

	1981-86			1986-91			1991-96			1996-01			2001-04		
Total Ethnicity	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Missing Ethn	27	69	0.42	129	486	0.26	114	153	0.74

Table 112 Cross classified cancers, misclassification ratios for all cancers by total ethnicity, males, region and cohort 1981-2004

	1981-86			1986-91			1991-96			1996-01			2001-04		
Total Ethnicity	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Males</i>															
<i>Northern</i>															
Māori	399	255	1.56	426	345	1.23	723	567	1.28	963	741	1.30	801	693	1.15
Total Pacific	114	96	1.20	198	180	1.11	330	270	1.21	513	456	1.13	486	465	1.05
Total Asian	.	.	.	81	42	2.05	138	111	1.25	330	249	1.33	375	339	1.11
nonMPA	6,846	7,164	0.96	7,266	7,476	0.97	10,176	10,179	1.00	12,954	11,595	1.12	10,758	10,245	1.05
nonMPA&Miss	6,966	7,164	0.97	7,350	7,473	0.98	10,212	10,449	0.98	13,089	13,401	0.98	10,917	11,067	0.99
Missing Ethn	.	.	.	.	.	.	33	270	0.13	135	1,809	0.07	162	822	0.20
<i>Midland</i>															
Māori	360	318	1.13	489	420	1.17	687	603	1.14	1,017	834	1.22	930	825	1.13
Total Pacific	.	.	.	24	12	1.92	36	24	1.46	72	33	2.09	48	36	1.30
Total Asian	.	.	.	.	.	.	21	12	1.77	21	9	1.91	30	21	1.48
nonMPA	4,152	4,260	0.98	4,983	5,121	0.97	6,462	6,501	0.99	7,359	6,798	1.08	6,960	6,579	1.06
nonMPA&Miss	4,209	4,257	0.99	5,028	5,118	0.98	6,483	6,585	0.98	7,431	7,629	0.97	7,044	7,155	0.98
Missing Ethn	.	.	.	.	.	.	21	84	0.28	72	831	0.09	81	579	0.14

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census	First	Census	Census	First	Census	Census	First	Census	Census	First	Census	Census	First	Census
	Eth	Cancer	/ 1st	Eth	Cancer	/ 1st	Eth	Cancer	/ 1st	Eth	Cancer	/ 1st	Eth	Cancer	/ 1st
	Eth	Eth	Cancer	Eth	Eth	Cancer	Eth	Eth	Cancer	Eth	Eth	Cancer	Eth	Eth	Cancer
			Ratio			Ratio			Ratio			Ratio			Ratio
<i>Central</i>															
Māori	249	168	1.47	291	240	1.22	366	294	1.24	621	426	1.45	573	498	1.15
Total Pacific	27	18	1.42	63	54	1.17	57	42	1.30	126	108	1.16	120	108	1.13
Total Asian	.	.	.	51	18	3.12	57	36	1.58	117	96	1.21	99	99	0.99
nonMPA	5,943	6,168	0.96	6,891	7,047	0.98	8,334	8,307	1.00	10,110	9,300	1.09	8,493	8,121	1.05
nonMPA&Miss	6,063	6,168	0.98	6,957	7,053	0.99	8,364	8,463	0.99	10,200	10,419	0.98	8,559	8,649	0.99
Missing Ethn	.	.	.	.	.	.	27	159	0.18	90	1,119	0.08	69	525	0.13
<i>Southern</i>															
Māori	78	30	2.67	129	48	2.74	183	102	1.81	315	174	1.82	231	120	1.92
Total Pacific	.	.	.	24	21	1.21	.	.	.	54	48	1.08	48	33	1.37
Total Asian	.	.	.	.	.	.	24	12	2.00	48	36	1.37	69	60	1.15
nonMPA	6,219	6,402	0.97	7,083	7,248	0.98	8,445	8,436	1.00	10,176	9,492	1.07	8,310	8,025	1.04
nonMPA&Miss	6,339	6,405	0.99	7,152	7,248	0.99	8,469	8,562	0.99	10,269	10,416	0.99	8,421	8,550	0.98
Missing Ethn	.	.	.	.	.	.	24	126	0.20	93	924	0.10	108	525	0.21

