

Appendix 3 (as supplied by the authors): Sensitivity and specificity for case definitions 1–4,* by subgroups of sex, age and ethnicity (First Nations v. non–First Nations) over 5 years (2004–2008)

Appendix 3A: Sensitivity and specificity by sex

gender	med_dialysis	mrp_dialysis	COUNT	PERCENT	Category	rate	L_normal	U_normal	Definition*
F	No	No	3691	71.82	Sensitivity	87.25	85.30	89.19	1
	No	Yes	144	2.8	Specificity	92.04	91.21	92.88	
	Yes	No	319	6.21	PPV	75.54	73.20	77.87	
	Yes	Yes	985	19.17	NPV	96.25	95.64	96.85	
					Accuracy	90.99	90.08	91.90	
					Kappa	0.75	0.73	0.77	
M	No	Yes	159	2.72	Sensitivity	87.98	86.23	89.73	1
	Yes	No	420	7.19	Specificity	90.70	89.85	91.54	
	Yes	Yes	1164	19.94	PPV	73.48	71.31	75.66	
	No	No	4095	70.14	NPV	96.26	95.69	96.83	
					Accuracy	90.08	89.18	90.98	
					Kappa	0.74	0.72	0.76	
F	No	No	3766	73.28	Sensitivity	85.47	83.42	87.53	2
	No	Yes	164	3.19	Specificity	93.92	93.18	94.66	
	Yes	No	244	4.75	PPV	79.82	77.56	82.08	
	Yes	Yes	965	18.78	NPV	95.83	95.20	96.45	
					Accuracy	92.06	91.22	92.91	
					Kappa	0.77	0.75	0.80	
M	No	No	4195	71.86	Sensitivity	86.55	84.71	88.38	2
	No	Yes	178	3.05	Specificity	92.91	92.16	93.66	
	Yes	No	320	5.48	PPV	78.16	76.04	80.27	
	Yes	Yes	1145	19.61	NPV	95.93	95.34	96.52	
					Accuracy	91.47	90.64	92.30	
					Kappa	0.77	0.75	0.79	
F	No	No	3998	77.8	Sensitivity	72.54	69.94	75.15	3
	No	Yes	310	6.03	Specificity	99.70	99.53	99.87	
	Yes	No	12	0.23	PPV	98.56	97.74	99.37	
	Yes	Yes	819	15.94	NPV	92.80	92.03	93.58	
					Accuracy	93.73	93.01	94.46	
					Kappa	0.80	0.78	0.82	
M	No	No	4497	77.03	Sensitivity	71.58	69.15	74.01	3
	No	Yes	376	6.44	Specificity	99.60	99.42	99.79	
	Yes	No	18	0.31	PPV	98.13	97.28	98.99	
	Yes	Yes	947	16.22	NPV	92.28	91.53	93.03	
					Accuracy	93.25	92.55	93.96	
					Kappa	0.79	0.77	0.81	
F	No	No	4002	77.88	Sensitivity	46.77	43.86	49.68	4
	No	Yes	601	11.69	Specificity	99.80	99.66	99.94	
	Yes	No	8	0.16	PPV	98.51	97.48	99.53	
	Yes	Yes	528	10.27	NPV	86.94	85.97	87.92	
					Accuracy	88.15	87.22	89.08	
					Kappa	0.57	0.54	0.60	
M	No	No	4503	77.13	Sensitivity	48.30	45.61	50.99	4
	No	Yes	684	11.72	Specificity	99.73	99.58	99.88	
	Yes	No	12	0.21	PPV	98.16	97.12	99.19	
	Yes	Yes	639	10.95	NPV	86.81	85.89	87.73	
					Accuracy	88.08	87.20	88.96	
					Kappa	0.59	0.56	0.61	

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).

