.7 and figure 5.9 present similar data for low bicarbonate PD solutions. The use of these PD solutions in both Australia and New Zealand is uncommon.

Table 5.6

Low GDP - Lactate Usage by Modality Type - December 2014

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	604	215	57	876	295	123	24	442
	%	68.95%	24.54%	6.51%		66.74%	27.83%	5.43%	
APD	n	1356	184	56	1596	317	57	3	377
	%	84.96%	11.53%	3.51%		84.08%	15.12%	0.80%	
Total	**n**	**1960**	**399**	**113**	**2472**	**612**	**180**	**27**	**819**
	%	**79.29%**	**16.14%**	**4.57%**		**74.73%**	**21.98%**	**3.30%**	

Figure 5.8.1

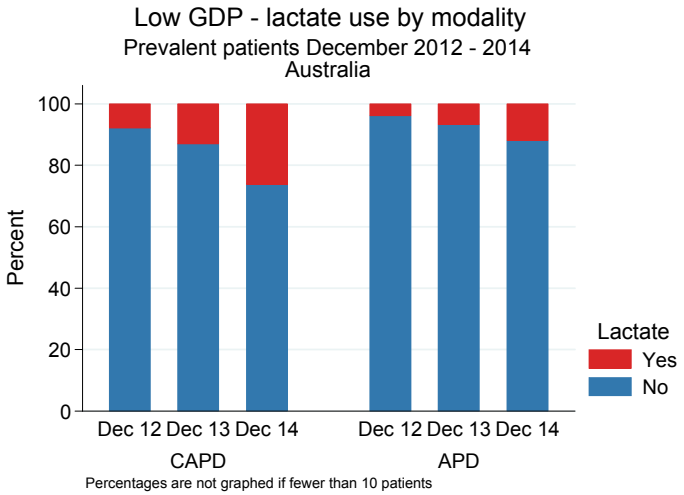


Figure 5.8.2

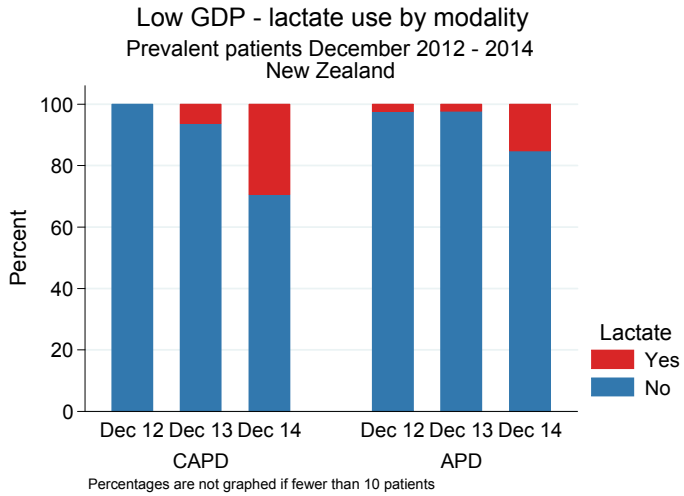


Table 5.7

Low GDP - Bicarb Usage by Modality Type - December 2014

PD Type		Australia				New Zealand			
		No	Yes	Not Reported	Total	No	Yes	Not Reported	Total
CAPD	n	788	31	57	876	414	4	24	442
	%	89.95%	3.54%	6.51%		93.67%	0.90%	5.43%	
APD	n	1511	28	57	1596	371	3	3	377
	%	94.67%	1.75%	3.57%		98.41%	0.80%	0.80%	
Total	n	**2299**	**59**	**114**	**2472**	**785**	**7**	**27**	**819**
	%	**93.00%**	**2.39%**	**4.61%**		**95.85%**	**0.85%**	**3.30%**	

Figure 5.9.1

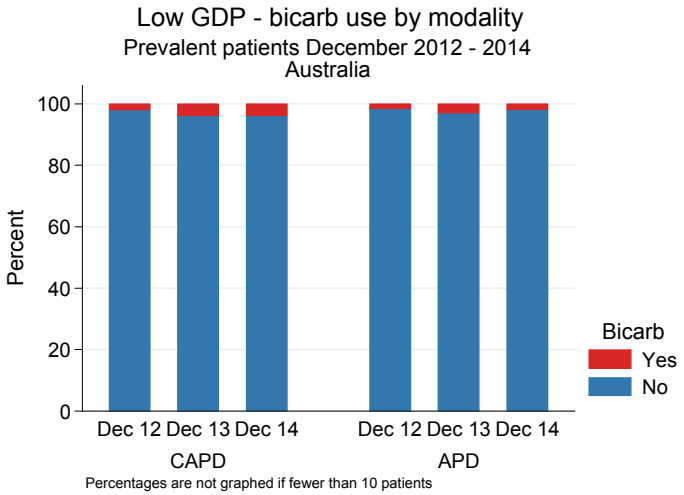
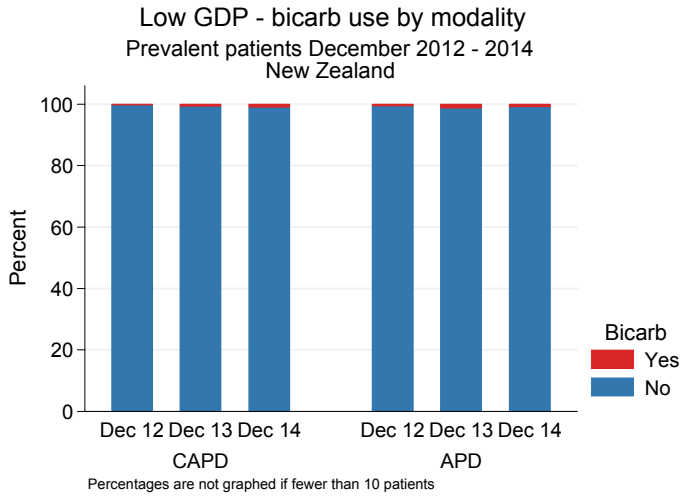


Figure 5.9.2



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 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**2003 - 2005**	1839	97[96,98]	91[90,92]	71[69,73]	55[53,57]
	2006 - 2008	2164	98[97,99]	93[92,94]	73[71,75]	58[56,60]
	2009 - 2011	1875	98[97,98]	94[93,95]	77[75,79]	61[59,64]
	2012 - 2014	2297	98[98,99]	96[95,97]	79[76,82]	-
New Zealand	**2003 - 2005**	616	97[96,98]	91[88,93]	64[61,68]	46[42,49]
	2006 - 2008	616	98[96,99]	93[90,94]	74[70,77]	53[49,56]
	2009 - 2011	656	99[98,100]	94[92,95]	71[67,74]	49[45,53]
	2012 - 2014	615	99[97,99]	96[94,97]	71[64,78]	-

Figure 5.10.1

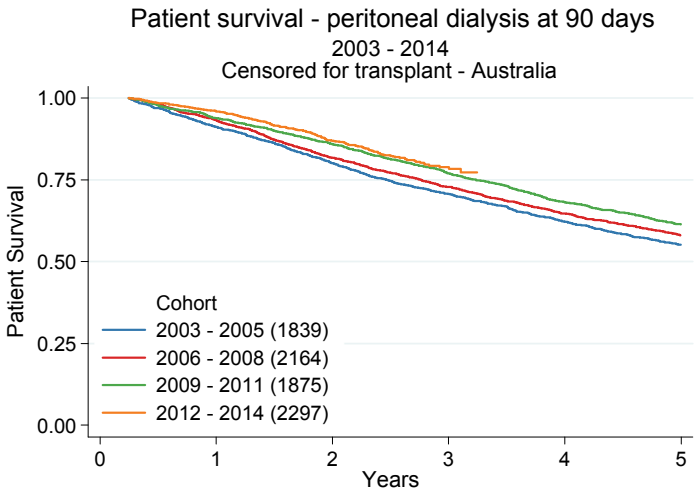


Figure 5.10.2

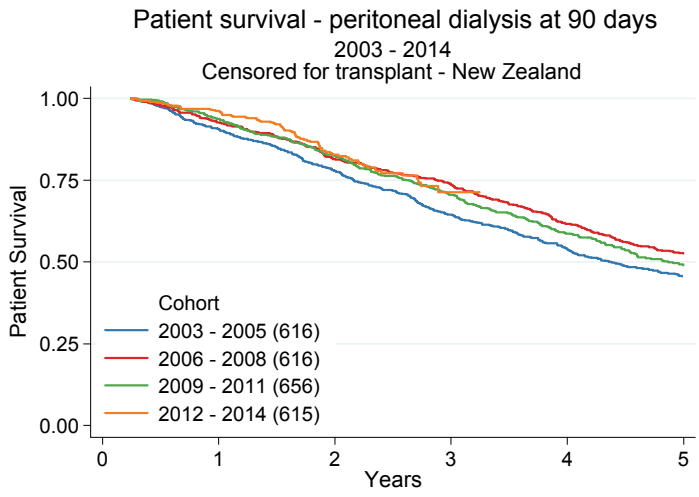


Table 5.9 and figure 5.11 demonstrate the strong association between patient age and survival.

Table 5.9

Peritoneal Dialysis at 90 Days
Patient Survival by Age Group 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	**<40**	1226	99[99,100]	98[97,99]	94[93,95]	91[89,93]
	40-59	2548	99[98,99]	97[96,97]	84[82,85]	73[71,75]
	60-74	2995	97[97,98]	92[91,93]	68[66,70]	48[46,50]
	≥75	1406	96[95,97]	87[85,89]	54[51,57]	29[26,32]
New Zealand	**<40**	287	99[97,100]	98[96,99]	90[85,93]	85[79,89]
	40-59	924	98[97,99]	95[93,96]	77[74,80]	59[55,62]
	60-74	1034	99[98,99]	92[90,94]	64[61,67]	39[36,43]
	≥75	258	95[92,97]	86[81,90]	48[42,55]	22[17,28]

Figure 5.11.1

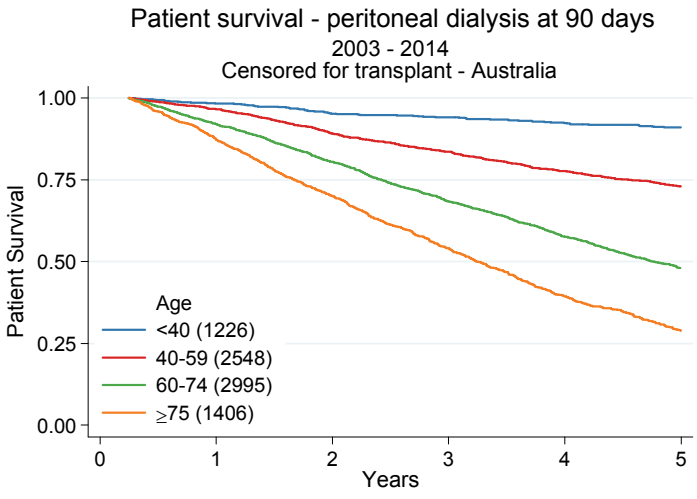


Figure 5.11.2

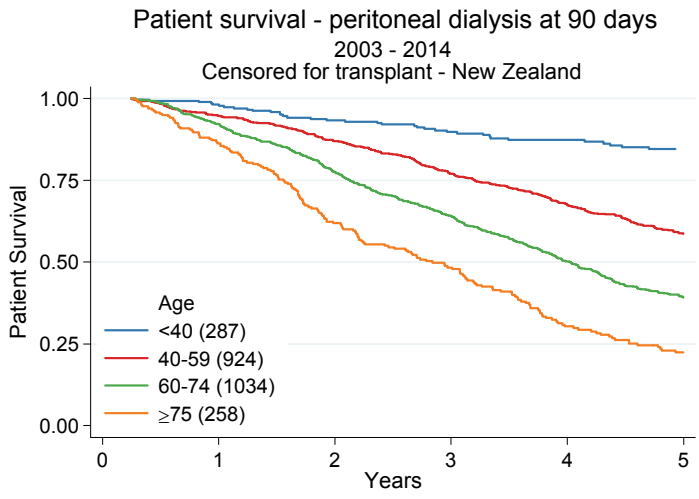


Table 5.10 and figure 5.12 present these data by diabetic status; as expected, survival is worse in diabetic patients.