Table 113 Cross classified cancers, misclassification ratios for all cancers by total ethnicity, females, region and cohort 1981-2004

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census	First	Census	Census	First	Census	Census	First	Census	Census	First	Census	Census	First	Census
	Ethnicity	Cancer	/ 1st	Ethnicity	Cancer	/ 1st	Ethnicity	Cancer	/ 1st	Ethnicity	Cancer	/ 1st	Ethnicity	Cancer	/ 1st
	Ethnicity	Ethnicity	Cancer	Ethnicity	Ethnicity	Cancer	Ethnicity	Ethnicity	Cancer	Ethnicity	Ethnicity	Cancer	Ethnicity	Ethnicity	Cancer
			Ratio			Ratio			Ratio			Ratio			Ratio
<i>Females</i>															
<i>Northern</i>															

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio
Māori	660	444	1.48	924	738	1.25	1,068	891	1.20	1,839	1,455	1.26	1,413	1,197	1.18
Total Pacific	201	144	1.38	417	348	1.20	501	420	1.20	858	708	1.21	825	741	1.11
Total Asian	.	.	.	81	27	2.93	183	108	1.68	588	450	1.31	819	705	1.16
nonMPA	7,851	8,352	0.94	9,288	9,660	0.96	10,425	10,551	0.99	13,134	12,297	1.07	11,772	11,511	1.02
nonMPA&Miss	8,046	8,352	0.96	9,390	9,663	0.97	10,479	10,791	0.97	13,308	13,893	0.96	11,967	12,336	0.97
Missing Ethn	.	.	.	.	.	.	54	237	0.23	171	1,599	0.11	192	822	0.24
<i>Midland</i>															
Māori	513	411	1.25	900	789	1.14	1,353	1,176	1.15	1,995	1,716	1.16	1,449	1,341	1.08
Total Pacific	.	.	.	54	27	1.93	45	30	1.50	96	45	2.13	114	87	1.33
Total Asian	.	.	.	.	.	.	33	15	2.13	84	57	1.51	75	63	1.20
nonMPA	3,843	4,032	0.95	5,433	5,637	0.96	6,825	6,999	0.98	8,145	7,938	1.03	7,401	7,356	1.01
nonMPA&Miss	3,906	4,032	0.97	5,496	5,640	0.97	6,861	7,068	0.97	8,253	8,571	0.96	7,500	7,644	0.98
Missing Ethn	.	.	.	.	.	.	36	72	0.52	108	630	0.17	99	288	0.34
<i>Central</i>															
Māori	417	282	1.47	690	540	1.28	912	651	1.40	1,272	939	1.35	1,113	960	1.16
Total Pacific	51	33	1.48	117	102	1.15	105	93	1.13	210	183	1.14	201	195	1.03
Total Asian	.	.	.	66	9	6.70	81	36	2.13	189	135	1.36	219	180	1.21
nonMPA	6,564	6,921	0.95	8,058	8,379	0.96	9,045	9,246	0.98	10,692	10,257	1.04	9,426	9,369	1.01
nonMPA&Miss	6,744	6,921	0.97	8,166	8,379	0.97	9,081	9,390	0.97	10,821	11,184	0.97	9,528	9,708	0.98
Missing Ethn	.	.	.	.	.	.	36	141	0.25	132	930	0.14	99	342	0.29
<i>Southern</i>															
Māori	156	63	2.44	228	144	1.59	324	189	1.72	507	291	1.74	459	291	1.57
Total Pacific	.	.	.	39	24	1.58	33	18	1.83	69	48	1.43	54	48	1.17
Total Asian	.	.	.	.	.	.	54	33	1.51	123	75	1.64	135	111	1.22

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio	Census Ethnicity	First Cancer Ethnicity	Census / 1st Cancer Ratio
Total Ethnicity															
nonMPA	6,813	7,107	0.96	8,667	8,904	0.97	9,894	10,014	0.99	11,238	10,959	1.03	9,252	9,264	1.00
nonMPA&Miss	6,999	7,107	0.98	8,793	8,907	0.99	9,927	10,095	0.98	11,355	11,619	0.98	9,342	9,534	0.98
Missing Ethn	.	.	.	.	.	.	33	84	0.41	120	663	0.18	90	273	0.33