Appendix 3B: Sensitivity and specificity by age subgroups

Age Groups	med_dialysis	mrp_dialysis	COUNT	PERCENT	Category	Rate	L_normal	U_normal	Defintion*
<=24	No	No	314	74.94	Sensitivity	84.51	76.09	92.92	1
	No	Yes	11	2.63	Specificity	90.23	87.11	93.35	
	Yes	No	34	8.11	PPV	63.83	54.12	73.54	
	Yes	Yes	60	14.32	NPV	96.62	94.65	98.58	
					Accuracy	89.26	85.89	92.63	
					Kappa	0.66	0.57	0.75	
25-29	No	No	199	71.07	Sensitivity	80.65	70.81	90.48	1
	No	Yes	12	4.29	Specificity	91.28	87.54	95.03	
	Yes	No	19	6.79	PPV	72.46	61.92	83.00	
	Yes	Yes	50	17.86	NPV	94.31	91.19	97.44	
					Accuracy	88.93	84.69	93.16	
					Kappa	0.69	0.59	0.79	
30-34	No	No	288	71.29	Sensitivity	92.47	87.11	97.84	1
	No	Yes	7	1.73	Specificity	92.60	89.70	95.51	
	Yes	No	23	5.69	PPV	78.90	71.24	86.56	
	Yes	Yes	86	21.29	NPV	97.63	95.89	99.36	
					Accuracy	92.57	89.58	95.57	
					Kappa	0.80	0.74	0.87	
35-39	No	No	339	69.18	Sensitivity	87.70	81.88	93.53	1
	No	Yes	15	3.06	Specificity	92.12	89.37	94.87	
	Yes	No	29	5.92	PPV	78.68	71.79	85.56	
	Yes	Yes	107	21.84	NPV	95.76	93.66	97.86	
					Accuracy	91.02	88.04	94.00	
					Kappa	0.77	0.70	0.83	
40-44	No	No	509	72.3	Sensitivity	87.90	82.80	93.00	1
	No	Yes	19	2.7	Specificity	93.05	90.92	95.18	
	Yes	No	38	5.4	PPV	78.41	72.33	84.49	
	Yes	Yes	138	19.6	NPV	96.40	94.81	97.99	
					Accuracy	91.90	89.58	94.23	
					Kappa	0.78	0.72	0.83	
45-49	No	No	555	68.69	Sensitivity	86.22	81.40	91.05	1
	No	Yes	27	3.34	Specificity	90.69	88.38	92.99	
	Yes	No	57	7.05	PPV	74.78	69.12	80.44	
	Yes	Yes	169	20.92	NPV	95.36	93.65	97.07	
					Accuracy	89.60	87.12	92.08	
					Kappa	0.73	0.68	0.78	
50-54	No	No	681	68.93	Sensitivity	88.70	84.69	92.72	1
	No	Yes	27	2.73	Specificity	90.92	88.86	92.98	
	Yes	No	68	6.88	PPV	75.71	70.69	80.74	
	Yes	Yes	212	21.46	NPV	96.19	94.78	97.60	
					Accuracy	90.38	88.21	92.56	
					Kappa	0.75	0.71	0.80	
55-59	No	No	791	65.21	Sensitivity	85.46	81.70	89.22	1
	No	Yes	49	4.04	Specificity	90.30	88.34	92.26	
	Yes	No	85	7.01	PPV	77.21	72.95	81.47	
	Yes	Yes	288	23.74	NPV	94.17	92.58	95.75	
					Accuracy	88.95	86.83	91.07	
					Kappa	0.73	0.69	0.78	
60-64	No	No	735	68.76	Sensitivity	88.93	85.13	92.73	1
	No	Yes	29	2.71	Specificity	91.08	89.11	93.04	
	Yes	No	72	6.74	PPV	76.39	71.63	81.16	
	Yes	Yes	233	21.8	NPV	96.20	94.85	97.56	
					Accuracy	90.55	88.48	92.63	
					Kappa	0.76	0.71	0.80	
65+	No	No	3375	73.34	Sensitivity	88.28	86.19	90.37	1
	No	Yes	107	2.33	Specificity	91.49	90.59	92.39	
	Yes	No	314	6.82	PPV	71.96	69.33	74.59	
	Yes	Yes	806	17.51	NPV	96.93	96.35	97.50	
					Accuracy	90.85	89.89	91.81	
					Kappa	0.74	0.71	0.76	

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).