Table 5.10

Peritoneal Dialysis at 90 Days
Patient Survival by Diabetic Status 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**Non-diabetic**	3406	97[97,98]	92[91,93]	66[65,68]	46[44,48]
	Diabetic	4757	98[98,98]	95[94,95]	80[79,81]	68[67,70]
New Zealand	**Diabetic**	1250	98[97,99]	94[93,95]	76[73,79]	61[58,64]
	Non-diabetic	1251	98[98,99]	92[90,93]	64[61,67]	38[34,41]

Figure 5.12.1

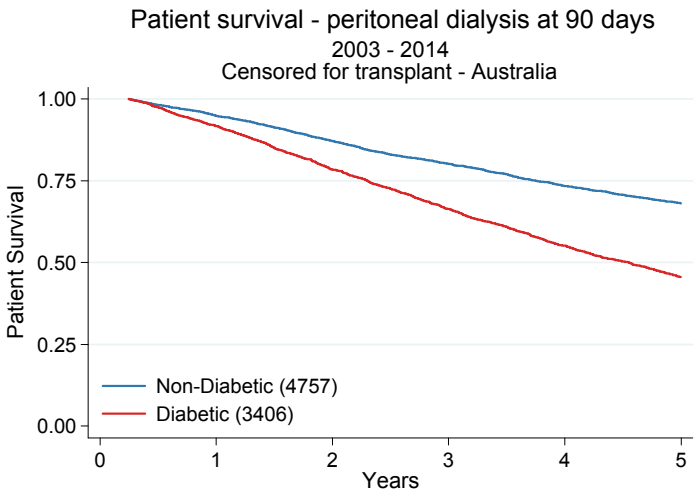
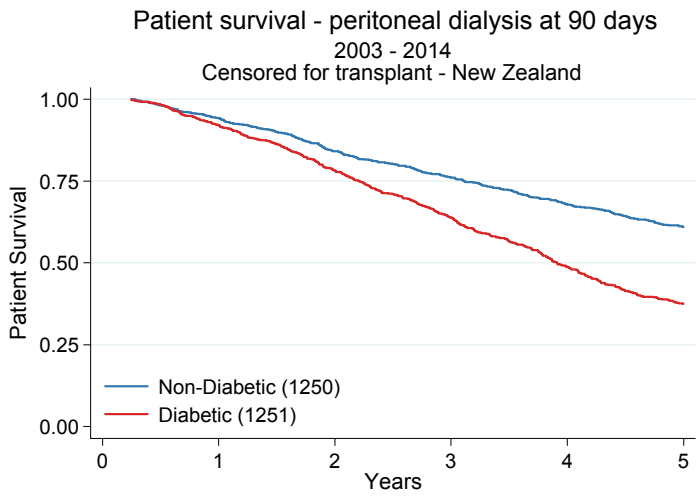


Figure 5.12.2



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 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	**2003 - 2005**	1839	91[90,93]	77[75,79]	35[33,38]	16[14,18]
	2006 - 2008	2164	93[92,94]	78[77,80]	39[36,41]	18[16,20]
	2009 - 2011	1875	92[91,93]	80[78,82]	42[39,44]	20[18,23]
	2012 - 2014	2297	94[93,95]	83[81,85]	43[39,48]	.[.,.]
New Zealand	**2003 - 2005**	616	95[93,97]	82[79,85]	40[36,44]	19[15,22]
	2006 - 2008	616	95[93,96]	84[81,87]	47[43,51]	22[18,25]
	2009 - 2011	656	96[94,97]	85[82,88]	46[42,50]	20[16,24]
	2012 - 2014	615	95[93,97]	87[84,90]	49[41,56]	.[.,.]

Figure 5.13.1

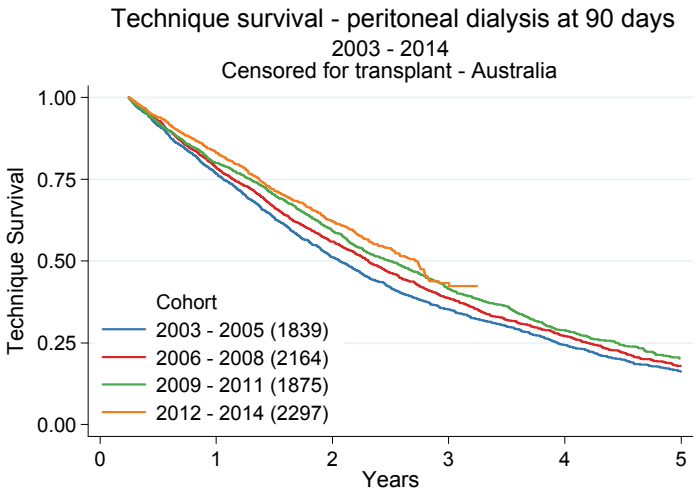


Figure 5.13.2

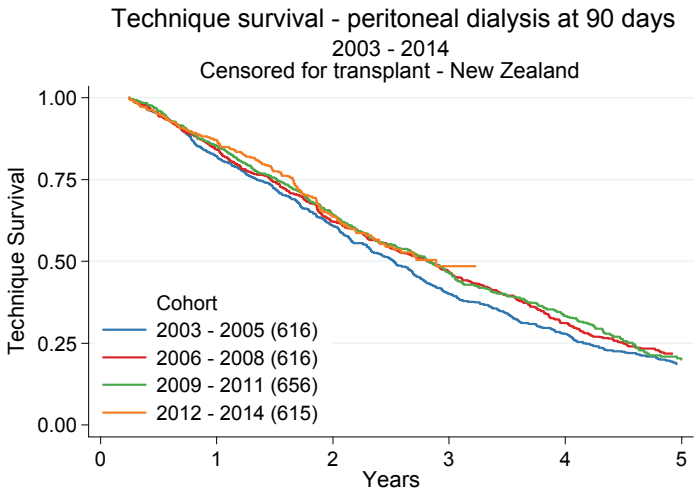


Table 5.12

Peritoneal Dialysis at 90 Days
Technique Survival by Age Group 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Age Group	No. of Patients	6 months	1 year	3 years	5 years
Australia	**<40**	1226	94[92,95]	80[77,82]	46[41,50]	27[23,32]
	40-59	2548	94[93,95]	81[80,83]	43[40,45]	23[20,25]
	60-74	2995	92[91,93]	80[79,81]	39[37,41]	18[16,20]
	≥75	1406	91[89,92]	75[73,77]	33[30,36]	11[9,13]
New Zealand	**<40**	287	95[92,97]	87[82,91]	46[39,54]	31[23,39]
	40-59	924	95[94,97]	86[83,88]	47[43,51]	25[21,29]
	60-74	1034	96[94,97]	84[82,86]	45[42,49]	19[16,22]
	≥75	258	93[89,95]	80[75,85]	35[28,41]	10[6,15]

Figure 5.14.1

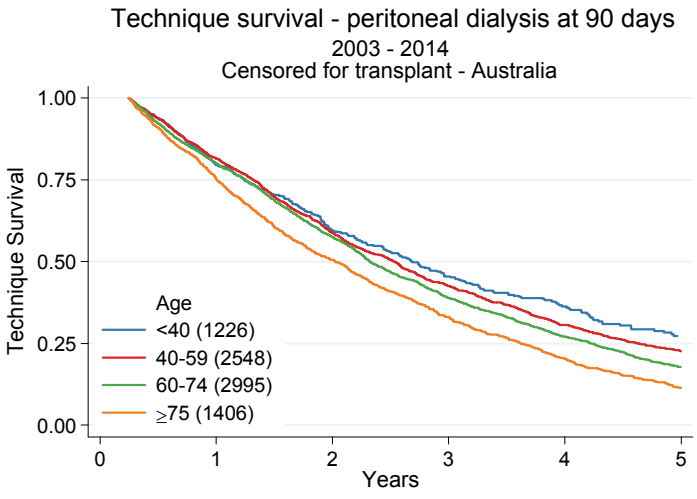


Figure 5.14.2

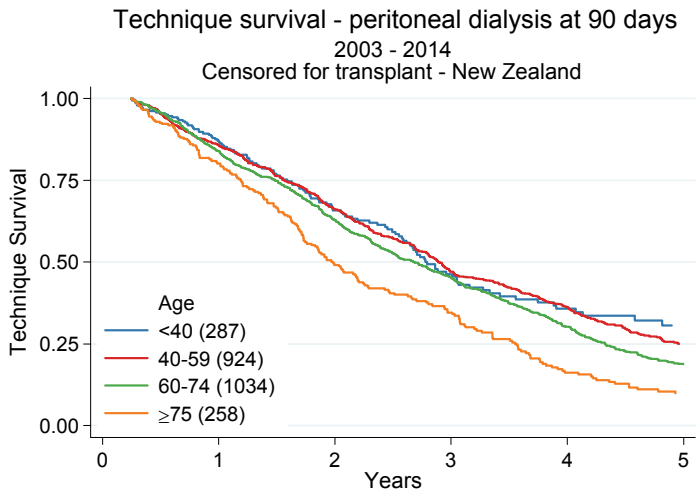


Table 5.13

Peritoneal Dialysis at 90 Days
Technique Survival by Diabetic Status 2003 - 2014
Censored for Transplant
% [95% Confidence Interval]

	Period	No. of Patients	6 months	1 year	3 years	5 years
Australia	**Diabetic**	3406	92[91,93]	78[76,79]	35[33,36]	14[12,15]
	Non-diabetic	4757	93[92,94]	81[79,82]	43[42,45]	23[21,24]
New Zealand	**Non-diabetic**	1251	96[95,97]	84[82,86]	41[38,44]	16[14,19]
	Diabetic	1250	95[93,96]	85[83,87]	49[46,52]	26[22,29]

Figure 5.15.1

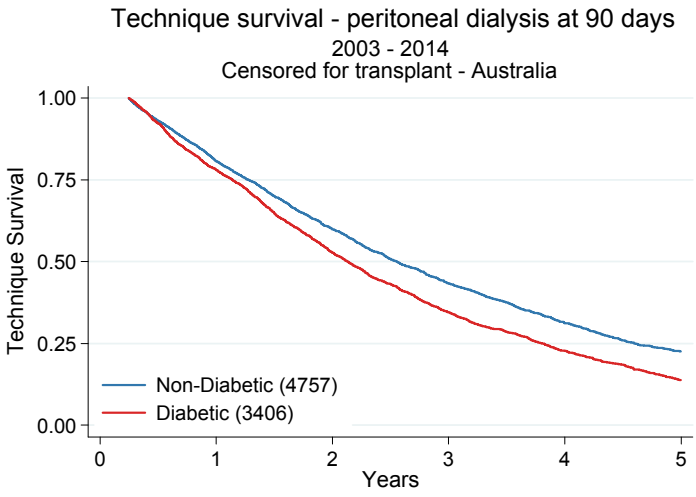
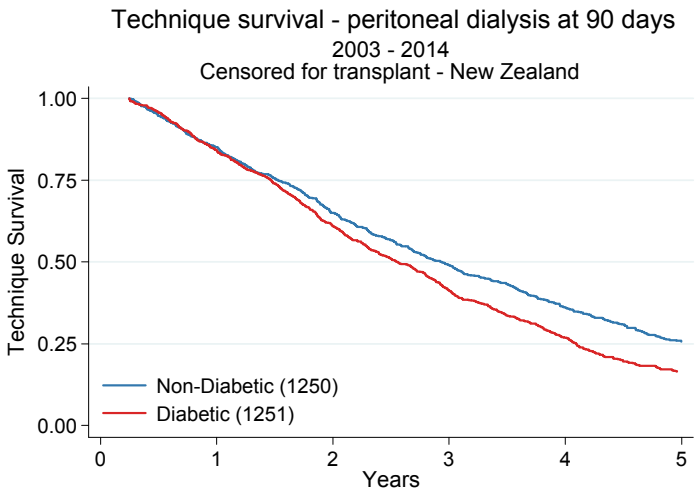


Figure 5.15.2



The causes of PD technique failure in 2014, apart from deaths on PD, are shown in table 5.14. Peritonitis remains the most common cause of technique failure in Australia, whereas in New Zealand in 2014 technical causes were the most common.