Table 114 Misclassification ratios for all cancers by total ethnicity, Territorial Authority (TA) and cohort 1981-2004

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Both Sexes</i>															
<i>Far North</i>															
Māori	129	78	1.63	156	147	1.05	333	306	1.10	483	456	1.06	345	327	1.06
nonMPA	360	411	0.88	513	528	0.97	747	783	0.96	987	981	1.01	930	939	0.99
nonMPA&Miss	363	411	0.89	519	528	0.98	753	786	0.96	999	1,041	0.96	948	969	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	15	60	0.23	18	27	0.67
<i>Whangarei</i>															
Māori	84	54	1.48	108	90	1.20	165	138	1.18	279	240	1.16	252	237	1.07
nonMPA	726	768	0.95	903	942	0.96	1,221	1,245	0.98	1,581	1,509	1.05	1,605	1,617	0.99
nonMPA&Miss	741	768	0.96	924	942	0.98	1,230	1,260	0.98	1,593	1,632	0.98	1,644	1,662	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	9	123	0.09	42	42	0.91
<i>Kaipara</i>															
Māori	30	24	1.16	42	48	0.88	42	42	0.98	75	69	1.09	54	60	0.93

	1981-86			1986-91			1991-96			1996-01			2001-04		
Total Ethnicity	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
nonMPA	192	195	0.98	276	276	1.00	333	327	1.02	459	447	1.02	393	384	1.02
nonMPA&Miss	192	195	0.98	282	276	1.02	330	330	1.00	465	474	0.98	399	393	1.01
Missing Ethn	.	.	.	.	.	.	.	.	.	9	27	0.32	.	.	.
<i>Rodney</i>															
Māori	21	12	1.75	24	15	1.53	51	30	1.67	93	54	1.70	78	42	1.93
Total Asian	.	.	.	.	.	.	.	.	.	.	.	.	21	18	1.11
nonMPA	633	669	0.95	897	915	0.98	1,260	1,269	0.99	2,145	1,905	1.13	2,001	1,905	1.05
nonMPA&Miss	651	669	0.97	903	915	0.99	1,269	1,287	0.98	2,160	2,202	0.98	2,019	2,061	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	15	297	0.05	18	159	0.11
<i>North Shore</i>															
Māori	84	42	2.00	75	42	1.83	102	60	1.68	186	81	2.29	144	108	1.32
Total Pacific	.	.	.	27	15	2.08	27	24	1.32	69	51	1.36	69	51	1.34
Total Asian	.	.	.	.	.	.	45	33	1.34	132	108	1.23	192	174	1.10
nonMPA	2,571	2,658	0.97	2,904	2,982	0.97	3,531	3,501	1.01	4,563	3,954	1.15	3,972	3,660	1.09
nonMPA&Miss	2,613	2,658	0.98	2,919	2,979	0.98	3,546	3,603	0.98	4,596	4,719	0.97	4,023	4,086	0.98
Missing Ethn	.	.	.	.	.	.	12	102	0.13	30	768	0.04	51	429	0.12
<i>Waitakere</i>															
Māori	111	72	1.51	147	108	1.36	210	165	1.27	282	195	1.47	198	171	1.15
Total Pacific	24	18	1.47	72	60	1.13	93	69	1.32	186	141	1.30	189	171	1.11
Total Asian	.	.	.	.	.	.	24	12	2.17	108	69	1.54	144	120	1.19
nonMPA	1,530	1,614	0.95	1,824	1,881	0.97	2,436	2,454	0.99	3,084	2,811	1.10	2,481	2,409	1.03
nonMPA&Miss	1,569	1,614	0.97	1,839	1,881	0.98	2,439	2,520	0.97	3,114	3,264	0.95	2,529	2,592	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	33	453	0.07	48	180	0.27
<i>Auckland</i>															