Appendix 3B: Sensitivity and specificity by age subgroups (continued)

<=24	No	No	328	78.28	Sensitivity	83.10	74.38	91.82	2
	No	Yes	12	2.86	Specificity	94.25	91.81	96.70	
	Yes	No	20	4.77	PPV	74.68	65.10	84.27	
	Yes	Yes	59	14.08	NPV	96.47	94.51	98.43	
					Accuracy	92.36	89.54	95.19	
25-29	No	No	206	73.57	Sensitivity	80.65	70.81	90.48	2
	No	Yes	12	4.29	Specificity	94.50	91.47	97.52	
	Yes	No	12	4.29	PPV	80.65	70.81	90.48	
	Yes	Yes	50	17.86	NPV	94.50	91.47	97.52	
					Accuracy	91.43	87.71	95.14	
30-34	No	No	293	72.52	Sensitivity	91.40	85.70	97.10	2
	No	Yes	8	1.98	Specificity	94.21	91.62	96.81	
	Yes	No	18	4.46	PPV	82.52	75.19	89.86	
	Yes	Yes	85	21.04	NPV	97.34	95.53	99.16	
					Accuracy	93.56	90.79	96.34	
35-39	No	No	346	70.61	Sensitivity	84.43	77.99	90.86	2
	No	Yes	19	3.88	Specificity	94.02	91.60	96.44	
	Yes	No	22	4.49	PPV	82.40	75.72	89.08	
	Yes	Yes	103	21.02	NPV	94.79	92.52	97.07	
					Accuracy	91.63	88.79	94.47	
40-44	No	No	520	73.86	Sensitivity	87.26	82.05	92.48	2
	No	Yes	20	2.84	Specificity	95.06	93.25	96.88	
	Yes	No	27	3.84	PPV	83.54	77.86	89.21	
	Yes	Yes	137	19.46	NPV	96.30	94.70	97.89	
					Accuracy	93.32	91.22	95.43	
45-49	No	No	574	71.04	Sensitivity	83.67	78.50	88.85	2
	No	Yes	32	3.96	Specificity	93.79	91.88	95.70	
	Yes	No	38	4.7	PPV	81.19	75.80	86.58	
	Yes	Yes	164	20.3	NPV	94.72	92.94	96.50	
					Accuracy	91.34	89.10	93.58	
50-54	No	No	697	70.55	Sensitivity	88.28	84.21	92.36	2
	No	Yes	28	2.83	Specificity	93.06	91.24	94.88	
	Yes	No	52	5.26	PPV	80.23	75.41	85.04	
	Yes	Yes	211	21.36	NPV	96.14	94.74	97.54	
					Accuracy	91.90	89.92	93.89	
55-59	No	No	813	67.02	Sensitivity	83.38	79.41	87.36	2
	No	Yes	56	4.62	Specificity	92.81	91.10	94.52	
	Yes	No	63	5.19	PPV	81.69	77.60	85.77	
	Yes	Yes	281	23.17	NPV	93.56	91.92	95.19	
					Accuracy	90.19	88.21	92.17	
60-64	No	No	748	69.97	Sensitivity	87.40	83.39	91.42	2
	No	Yes	33	3.09	Specificity	92.69	90.89	94.49	
	Yes	No	59	5.52	PPV	79.51	74.85	84.18	
	Yes	Yes	229	21.42	NPV	95.77	94.36	97.19	
					Accuracy	91.39	89.43	93.36	
65+	No	No	3436	74.66	Sensitivity	86.64	84.43	88.84	2
	No	Yes	122	2.65	Specificity	93.14	92.33	93.96	
	Yes	No	253	5.5	PPV	75.77	73.17	78.37	
	Yes	Yes	791	17.19	NPV	96.57	95.97	97.17	
					Accuracy	91.85	90.95	92.75	
				Kappa	0.76	0.73	0.78		

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).