Table 5.14

Causes of Peritoneal Dialysis Technique Failure in 2014

Causes of technique failure	Australia	New Zealand
Diverticulitis	2	
Recurrent/Persistent Peritonitis	65	18
Total Infective	**149 (33)%**	**42 (30)%**
Tunnel/Exit Site Infection	10	5
Unspecified Peritoneal Infection	6	1
Inadequate Fluid Ultrafiltration	27	6
Inadequate Solute Clearance	70	14
Total Dialysis	**97 (21)%**	**20 (14)%**
Abdominal Pain	2	2
Cardiovascular Instability	1	1
Catheter Block	8	6
Catheter Fell Out	1	1
Dialysate Leak	15	10
Hernia	18	8
Hydrothorax	4	2
Multiple Adhesions	1	1
Pleural Effusion	1	2
Pregnancy		1
Sclerosing Peritonitis		1
Scrotal Oedema	1	
Surgery	19	12
Total Technical	**71 (16)%**	**47 (34)%**
Patient Preference	31	2
Total Patient Preference	66 (15)%	8 (6)%
Unable To Manage Self-Care	35	6
Other (Specify)	14	1
Planned Transfer After Acute Pd Start	1	
Poor Nutrition		2
Total Other	**15 (3)%**	**3 (2)%**
Total Not Reported	**54 (12)%**	**19 (14)%**

Peritonitis

Table 5.15 and figure 5.16 present the time to first peritonitis over 2010-2014 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-2010 to 31-Dec-2014
%Survival [95% Confidence Interval]

Survival	Age Groups						
	00-14	15-34	35-54	55-64	65-74	≥75	All
Australia	(n=113)	(n=391)	(n=1260)	(n=1026)	(n=1109)	(n=733)	(n=4632)
3 months	81 [72,87]	91 [88,94]	89 [87,91]	92 [90,93]	91 [89,92]	90 [88,92]	90 [89,91]
6 months	69 [59,78]	85 [81,88]	81 [78,83]	86 [83,88]	85 [83,87]	86 [83,88]	84 [83,85]
9 months	61 [50,71]	78 [73,82]	75 [73,78]	80 [77,82]	79 [77,82]	78 [75,81]	78 [76,79]
1 year	57 [45,68]	73 [67,78]	69 [66,72]	76 [73,79]	74 [71,77]	72 [68,75]	72 [71,74]
2 years	49 [30,65]	57 [48,65]	56 [52,60]	55 [51,60]	57 [53,61]	55 [50,60]	56 [54,58]
3 years	33 [9,60]	31 [17,46]	43 [37,48]	43 [37,48]	44 [38,49]	38 [31,44]	41 [39,44]
New Zealand	(n=23)	(n=110)	(n=375)	(n=387)	(n=339)	(n=119)	(n=1353)
3 months	90 [65,97]	94 [87,97]	90 [87,93]	88 [85,91]	88 [84,91]	91 [84,95]	90 [88,91]
6 months	65 [37,83]	85 [75,91]	82 [77,86]	80 [75,84]	82 [77,86]	81 [72,87]	81 [79,83]
9 months	65 [37,83]	80 [70,87]	76 [71,80]	73 [68,77]	77 [71,81]	77 [68,84]	75 [73,78]
1 year	56 [27,77]	75 [64,84]	68 [62,73]	66 [60,71]	71 [65,76]	72 [61,80]	69 [66,71]
2 years	56 [27,77]	63 [49,75]	47 [41,54]	46 [40,52]	55 [48,62]	51 [38,63]	50 [46,54]
3 years	-	44 [23,63]	33 [26,41]	32 [25,40]	38 [30,47]	41 [26,55]	35 [31,40]

Figure 5.16.1

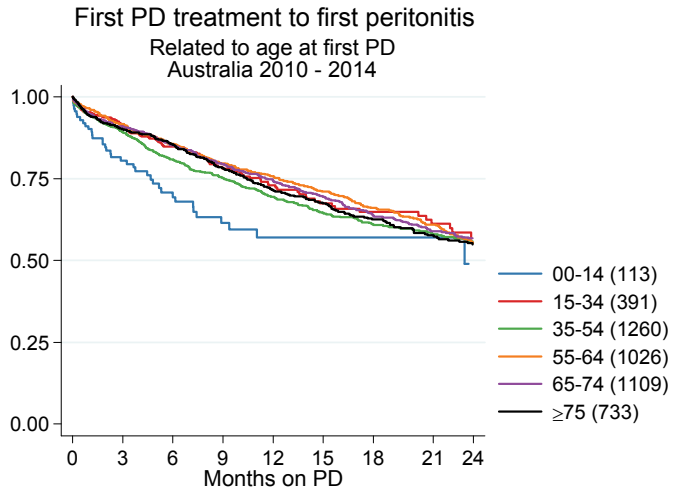
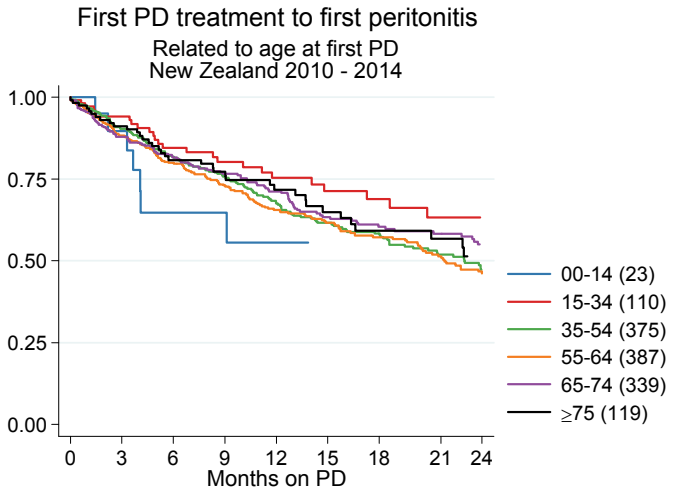