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Total Ethnicity															
Māori	303	192	1.58	348	279	1.25	333	264	1.27	537	396	1.35	423	330	1.29
Total Pacific	159	123	1.31	306	270	1.15	354	288	1.22	540	477	1.13	489	459	1.06
Total Asian	.	.	.	57	24	2.46	141	96	1.44	432	324	1.33	495	429	1.15
nonMPA	5,814	6,120	0.95	5,694	5,892	0.97	6,477	6,474	1.00	7,515	7,002	1.07	6,099	5,922	1.03
nonMPA&Miss	5,928	6,117	0.97	5,766	5,895	0.98	6,501	6,666	0.98	7,629	7,902	0.97	6,195	6,372	0.97
Missing Ethn	.	.	.	.	.	.	24	192	0.13	114	903	0.13	99	447	0.22
<i>Manukau</i>															
Māori	231	174	1.31	300	243	1.24	402	348	1.16	642	519	1.23	516	444	1.16
Total Pacific	105	87	1.22	186	171	1.08	336	288	1.16	504	450	1.12	516	489	1.06
Total Asian	.	.	.	57	24	2.46	78	60	1.26	180	147	1.22	309	276	1.12
nonMPA	2,109	2,256	0.93	2,592	2,709	0.96	3,300	3,348	0.99	4,101	3,780	1.09	3,474	3,387	1.03
nonMPA&Miss	2,166	2,256	0.96	2,622	2,712	0.97	3,318	3,426	0.97	4,167	4,335	0.96	3,525	3,636	0.97
Missing Ethn	.	.	.	.	.	.	18	81	0.23	63	555	0.11	48	249	0.20
<i>Papakura</i>															
Māori	36	24	1.52	78	66	1.23	51	45	1.16	108	96	1.14	96	87	1.07
Total Pacific	.	.	.	.	.	.	.	.	.	24	15	1.50	21	18	1.11
nonMPA	369	399	0.93	429	459	0.94	552	561	0.99	768	693	1.11	741	723	1.02
nonMPA&Miss	384	402	0.96	435	459	0.95	555	567	0.98	780	801	0.97	756	765	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	15	108	0.13	15	42	0.37
<i>Franklin</i>															
Māori	36	18	1.70	66	48	1.41	108	60	1.78	114	90	1.26	105	81	1.25
nonMPA	393	423	0.93	522	552	0.94	744	771	0.96	888	813	1.09	831	807	1.03
nonMPA&Miss	405	423	0.96	531	552	0.96	744	798	0.94	894	921	0.97	846	864	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	.	.	.	15	57	0.26

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Thames Coromandel</i>															
Māori	.	.	.	24	9	2.09	51	42	1.21	75	48	1.61	48	27	1.81
nonMPA	354	366	0.97	510	537	0.94	699	699	1.00	789	747	1.06	675	669	1.00
nonMPA&Miss	366	366	1.00	522	540	0.97	699	708	0.99	792	822	0.96	678	699	0.97
<i>Hauraki</i>															
Māori	.	.	.	42	24	1.60	51	33	1.55	54	42	1.33	45	33	1.39
nonMPA	276	288	0.95	336	357	0.94	360	375	0.96	366	348	1.05	381	393	0.97
nonMPA&Miss	282	285	0.98	339	357	0.95	357	378	0.95	366	381	0.96	384	399	0.96
<i>Waikato</i>															
Māori	60	45	1.29	93	78	1.18	144	120	1.18	162	150	1.07	150	150	1.00
nonMPA	291	309	0.94	360	381	0.94	585	603	0.96	639	588	1.09	645	627	1.03
nonMPA&Miss	294	306	0.95	363	381	0.95	591	618	0.95	648	663	0.98	654	654	1.00
Missing Ethn	.	.	.	.	.	.	.	.	.	9	75	0.15	.	.	.
<i>Matamata-Piako</i>															
Māori	.	.	.	21	15	1.43	33	27	1.15	51	39	1.28	45	42	1.02
nonMPA	369	384	0.97	510	519	0.98	570	567	1.00	621	561	1.10	579	546	1.06
nonMPA&Miss	378	384	0.98	513	516	0.99	570	579	0.99	630	642	0.98	585	585	1.00
Missing Ethn	.	.	.	.	.	.	.	.	.	9	81	0.10	.	.	.
<i>Hamilton</i>															
Māori	72	51	1.41	117	93	1.27	117	102	1.16	264	219	1.20	198	174	1.15
Total Pacific	.	.	.	.	.	.	.	.	.	21	15	1.62	39	30	1.34
Total Asian	.	.	.	.	.	.	.	.	.	24	18	1.37	30	30	0.97
nonMPA	1,266	1,308	0.97	1,641	1,689	0.97	1,872	1,899	0.99	2,112	1,953	1.08	1,932	1,896	1.02
nonMPA&Miss	1,287	1,314	0.98	1,653	1,689	0.98	1,887	1,911	0.99	2,127	2,178	0.98	1,953	1,977	0.99