Appendix 3B: Sensitivity and specificity by age subgroups (continued)

<=24	No	No	340	84.16	Sensitivity	66.13	54.35	77.91	3
	No	Yes	21	5.2	Specificity	99.42	98.61	100.22	
	Yes	No	2	0.5	PPV	95.35	89.05	101.64	
	Yes	Yes	41	10.15	NPV	94.18	91.77	96.60	
					Accuracy	94.31	91.92	96.70	
					Kappa	0.75	0.65	0.85	
25-29	No	No	215	78.18	Sensitivity	67.80	55.87	79.72	3
	No	Yes	19	6.91	Specificity	99.54	98.63	100.44	
	Yes	No	1	0.36	PPV	97.56	92.84	102.28	
	Yes	Yes	40	14.55	NPV	91.88	88.38	95.38	
					Accuracy	92.73	89.40	96.05	
					Kappa	0.76	0.66	0.86	
30-34	No	No	310	78.68	Sensitivity	78.31	69.45	87.18	3
	No	Yes	18	4.57	Specificity	99.68	99.05	100.31	
	Yes	No	1	0.25	PPV	98.48	95.54	101.43	
	Yes	Yes	65	16.5	NPV	94.51	92.05	96.98	
					Accuracy	95.18	92.86	97.50	
					Kappa	0.84	0.78	0.91	
35-39	No	No	362	76.21	Sensitivity	78.38	70.72	86.04	3
	No	Yes	24	5.05	Specificity	99.45	98.69	100.21	
	Yes	No	2	0.42	PPV	97.75	94.67	100.83	
	Yes	Yes	87	18.32	NPV	93.78	91.37	96.19	
					Accuracy	94.53	92.26	96.80	
					Kappa	0.84	0.78	0.90	
40-44	No	No	541	77.4	Sensitivity	70.70	63.58	77.82	3
	No	Yes	46	6.58	Specificity	99.82	99.45	100.18	
	Yes	No	1	0.14	PPV	99.11	97.37	100.85	
	Yes	Yes	111	15.88	NPV	92.16	89.99	94.34	
					Accuracy	93.28	91.25	95.30	
					Kappa	0.79	0.73	0.84	
45-49	No	No	600	75.38	Sensitivity	72.77	66.46	79.09	3
	No	Yes	52	6.53	Specificity	99.17	98.45	99.89	
	Yes	No	5	0.63	PPV	96.53	93.54	99.52	
	Yes	Yes	139	17.46	NPV	92.02	89.95	94.10	
					Accuracy	92.84	90.86	94.82	
					Kappa	0.79	0.73	0.84	
50-54	No	No	743	76.68	Sensitivity	75.78	70.16	81.41	3
	No	Yes	54	5.57	Specificity	99.60	99.14	100.05	
	Yes	No	3	0.31	PPV	98.26	96.30	100.21	
	Yes	Yes	169	17.44	NPV	93.22	91.48	94.97	
					Accuracy	94.12	92.48	95.75	
					Kappa	0.82	0.77	0.86	
55-59	No	No	857	72.57	Sensitivity	73.67	68.83	78.50	3
	No	Yes	84	7.11	Specificity	99.42	98.91	99.93	
	Yes	No	5	0.42	PPV	97.92	96.11	99.72	
	Yes	Yes	235	19.9	NPV	91.07	89.25	92.90	
					Accuracy	92.46	90.78	94.15	
					Kappa	0.79	0.75	0.83	
60-64	No	No	814	73.87	Sensitivity	78.40	73.64	83.16	3
	No	Yes	62	5.63	Specificity	99.88	99.64	100.12	
	Yes	No	1	0.09	PPV	99.56	98.69	100.42	
	Yes	Yes	225	20.42	NPV	92.92	91.22	94.62	
					Accuracy	94.28	92.75	95.82	
					Kappa	0.84	0.80	0.88	
65+	No	No	3713	79.3	Sensitivity	68.13	65.18	71.07	3
	No	Yes	306	6.54	Specificity	99.76	99.60	99.92	
	Yes	No	9	0.19	PPV	98.64	97.76	99.52	
	Yes	Yes	654	13.97	NPV	92.39	91.57	93.21	
					Accuracy	93.27	92.50	94.05	
					Kappa	0.77	0.74	0.79	

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).