Figure 5.16.2



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

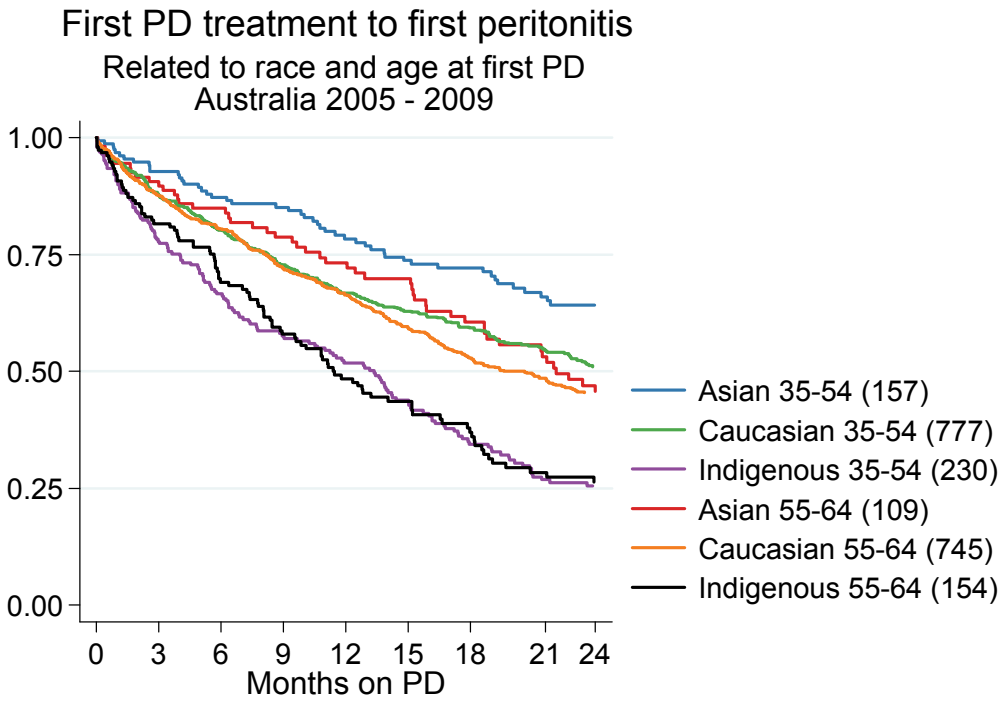


Figure 5.18

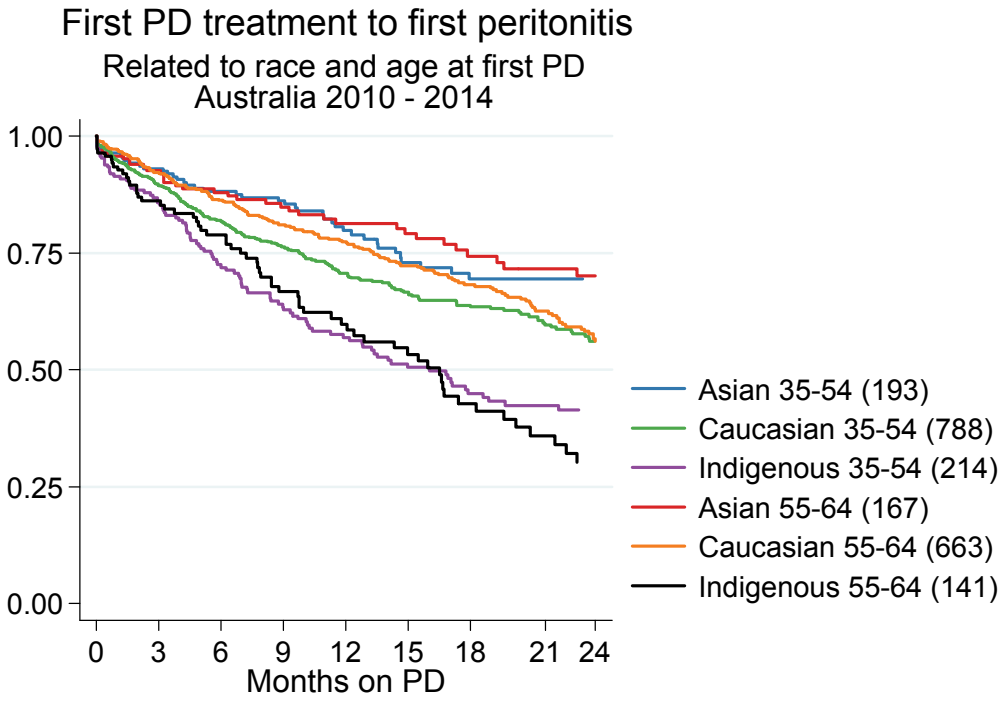


Figure 5.19

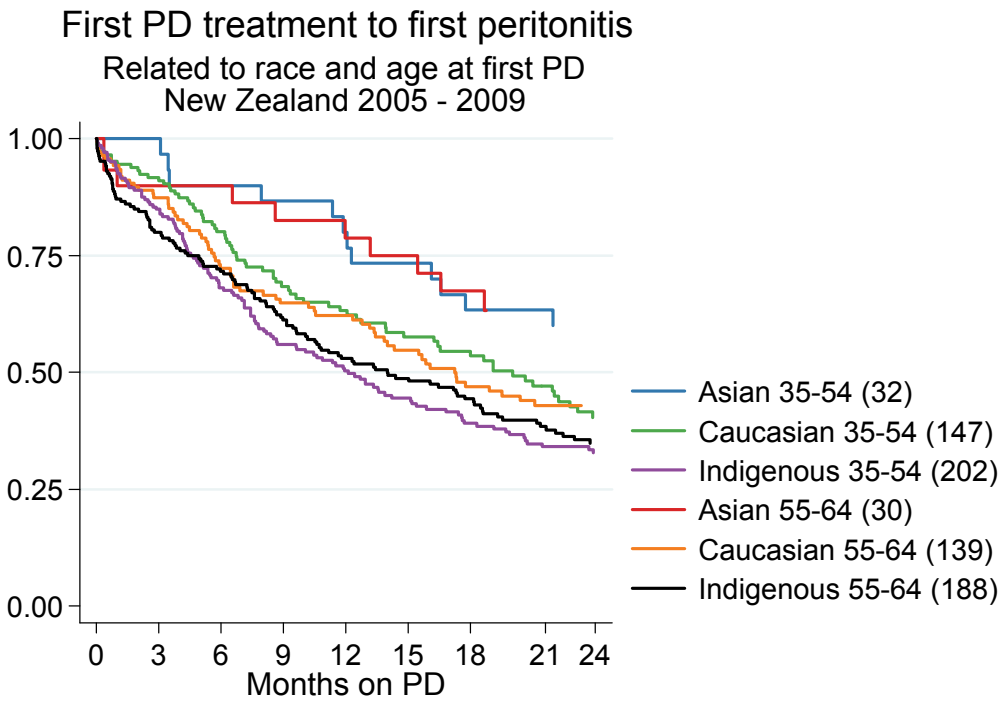


Figure 5.20

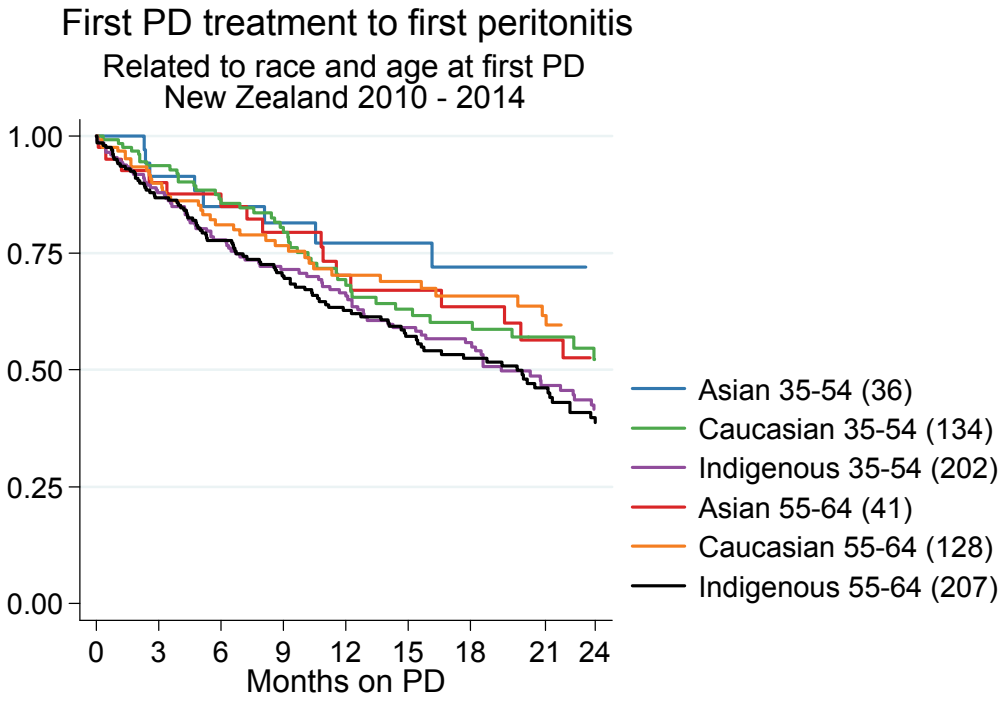


Table 5.16 and figure 5.21 show similar data by age group, but restricted to patients who commenced APD.

Table 5.16

First home APD Treatment to First Episode of Peritonitis
By Age at Entry 01-Jan-2010 to 31-Dec-2014
%Survival [95% Confidence Interval]

Survival	Age Groups						
	00-14	15-34	35-54	55-64	65-74	≥75	All
Australia	(n=91)	(n=317)	(n=927)	(n=708)	(n=753)	(n=459)	(n=3255)
3 months	90 [81, 95]	93 [90, 96]	92 [90, 94]	93 [91, 95]	95 [94, 97]	95 [92, 97]	94 [93, 95]
6 months	79 [67, 87]	85 [81, 89]	87 [84, 89]	90 [87, 92]	91 [88, 93]	90 [87, 93]	88 [87, 90]
9 months	75 [62, 84]	80 [74, 84]	81 [78, 84]	84 [81, 87]	86 [83, 89]	84 [79, 87]	83 [82, 85]
1 year	72 [59, 82]	77 [71, 82]	76 [73, 79]	80 [76, 83]	82 [78, 85]	81 [76, 85]	79 [77, 81]
2 years	65 [45, 79]	59 [48, 69]	64 [59, 68]	59 [53, 65]	66 [61, 71]	65 [59, 71]	63 [61, 66]
3 years	54 [28, 74]	42 [25, 59]	50 [43, 56]	53 [45, 59]	53 [46, 59]	48 [38, 57]	51 [47, 54]
New Zealand	(n=20)	(n=74)	(n=241)	(n=230)	(n=172)	(n=51)	(n=788)
3 months	90 [65, 97]	96 [87, 99]	91 [86, 94]	95 [91, 97]	94 [89, 97]	98 [85, 100]	94 [92, 95]
6 months	64 [36, 82]	92 [82, 97]	83 [77, 88]	88 [83, 92]	88 [81, 92]	95 [83, 99]	87 [84, 89]
9 months	55 [26, 76]	86 [73, 93]	79 [73, 84]	80 [73, 85]	83 [75, 88]	90 [75, 96]	81 [77, 84]
1 year	55 [26, 76]	86 [73, 93]	73 [65, 79]	75 [67, 81]	78 [69, 84]	76 [58, 88]	75 [71, 79]
2 years	55 [26, 76]	63 [43, 77]	59 [50, 67]	62 [53, 70]	67 [56, 76]	53 [31, 70]	61 [56, 66]
3 years	-	42 [17, 66]	43 [32, 53]	48 [37, 58]	56 [40, 69]	42 [18, 64]	47 [40, 53]

Figure 5.21.1

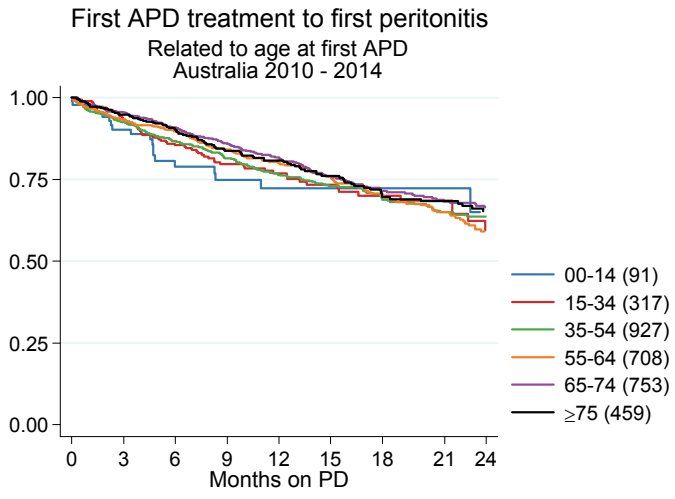
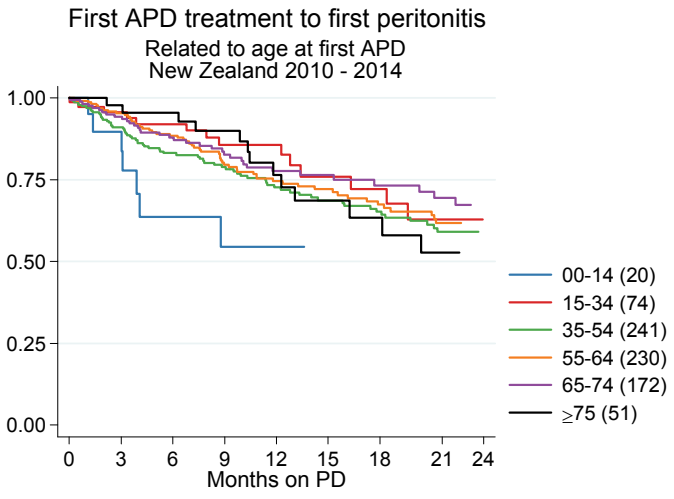


Figure 5.21.2



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.

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, but has stabilised over 2012-2014 (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