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Missing Ethn	.	.	.	.	.	.	.	.	.	15	222	0.07	24	81	0.29
<i>Waipa</i>															
Māori	36	27	1.30	33	27	1.30	69	51	1.36	93	66	1.37	54	48	1.15
nonMPA	381	393	0.97	462	468	0.98	795	804	0.99	879	837	1.05	786	759	1.04
nonMPA&Miss	387	393	0.98	465	471	0.99	798	813	0.98	891	921	0.97	801	807	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	12	84	0.14	12	48	0.27
<i>Otorohanga</i>															
Māori	.	.	.	.	.	.	27	24	1.16	36	27	1.25	24	30	0.83
nonMPA	81	84	0.98	105	105	1.00	117	120	0.97	132	129	1.02	105	102	1.03
nonMPA&Miss	81	84	0.98	105	105	1.00	120	120	0.97	132	141	0.94	108	105	1.05
<i>South Waikato</i>															
Māori	36	36	1.03	48	42	1.12	75	72	1.04	102	81	1.24	78	72	1.10
Total Pacific	.	.	.	21	15	1.43	24	21	1.24	27	18	1.32	.	.	.
nonMPA	186	189	0.98	303	315	0.96	372	372	1.00	348	336	1.04	291	288	1.01
nonMPA&Miss	189	192	0.99	303	315	0.97	372	381	0.98	351	372	0.94	291	306	0.96
Missing Ethn	.	.	.	.	.	.	.	.	.	.	36	.	.	.	.
<i>Waitomo</i>															
Māori	36	30	1.13	36	30	1.24	78	60	1.31	90	84	1.06	54	54	0.96
nonMPA	99	105	0.94	114	126	0.92	156	177	0.90	135	141	0.95	123	129	0.96
nonMPA&Miss	102	105	0.96	120	126	0.94	159	174	0.90	138	144	0.94	126	129	0.98
<i>Taupo</i>															
Māori	48	36	1.37	93	90	1.03	99	78	1.25	150	141	1.05	144	135	1.06
nonMPA	255	279	0.92	372	384	0.97	450	471	0.96	546	537	1.02	558	537	1.04
nonMPA&Miss	261	276	0.94	378	384	0.98	453	474	0.95	558	564	0.99	561	570	0.98

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Missing Ethn	.	.	.	.	.	.	.	.	.	9	30	0.34	.	.	.
<i>Western Bay of Plenty</i>															
Māori	.	.	.	42	45	0.89	63	48	1.37	135	120	1.11	114	90	1.29
nonMPA	282	288	0.98	396	402	0.99	648	654	0.99	861	783	1.10	984	933	1.05
nonMPA&Miss	285	285	1.00	405	402	1.01	654	675	0.97	873	885	0.99	996	1,029	0.97
Missing Ethn	.	.	.	.	.	.	.	.	.	9	99	0.11	12	96	0.14
<i>Tauranga</i>															
Māori	63	45	1.37	87	78	1.08	120	96	1.25	249	177	1.41	213	195	1.11
nonMPA	963	1,002	0.97	1,191	1,209	0.98	1,902	1,917	0.99	2,418	2,244	1.08	2,361	2,184	1.08
nonMPA&Miss	981	1,002	0.98	1,200	1,209	0.99	1,917	1,944	0.99	2,439	2,523	0.97	2,382	2,409	0.99
Missing Ethn	.	.	.	.	.	.	15	33	0.48	21	279	0.07	21	225	0.10
<i>Rotorua</i>															
Māori	150	129	1.19	174	150	1.16	330	300	1.10	396	351	1.12	342	330	1.04
Total Pacific	.	.	.	.	.	.	21	18	1.24	24	18	1.53	24	24	1.00
nonMPA	555	591	0.94	651	681	0.95	897	924	0.97	1,083	1,035	1.04	993	972	1.02
nonMPA&Miss	561	591	0.95	657	681	0.97	900	933	0.96	1,098	1,143	0.96	1,008	1,029	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	15	105	0.15	15	54	0.27
<i>Whakatane</i>															
Māori	63	63	1.02	132	114	1.13	180	156	1.14	228	210	1.10	195	189	1.02
nonMPA	267	270	0.99	345	363	0.95	468	483	0.97	489	486	1.00	495	486	1.02
nonMPA&Miss	267	270	1.00	348	363	0.95	471	492	0.96	498	522	0.95	507	513	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	9	36	0.25	12	24	0.44
<i>Kawerau</i>															
Māori	.	.	.	33	33	0.97	63	51	1.24	84	75	1.11	54	51	1.12