Appendix 3B: Sensitivity and specificity by age subgroups (continued)

<=24	No	No	341	84.41	Sensitivity	37.10	25.07	49.12	4
	No	Yes	39	9.65	Specificity	99.71	99.14	100.28	
	Yes	No	1	0.25	PPV	95.83	87.84	103.83	
	Yes	Yes	23	5.69	NPV	89.74	86.69	92.79	
					Accuracy	90.10	87.10	93.10	
				Kappa	0.49	0.36	0.62		
25-29	No	No	215	78.18	Sensitivity	44.07	31.40	56.74	4
	No	Yes	33	12	Specificity	99.54	98.63	100.44	
	Yes	No	1	0.36	PPV	96.30	89.17	103.42	
	Yes	Yes	26	9.45	NPV	86.69	82.47	90.92	
					Accuracy	87.64	83.54	91.73	
				Kappa	0.54	0.41	0.67		
30-34	No	No	310	78.68	Sensitivity	51.81	41.06	62.56	4
	No	Yes	40	10.15	Specificity	99.68	99.05	100.31	
	Yes	No	1	0.25	PPV	97.73	93.32	102.13	
	Yes	Yes	43	10.91	NPV	88.57	85.24	91.90	
					Accuracy	89.59	86.40	92.79	
				Kappa	0.62	0.52	0.72		
35-39	No	No	363	76.42	Sensitivity	49.55	40.25	58.85	4
	No	Yes	56	11.79	Specificity	99.73	99.19	100.26	
	Yes	No	1	0.21	PPV	98.21	94.75	101.68	
	Yes	Yes	55	11.58	NPV	86.63	83.38	89.89	
					Accuracy	88.00	84.89	91.11	
				Kappa	0.60	0.50	0.69		
40-44	No	No	541	77.4	Sensitivity	45.86	38.07	53.65	4
	No	Yes	85	12.16	Specificity	99.82	99.45	100.18	
	Yes	No	1	0.14	PPV	98.63	95.96	101.30	
	Yes	Yes	72	10.3	NPV	86.42	83.74	89.11	
					Accuracy	87.70	85.12	90.27	
				Kappa	0.56	0.49	0.64		
45-49	No	No	602	75.63	Sensitivity	45.55	38.49	52.61	4
	No	Yes	104	13.07	Specificity	99.50	98.94	100.06	
	Yes	No	3	0.38	PPV	96.67	92.96	100.38	
	Yes	Yes	87	10.93	NPV	85.27	82.65	87.88	
					Accuracy	86.56	84.04	89.07	
				Kappa	0.55	0.48	0.62		
50-54	No	No	743	76.68	Sensitivity	47.98	41.42	54.54	4
	No	Yes	116	11.97	Specificity	99.60	99.14	100.05	
	Yes	No	3	0.31	PPV	97.27	94.23	100.32	
	Yes	Yes	107	11.04	NPV	86.50	84.21	88.78	
					Accuracy	87.72	85.52	89.91	
				Kappa	0.58	0.51	0.64		
55-59	No	No	858	72.65	Sensitivity	45.14	39.68	50.60	4
	No	Yes	175	14.82	Specificity	99.54	99.08	99.99	
	Yes	No	4	0.34	PPV	97.30	94.68	99.91	
	Yes	Yes	144	12.19	NPV	83.06	80.77	85.35	
					Accuracy	84.84	82.66	87.03	
				Kappa	0.54	0.48	0.59		
60-64	No	No	815	73.96	Sensitivity	48.08	42.30	53.86	4
	No	Yes	149	13.52	Specificity	100.00	100.00	100.00	
	Yes	No	0	0	PPV	100.00	100.00	100.00	
	Yes	Yes	138	12.52	NPV	84.54	82.26	86.83	
					Accuracy	86.48	84.32	88.64	
				Kappa	0.58	0.52	0.64		
65+	No	No	3717	79.39	Sensitivity	49.17	46.00	52.33	4
	No	Yes	488	10.42	Specificity	99.87	99.75	99.98	
	Yes	No	5	0.11	PPV	98.95	98.04	99.87	
	Yes	Yes	472	10.08	NPV	88.39	87.43	89.36	
					Accuracy	89.47	88.54	90.40	
				Kappa	0.60	0.57	0.63		

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).