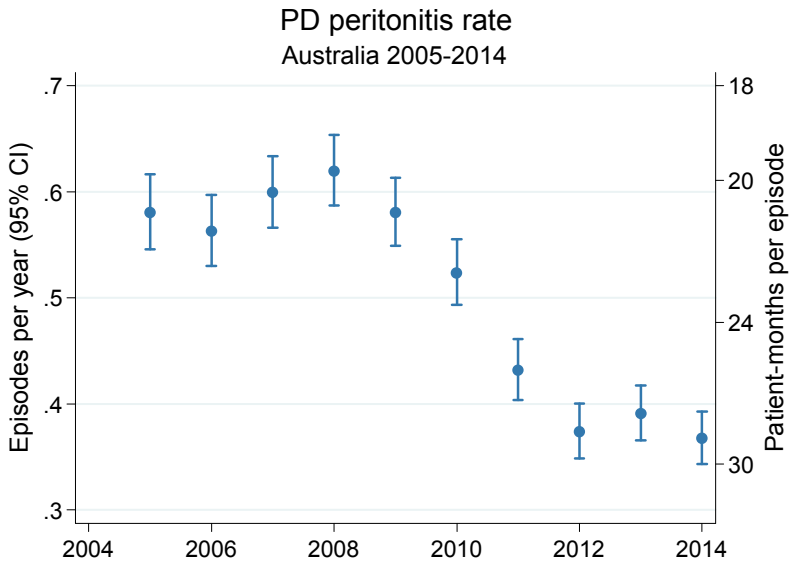


Figure 5.23

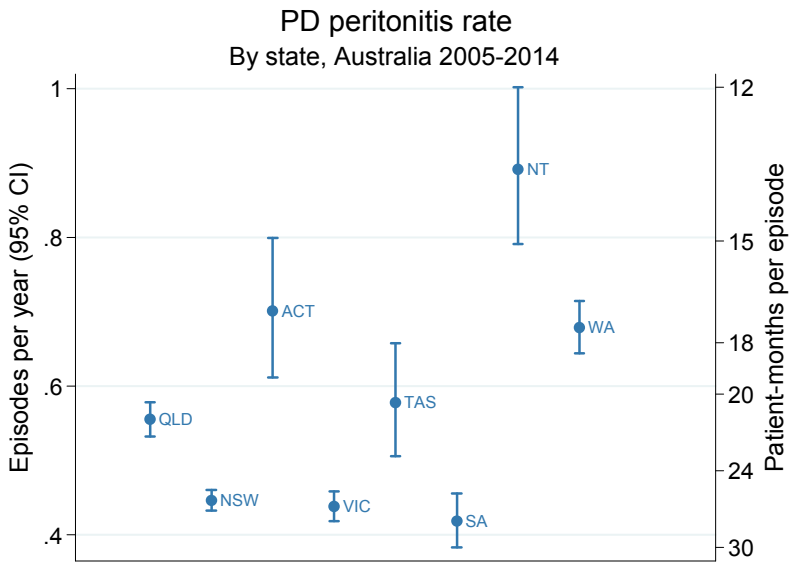


Figure 5.24

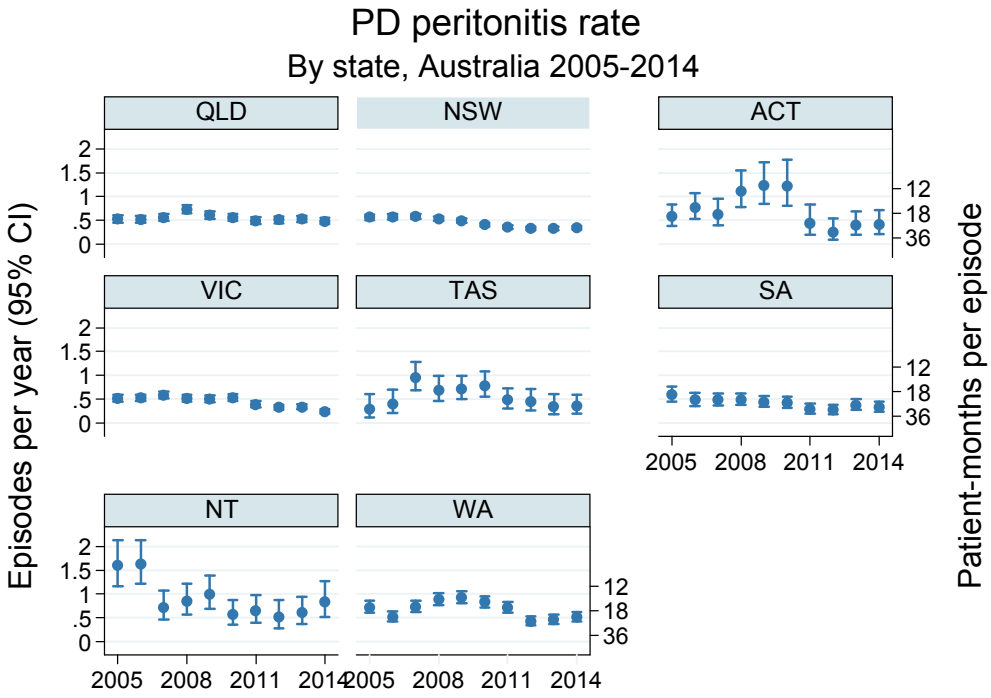


Figure 5.25

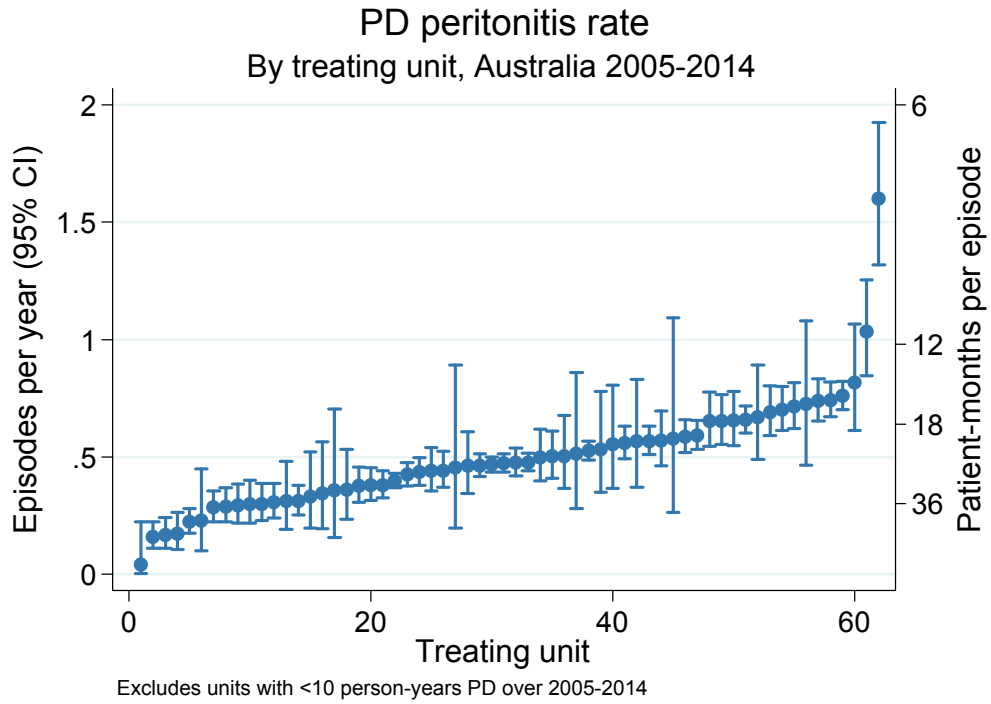
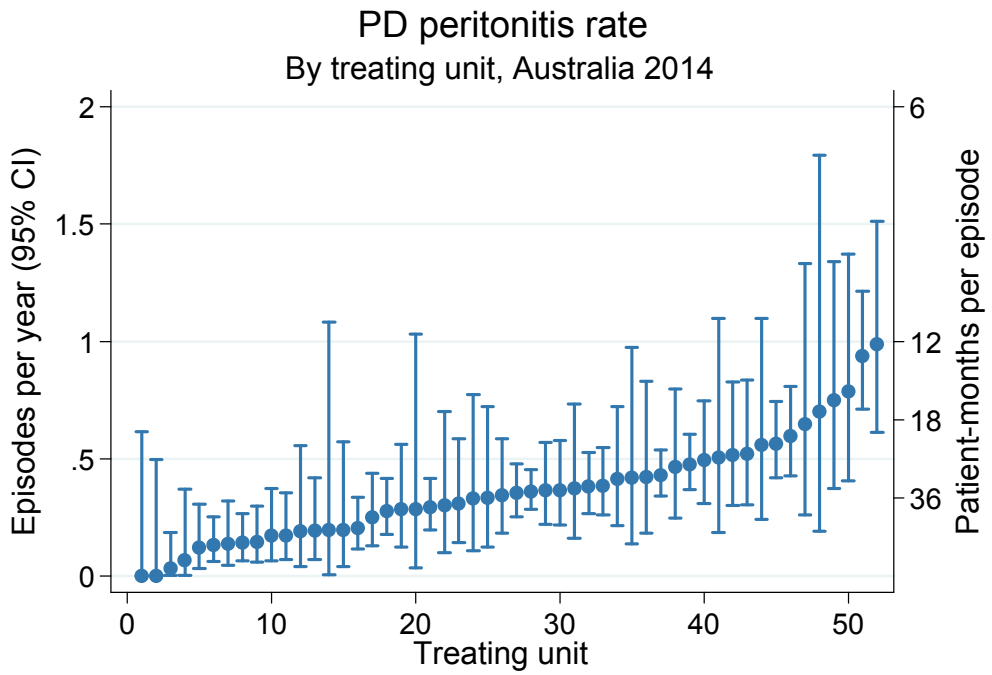


Figure 5.26



Excludes units with <5 person-years PD in 2014

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 2014 stratified by state.

Figure 5.27

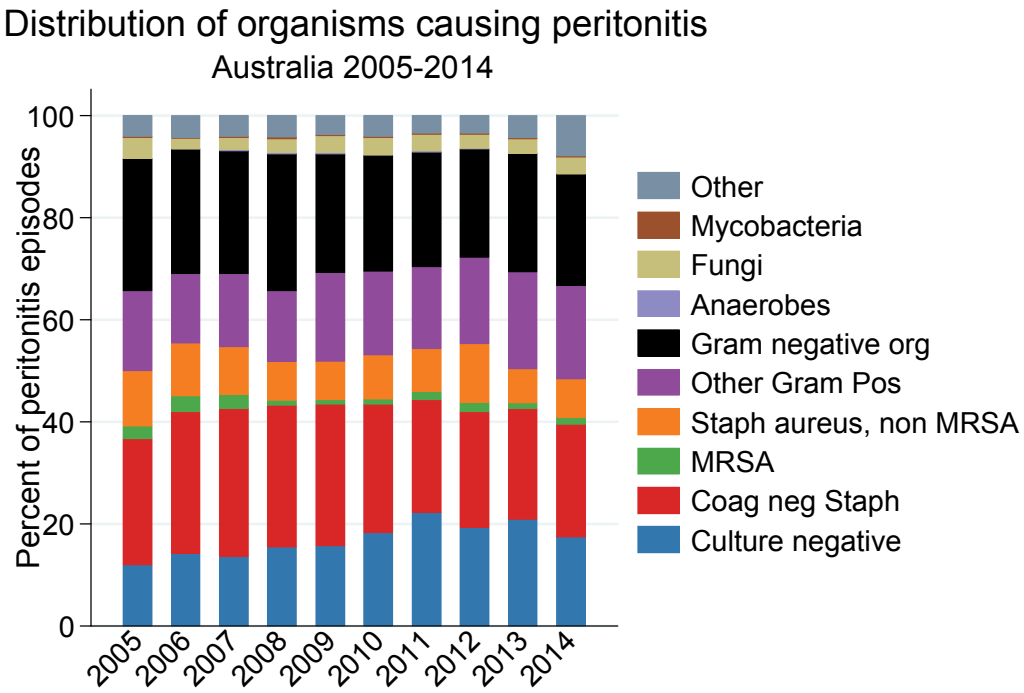
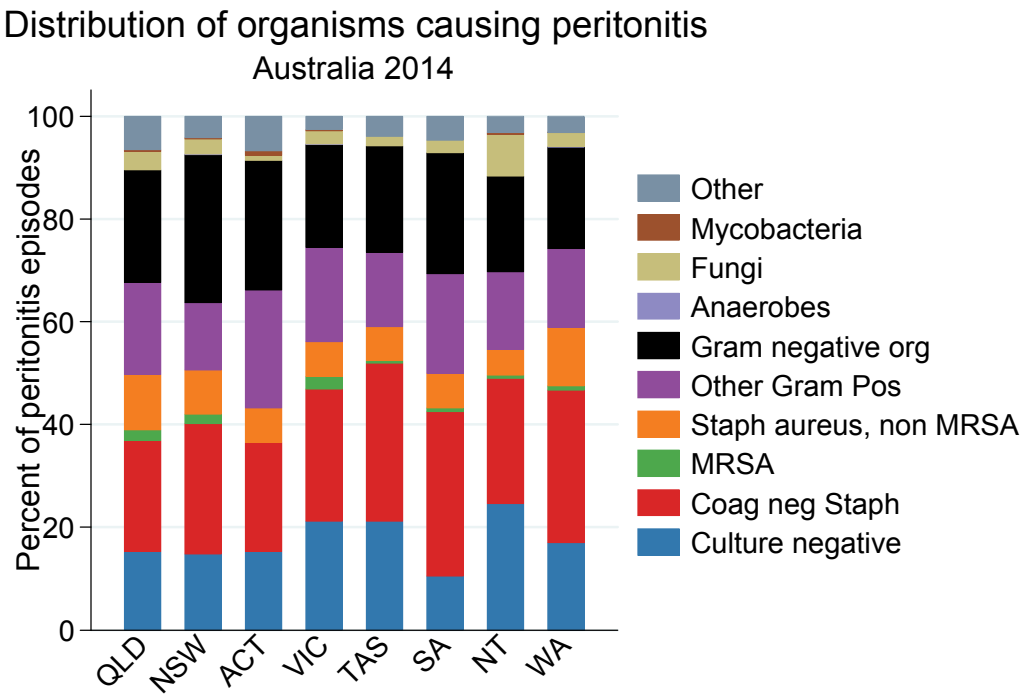