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
nonMPA	48	51	0.94	75	75	1.00	108	120	0.90	108	108	1.00	63	63	1.00
nonMPA&Miss	51	51	0.98	78	78	1.00	108	120	0.89	111	120	0.91	66	69	0.93
<i>Opotiki</i>															
Māori	.	.	.	48	48	1.07	75	78	0.97	93	84	1.12	54	51	1.12
nonMPA	60	66	0.94	108	111	0.96	102	96	1.04	108	108	1.00	105	108	0.97
nonMPA&Miss	63	63	0.94	111	114	0.96	99	99	1.03	111	123	0.92	108	117	0.94
<i>Gisborne</i>															
Māori	123	105	1.17	189	171	1.10	249	243	1.02	447	411	1.08	309	291	1.05
nonMPA	480	504	0.95	660	687	0.96	690	696	0.99	1,014	993	1.02	678	684	0.99
nonMPA&Miss	483	504	0.96	663	687	0.97	693	702	0.99	1,023	1,065	0.96	693	711	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	12	75	0.16	15	27	0.52
<i>Wairoa</i>															
Māori	45	36	1.19	57	57	1.02	78	69	1.15	120	108	1.12	93	90	1.03
nonMPA	69	75	0.90	108	108	0.99	135	147	0.92	156	171	0.91	90	96	0.96
nonMPA&Miss	69	78	0.90	111	111	1.00	138	147	0.93	162	174	0.92	93	96	0.97
<i>Hastings</i>															
Māori	63	42	1.48	135	120	1.15	177	147	1.20	210	153	1.37	204	192	1.07
Total Pacific	.	.	.	.	.	.	.	.	.	30	30	1.03	.	.	.
nonMPA	750	798	0.94	1,041	1,071	0.97	1,236	1,221	1.01	1,581	1,494	1.06	1,284	1,212	1.06
nonMPA&Miss	768	798	0.97	1,047	1,074	0.98	1,239	1,269	0.98	1,605	1,659	0.97	1,293	1,311	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	21	165	0.13	9	99	0.10
<i>Napier</i>															
Māori	51	36	1.34	48	42	1.15	96	69	1.39	135	102	1.33	114	111	1.02
nonMPA	849	876	0.97	1,143	1,167	0.98	1,236	1,224	1.01	1,656	1,518	1.09	1,329	1,287	1.04