Appendix 3C: Sensitivity and specificity by ethnicity — First Nations (FN) status

FN Status	med_dialysis	mrp_dialysis	COUNT	PERCENT	Category	Rate	L_normal	U_normal	Defintion*
0	No	No	7064	73.55	Sensitivity	87.56	86.07	89.04	1
	No	Yes	236	2.46	Specificity	91.66	91.04	92.27	
	Yes	No	643	6.7	PPV	72.09	70.26	73.92	
	Yes	Yes	1661	17.29	NPV	96.77	96.36	97.17	
					Accuracy	90.85	90.19	91.51	
					Kappa	0.73	0.72	0.75	
1	No	No	722	52.59	Sensitivity	87.93	85.22	90.64	1
	No	Yes	67	4.88	Specificity	88.26	86.06	90.47	
	Yes	No	96	6.99	PPV	83.56	80.56	86.57	
	Yes	Yes	488	35.54	NPV	91.51	89.56	93.45	
					Accuracy	88.13	85.87	90.39	
					Kappa	0.76	0.72	0.79	
0	No	No	7222	75.2	Sensitivity	85.98	84.42	87.54	2
	No	Yes	266	2.77	Specificity	93.71	93.16	94.25	
	Yes	No	485	5.05	PPV	77.08	75.29	78.87	
	Yes	Yes	1631	16.98	NPV	96.45	96.03	96.87	
					Accuracy	92.18	91.57	92.79	
					Kappa	0.76	0.75	0.78	
1	No	No	739	53.82	Sensitivity	86.31	83.45	89.17	2
	No	Yes	76	5.54	Specificity	90.34	88.32	92.37	
	Yes	No	79	5.75	PPV	85.84	82.95	88.73	
	Yes	Yes	479	34.89	NPV	90.67	88.68	92.67	
					Accuracy	88.71	86.54	90.88	
					Kappa	0.77	0.73	0.80	
0	No	No	7684	80.01	Sensitivity	70.95	68.91	73.00	3
	No	Yes	551	5.74	Specificity	99.70	99.58	99.82	
	Yes	No	23	0.24	PPV	98.32	97.64	99.00	
	Yes	Yes	1346	14.01	NPV	93.31	92.77	93.85	
					Accuracy	94.02	93.51	94.54	
					Kappa	0.79	0.77	0.81	
1	No	No	811	59.07	Sensitivity	75.68	72.11	79.25	3
	No	Yes	135	9.83	Specificity	99.14	98.51	99.78	
	Yes	No	7	0.51	PPV	98.36	97.16	99.57	
	Yes	Yes	420	30.59	NPV	85.73	83.50	87.96	
					Accuracy	89.66	87.72	91.60	
					Kappa	0.78	0.74	0.81	
0	No	No	7690	80.07	Sensitivity	51.03	48.78	53.28	4
	No	Yes	929	9.67	Specificity	99.78	99.67	99.88	
	Yes	No	17	0.18	PPV	98.27	97.46	99.09	
	Yes	Yes	968	10.08	NPV	89.22	88.57	89.88	
					Accuracy	90.15	89.52	90.78	
					Kappa	0.62	0.60	0.64	
1	No	No	815	59.36	Sensitivity	35.86	31.87	39.85	4
	No	Yes	356	25.93	Specificity	99.63	99.22	100.05	
	Yes	No	3	0.22	PPV	98.51	96.85	100.18	
	Yes	Yes	199	14.49	NPV	69.60	66.96	72.23	
					Accuracy	73.85	71.34	76.37	
					Kappa	0.40	0.35	0.44	

*Case definitions: 1 = Any ONE outpatient dialysis claim; 2 = Any TWO outpatient dialysis claims; 3 = Any TWO outpatient dialysis claims >90 days apart; 4= Any TWO outpatient dialysis claims >90 days apart (no gaps >21 days).