Figure 5.28



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

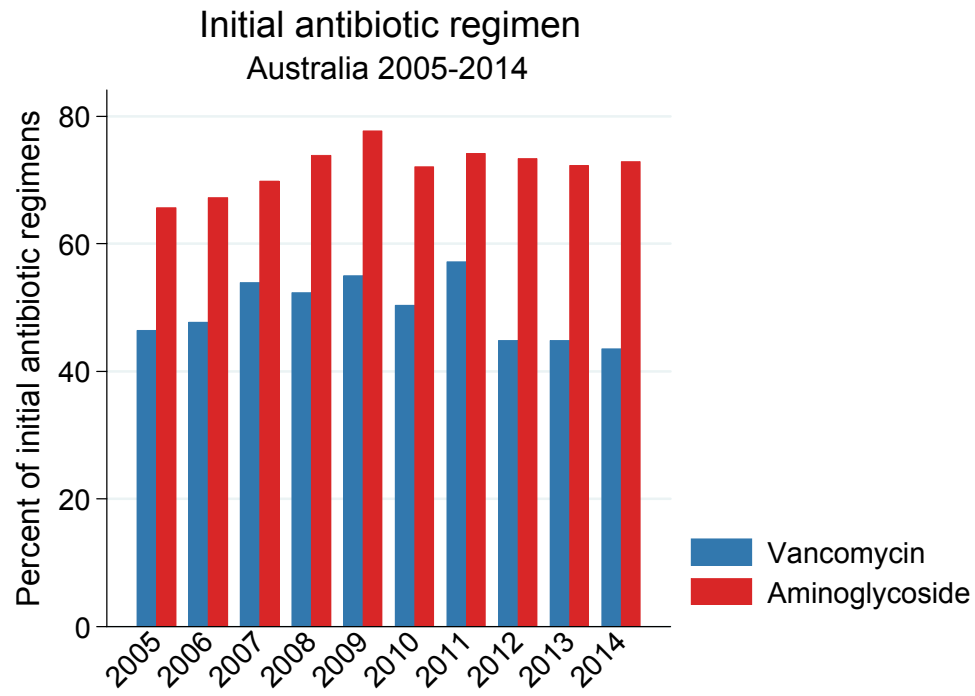
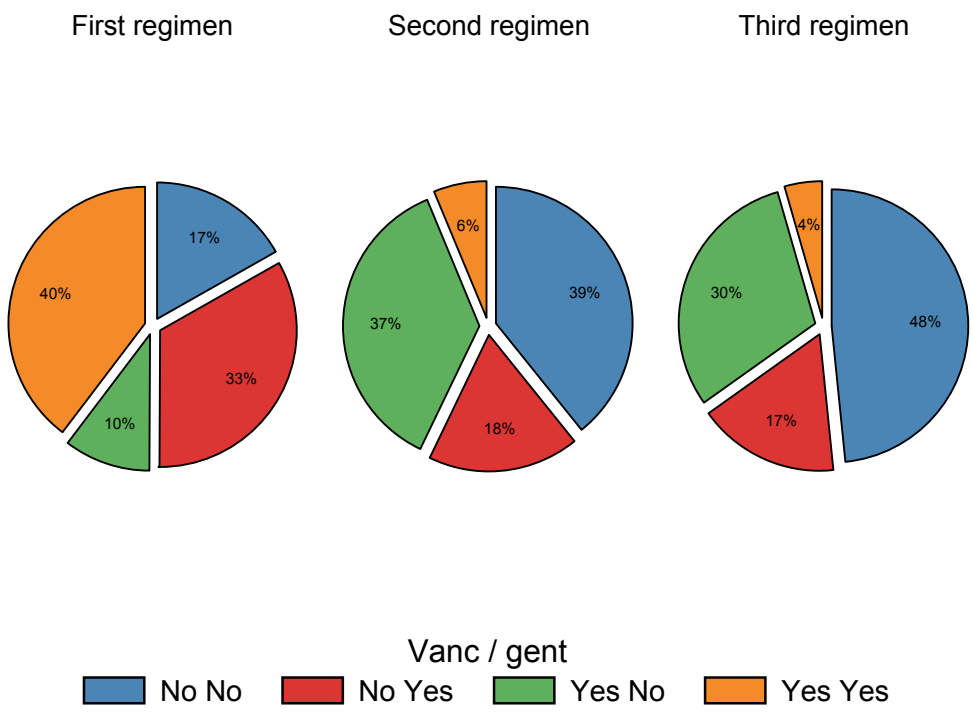
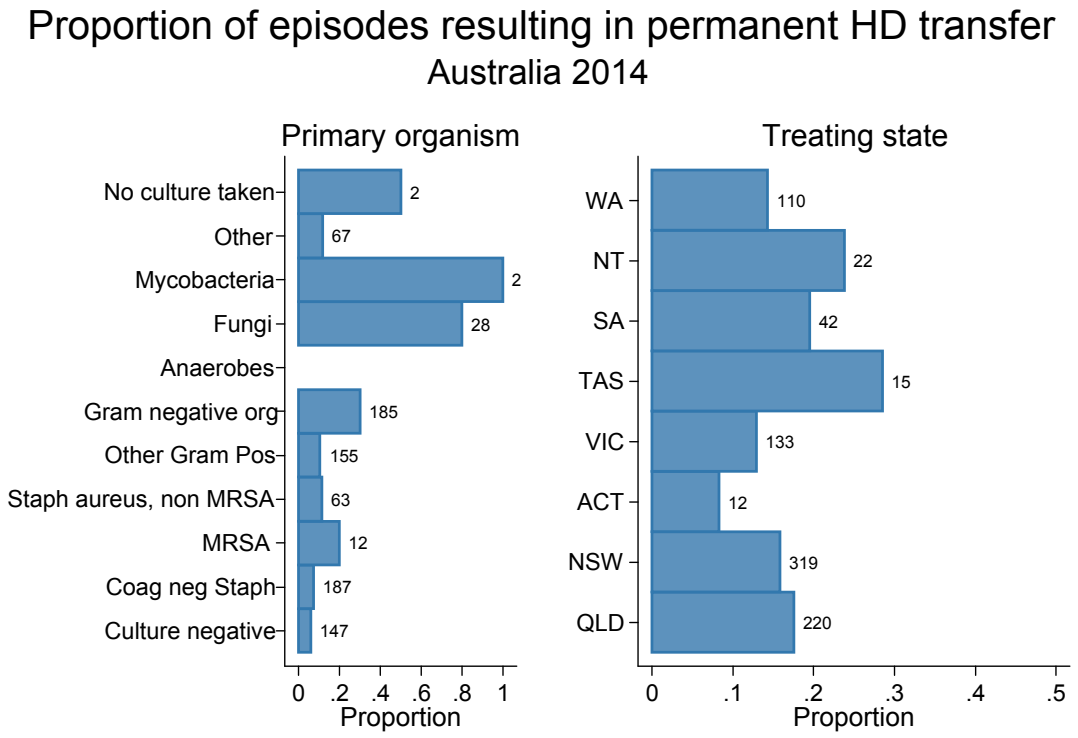


Figure 5.30



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 2014

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

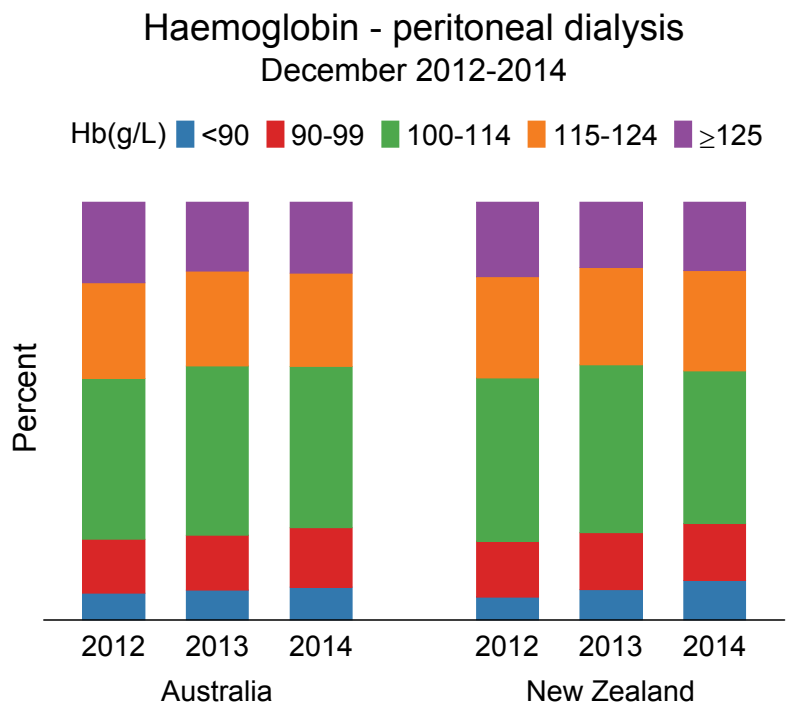


Figure 5.33.1

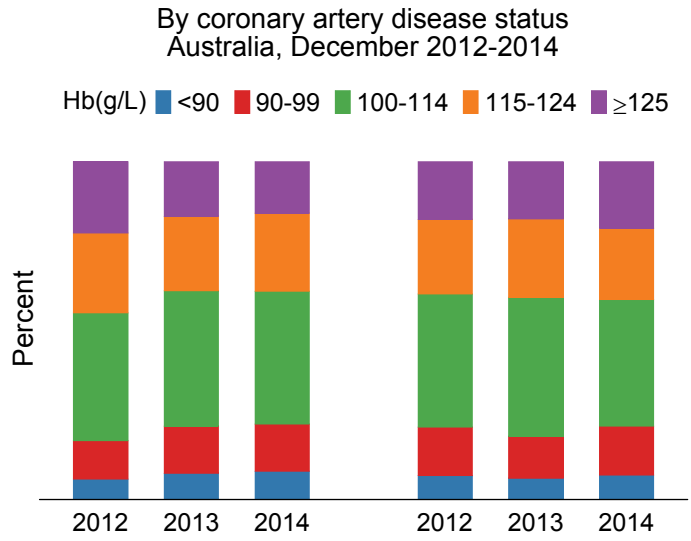


Figure 5.33.2

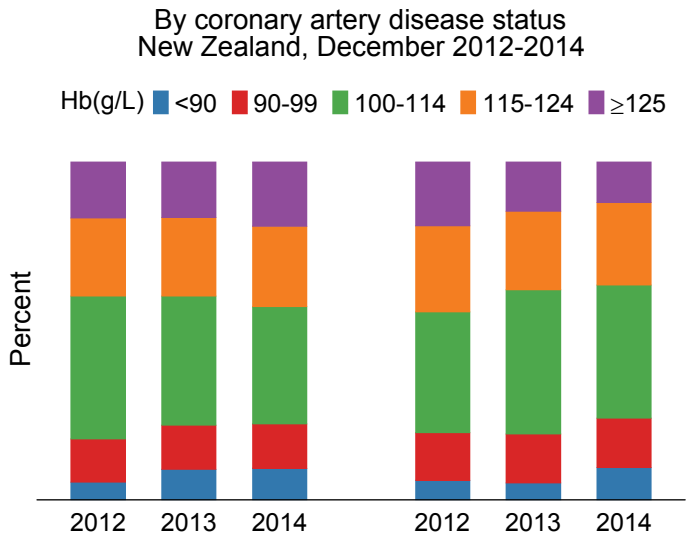


Figure 5.34 shows the variation in Hb between treating hospitals; median Hb ranged from 103 to 118g/L in Australia and 106-117g/L in New Zealand. Figure 5.35 shows the proportion of patients with Hb between 110-129g/L; the proportion ranged from 25-67% in Australia and 31-58% in New Zealand.