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
nonMPA&Miss	861	879	0.98	1,152	1,170	0.99	1,242	1,275	0.97	1,674	1,707	0.98	1,344	1,350	1.00
Missing Ethn	.	.	.	.	.	.	.	.	.	18	186	0.10	15	66	0.23
<i>Central Hawkes Bay</i>															
Māori	.	.	.	24	24	1.00	27	21	1.35	36	30	1.21	36	36	1.06
nonMPA	168	177	0.94	216	216	0.99	237	243	0.98	318	306	1.04	255	240	1.06
nonMPA&Miss	174	180	0.98	219	219	1.00	237	243	0.97	321	330	0.98	255	258	1.00
<i>New Plymouth</i>															
Māori	42	36	1.11	78	66	1.21	108	93	1.20	156	93	1.71	117	90	1.32
nonMPA	1,095	1,113	0.98	1,386	1,431	0.97	1,584	1,608	0.99	1,785	1,725	1.04	1,683	1,638	1.03
nonMPA&Miss	1,104	1,113	0.99	1,407	1,431	0.98	1,593	1,617	0.99	1,806	1,875	0.96	1,701	1,740	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	21	150	0.14	18	102	0.18
<i>Stratford</i>															
nonMPA	141	141	1.00	186	195	0.96	201	204	0.99	255	264	0.97	240	234	1.02
nonMPA&Miss	141	141	1.00	189	195	0.97	198	204	0.99	264	270	0.98	240	243	0.99
<i>South Taranaki</i>															
Māori	24	24	0.96	39	36	1.03	54	51	1.04	81	75	1.11	63	63	1.05
nonMPA	453	462	0.98	549	552	0.99	576	576	1.00	654	654	1.00	561	546	1.03
nonMPA&Miss	462	462	1.00	552	552	1.00	576	579	1.00	669	678	0.99	567	573	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	15	24	0.54	9	30	0.30
<i>Ruapehu</i>															
Māori	24	18	1.41	48	42	1.15	54	57	0.96	84	75	1.16	90	75	1.16
nonMPA	129	144	0.90	201	216	0.94	192	189	1.02	234	240	0.98	177	192	0.92
nonMPA&Miss	135	144	0.92	207	213	0.96	192	192	1.01	234	246	0.95	183	192	0.94
<i>Wanganui</i>															

	1981-86			1986-91			1991-96			1996-01			2001-04		
Total Ethnicity	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Māori	42	36	1.17	57	48	1.18	87	66	1.37	120	102	1.15	153	144	1.07
nonMPA	660	690	0.96	918	936	0.98	1,122	1,140	0.98	1,227	1,188	1.03	993	984	1.01
nonMPA&Miss	678	690	0.99	927	936	0.99	1,119	1,146	0.98	1,239	1,257	0.99	1,005	1,020	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	15	66	0.19	15	33	0.50
<i>Rangitikei</i>															
Māori	30	18	1.63	39	39	1.00	45	33	1.36	99	78	1.27	45	33	1.29
nonMPA	213	234	0.91	270	279	0.96	321	330	0.97	408	417	0.98	300	294	1.02
nonMPA&Miss	222	237	0.94	276	279	0.99	321	333	0.97	417	444	0.94	303	318	0.96
Missing Ethn	.	.	.	.	.	.	.	.	.	9	27	0.36	.	.	.
<i>Manawatu</i>															
Māori	.	.	.	33	24	1.38	33	18	1.84	54	33	1.61	42	30	1.47
nonMPA	369	390	0.95	450	462	0.97	528	534	0.99	585	564	1.03	561	534	1.05
nonMPA&Miss	375	390	0.96	453	462	0.98	528	546	0.97	585	606	0.97	567	585	0.97
Missing Ethn	.	.	.	.	.	.	.	.	.	.	.	.	9	51	0.18
<i>Palmerston North</i>															
Māori	45	12	3.07	42	42	1.00	75	63	1.18	108	78	1.42	105	78	1.34
Total Asian	.	.	.	.	.	.	.	.	.	21	21	1.00	21	21	1.10
nonMPA	1,083	1,143	0.95	1,317	1,347	0.98	1,392	1,395	1.00	1,557	1,437	1.08	1,371	1,287	1.07
nonMPA&Miss	1,104	1,143	0.97	1,335	1,347	0.99	1,395	1,410	0.99	1,569	1,602	0.98	1,380	1,410	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	15	165	0.08	9	123	0.08
<i>Tararua</i>															
Māori	.	.	.	30	30	1.03	42	33	1.23	54	39	1.41	36	30	1.27
nonMPA	291	294	0.99	348	354	0.98	405	405	1.00	459	471	0.98	381	378	1.01
nonMPA&Miss	294	294	1.00	351	354	1.00	405	414	0.98	465	480	0.97	387	393	0.98