Figure 5.34.1

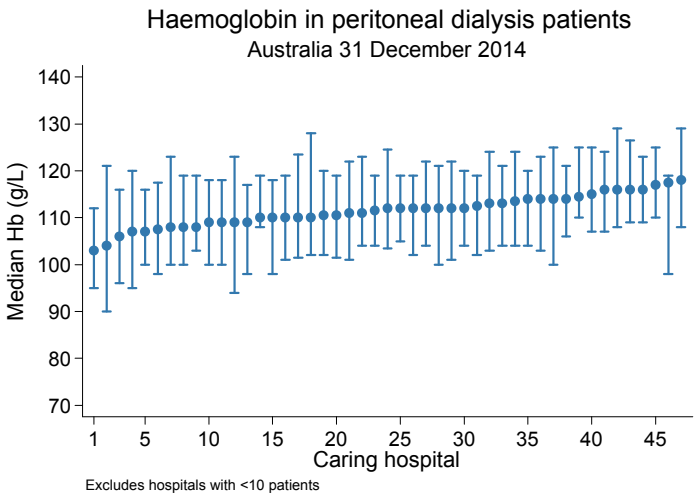


Figure 5.34.2

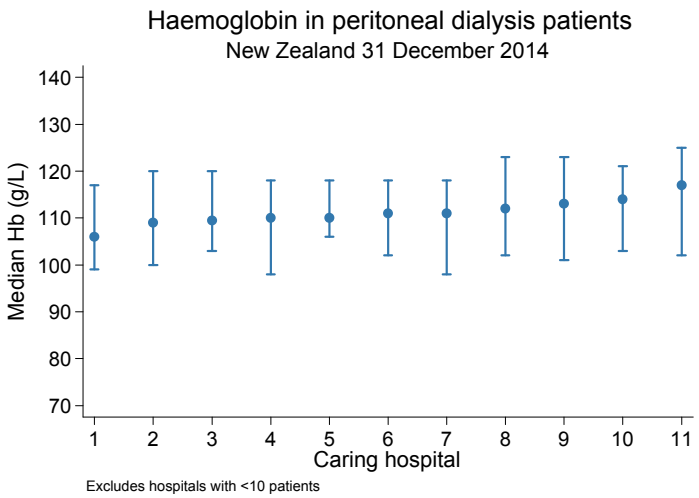


Figure 5.35.1

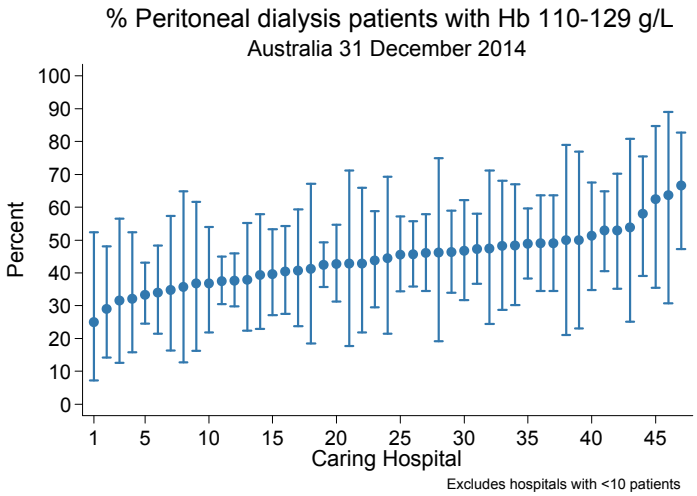


Figure 5.35.2

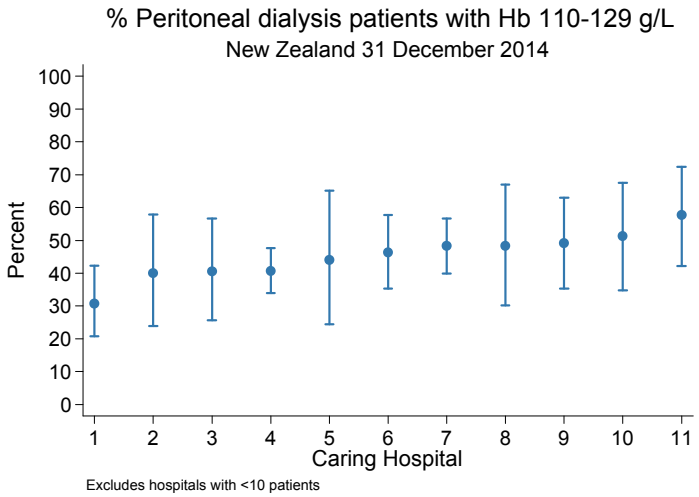


Figure 5.36 shows the distribution of ferritin in HD patients over 2012-14. The proportion of patients with ferritin between 200-500µg/L ranged from 15-58% in Australia and 31-50% in New Zealand (figure 5.38). Figures 5.37 and 5.39 present equivalent data for transferrin saturation.

Figure 5.36

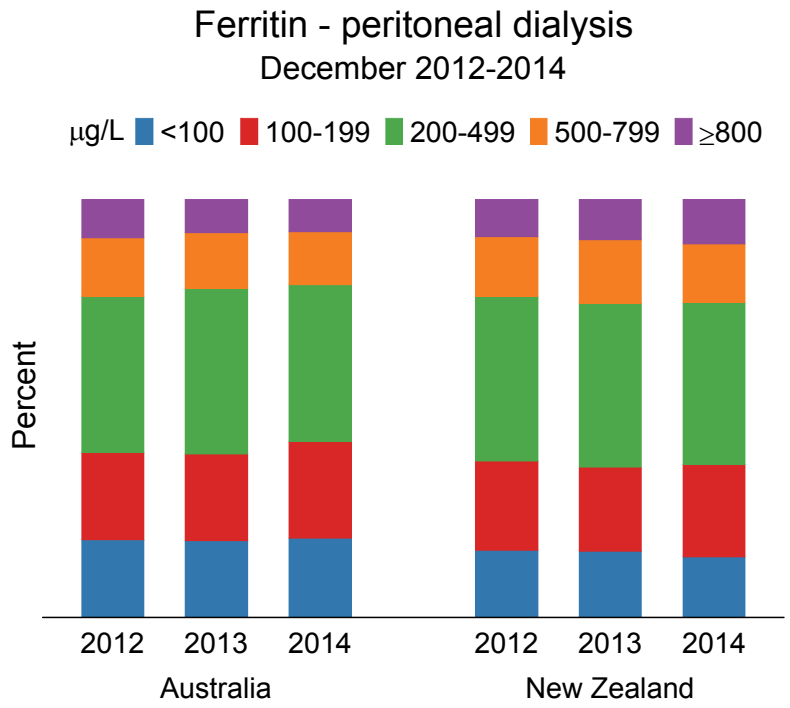


Figure 5.37

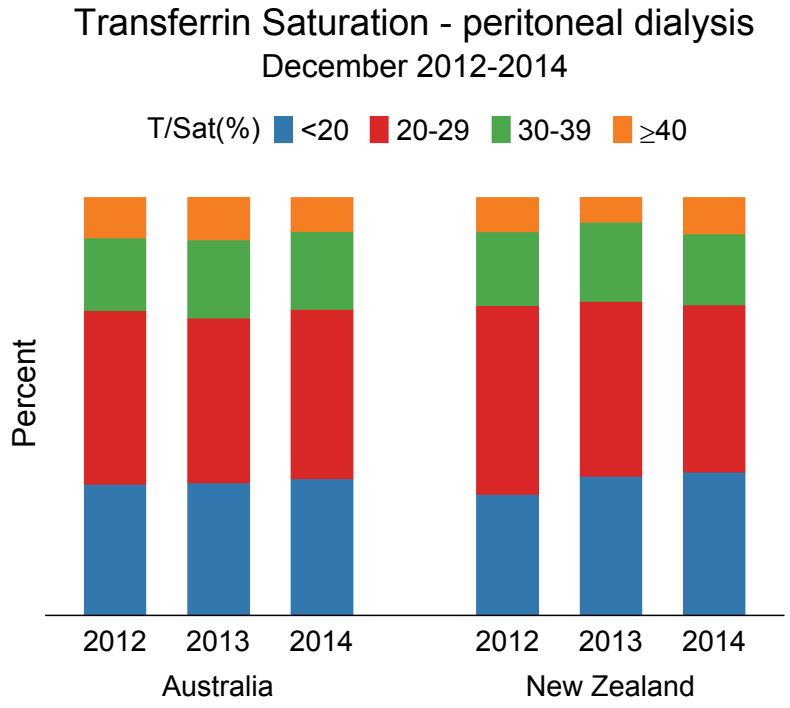


Figure 5.38.1

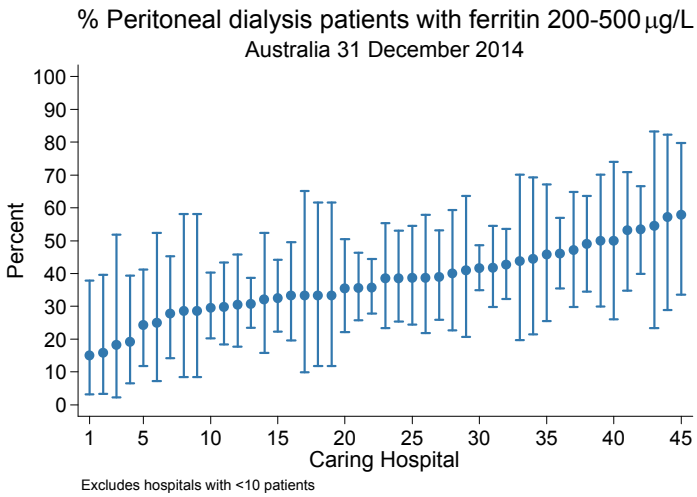


Figure 5.38.2

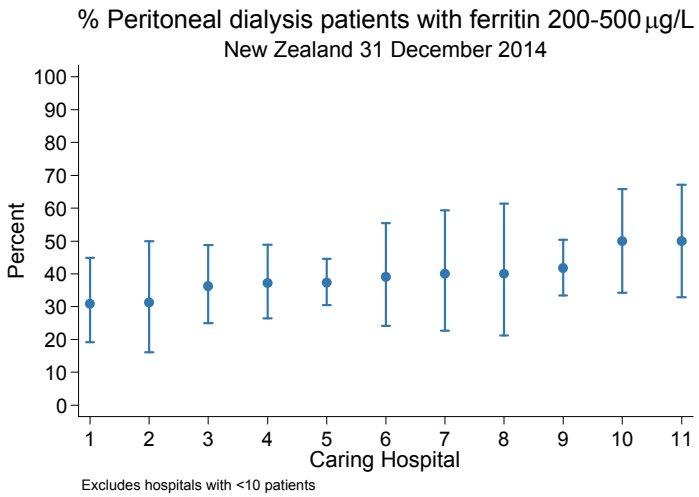


Figure 5.39.1

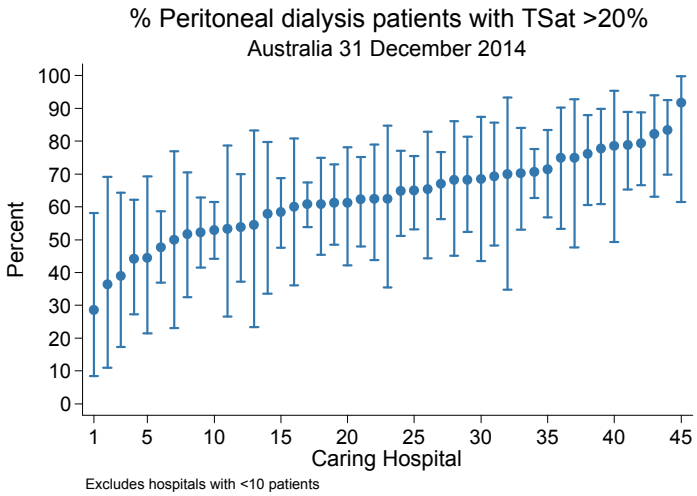
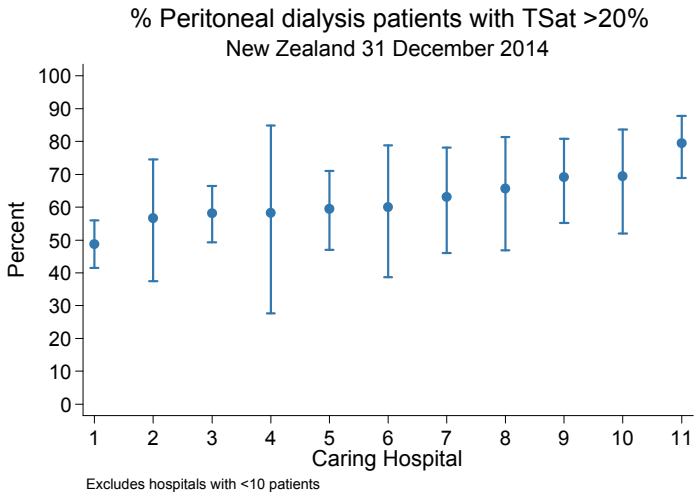


Figure 5.39.2



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

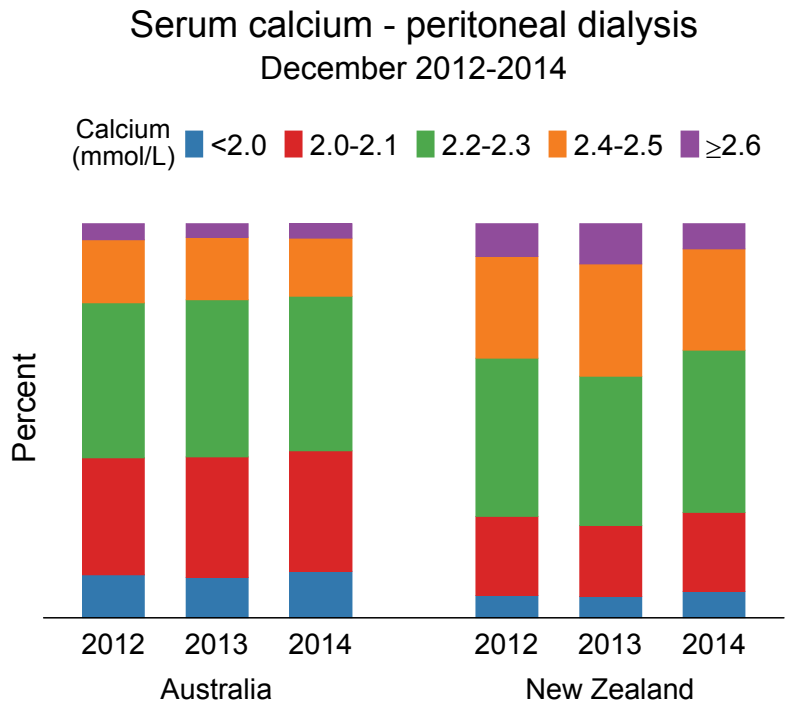


Figure 5.41.1

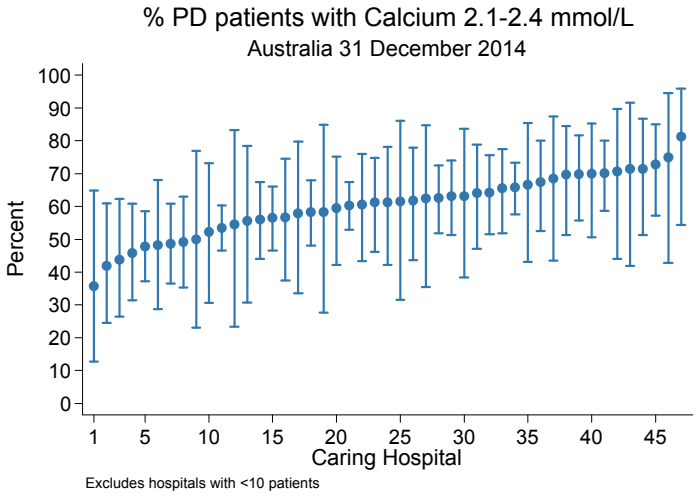


Figure 5.41.2

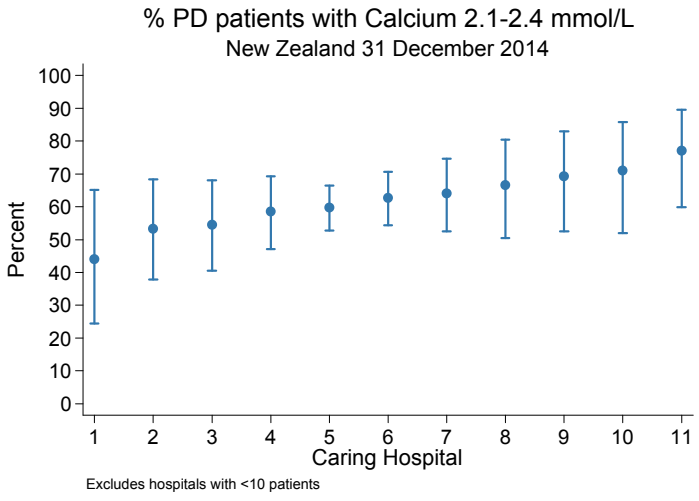


Figure 5.42

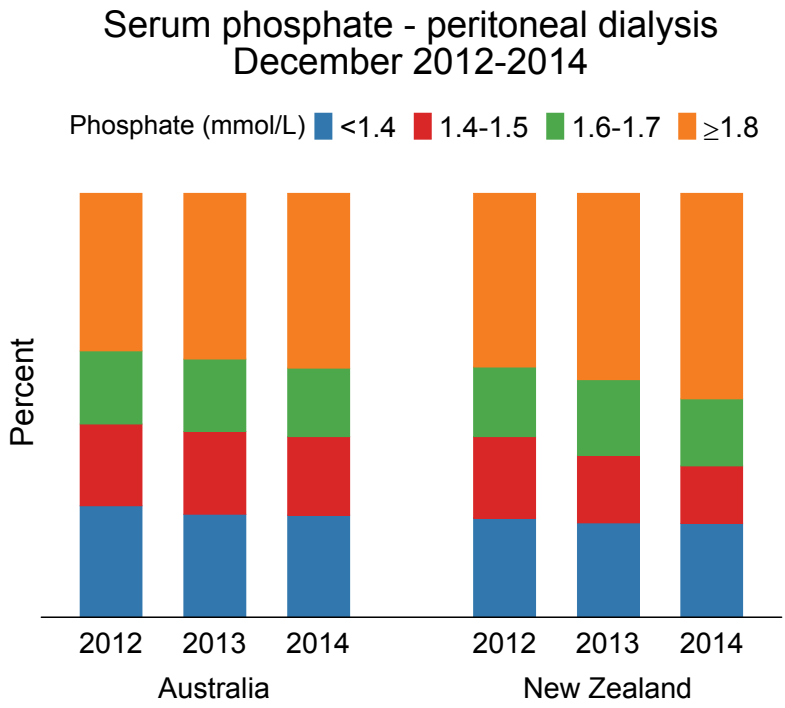


Figure 5.43.1

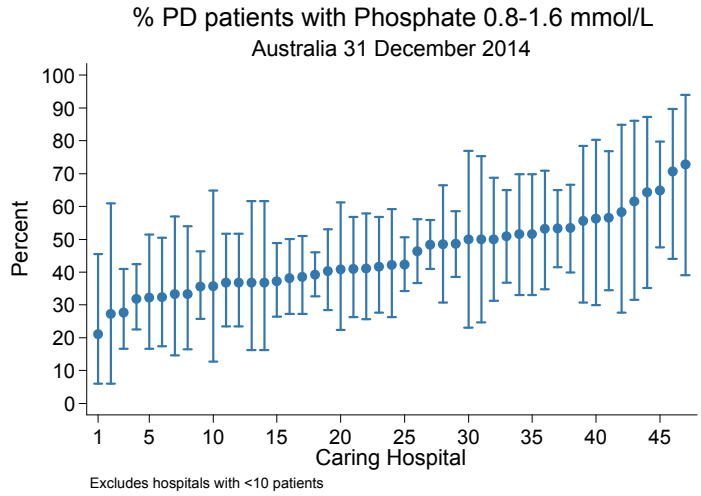


Figure 5.43.2

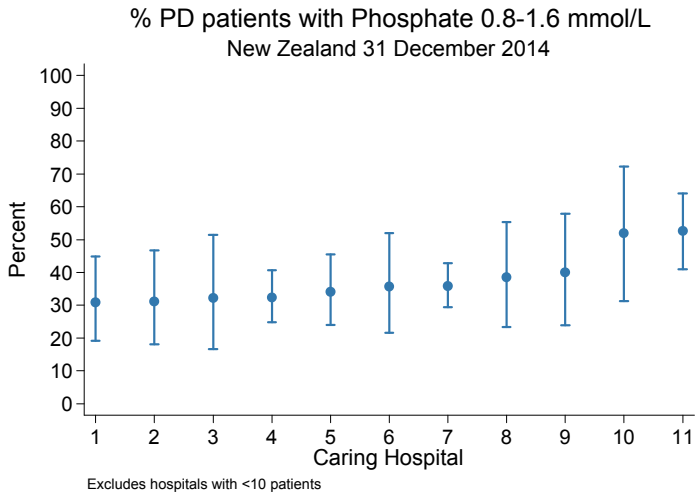


Figure 5.44

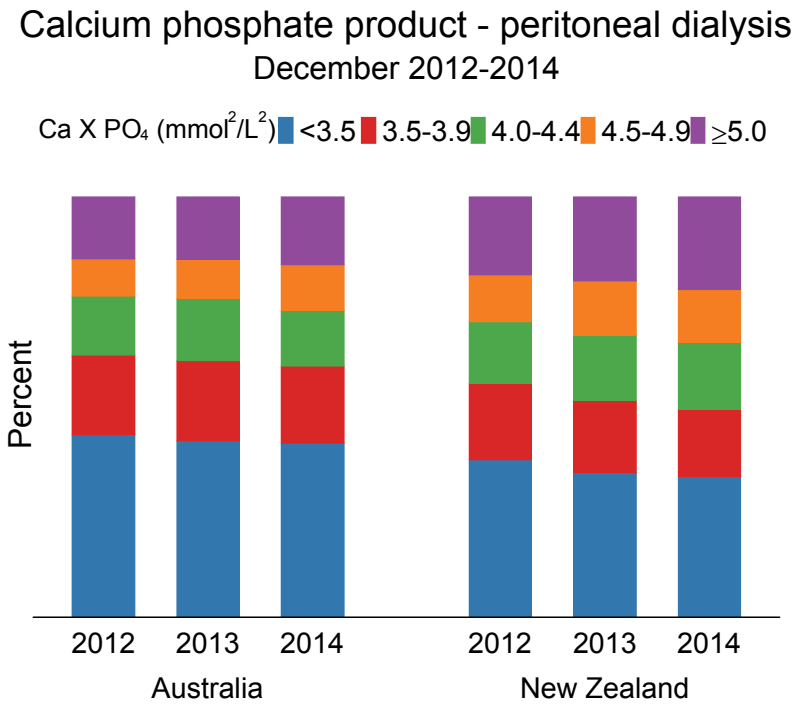


Figure 5.45.1

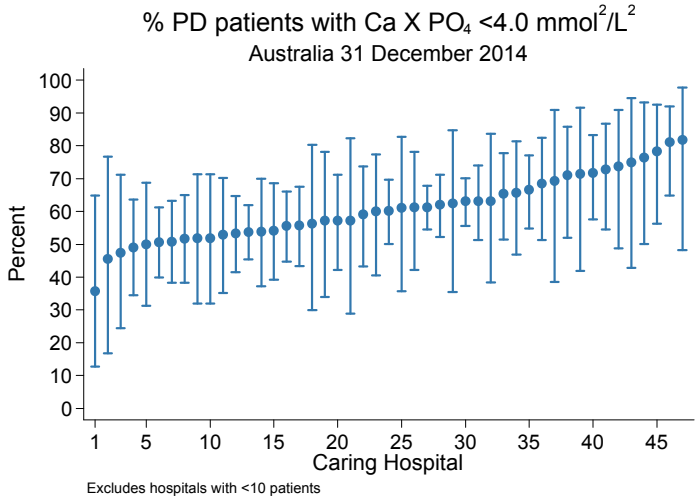
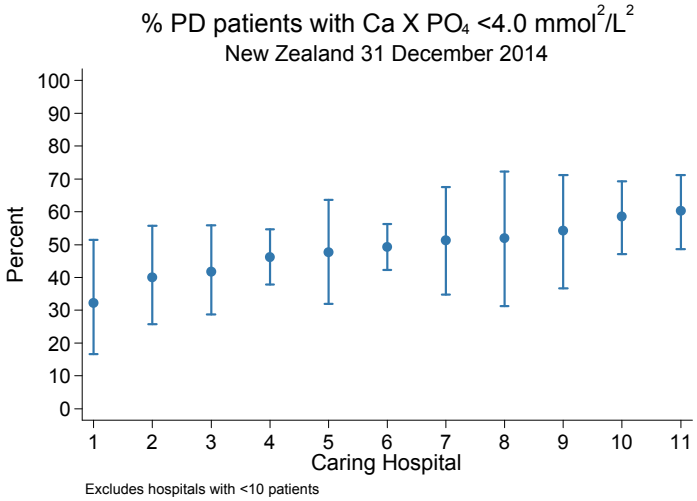


Figure 5.45.2



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