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Horowhenua</i>															
Māori	30	18	1.45	66	51	1.31	84	57	1.48	120	84	1.44	87	66	1.35
nonMPA	549	573	0.96	633	666	0.95	951	966	0.98	915	879	1.04	744	732	1.01
nonMPA&Miss	561	573	0.98	645	663	0.97	951	981	0.97	921	963	0.96	750	777	0.97
Missing Ethn	.	.	.	.	.	.	.	.	.	9	84	0.08	.	.	.
<i>Kapiti Coast</i>															
Māori	24	18	1.33	33	21	1.74	78	51	1.55	75	45	1.60	69	48	1.41
nonMPA	681	714	0.96	828	852	0.97	1,212	1,233	0.98	1,458	1,296	1.13	1,242	1,212	1.02
nonMPA&Miss	702	711	0.99	843	855	0.98	1,218	1,245	0.98	1,479	1,506	0.98	1,254	1,275	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	18	213	0.08	12	63	0.20
<i>Porirua</i>															
Māori	54	45	1.17	78	51	1.50	99	81	1.21	108	75	1.46	99	84	1.18
Total Pacific	24	21	1.10	51	48	1.06	54	39	1.36	84	84	1.04	96	93	1.02
nonMPA	372	396	0.93	444	486	0.91	543	570	0.95	585	522	1.12	504	495	1.01
nonMPA&Miss	387	396	0.97	453	486	0.93	546	573	0.95	588	630	0.94	507	525	0.97
<i>Upper Hutt</i>															
Māori	36	24	1.61	27	21	1.35	.	.	.	54	42	1.29	42	39	1.13
nonMPA	486	510	0.95	603	618	0.98	663	660	1.01	858	798	1.07	717	696	1.03
nonMPA&Miss	498	510	0.97	612	621	0.99	666	672	0.99	861	876	0.99	720	723	1.00
<i>Lower Hutt</i>															
Māori	72	48	1.48	87	75	1.13	108	81	1.34	165	147	1.14	153	141	1.08
Total Pacific	.	.	.	30	30	1.00	27	24	1.16	69	66	1.06	69	72	0.96
Total Asian	.	.	.	.	.	.	30	18	1.75	57	45	1.26	51	51	1.00
nonMPA	1,650	1,716	0.96	1,905	1,971	0.97	1,650	1,671	0.99	1,923	1,812	1.06	1,722	1,677	1.03

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Total Ethnicity															
nonMPA&Miss	1,683	1,713	0.98	1,938	1,971	0.98	1,659	1,698	0.98	1,941	1,971	0.98	1,731	1,740	1.00
Missing Ethn	.	.	.	.	.	.	9	27	0.37	18	156	0.11	12	63	0.18
<i>Wellington</i>															
Māori	51	33	1.58	102	63	1.65	78	42	1.90	141	78	1.82	132	111	1.17
Total Pacific	.	.	.	57	54	1.04	36	30	1.20	63	63	1.03	78	75	1.04
Total Asian	.	.	.	39	9	3.80	60	24	2.50	120	99	1.22	168	141	1.18
nonMPA	2,340	2,454	0.95	2,220	2,304	0.96	2,436	2,469	0.99	2,871	2,520	1.14	2,469	2,391	1.03
nonMPA&Miss	2,403	2,454	0.98	2,235	2,307	0.97	2,445	2,523	0.97	2,892	2,979	0.97	2,490	2,541	0.98
Missing Ethn	.	.	.	.	.	.	9	54	0.16	21	456	0.05	21	150	0.14
<i>Masterton</i>															
Māori	.	.	.	33	27	1.25	63	45	1.32	69	57	1.19	48	51	0.91
nonMPA	342	354	0.97	450	462	0.97	603	612	0.98	555	531	1.05	561	546	1.03
nonMPA&Miss	348	354	0.99	459	465	0.99	606	618	0.98	561	576	0.98	561	558	1.01
<i>Carterton</i>															
nonMPA	84	90	0.94	135	135	0.99	141	147	0.97	186	177	1.05	150	141	1.07
nonMPA&Miss	90	90	1.00	135	135	1.00	144	147	0.97	186	189	0.97	153	150	1.01
<i>South Wairarapa</i>															
Māori	.	.	.	.	.	.	.	.	.	30	18	1.61	.	.	.
nonMPA	120	129	0.94	165	171	0.97	207	201	1.01	252	243	1.04	210	204	1.03
nonMPA&Miss	120	126	0.94	168	171	0.97	207	204	1.00	255	264	0.96	213	213	1.01
<i>Tasman</i>															
Māori	.	.	.	.	.	.	21	9	2.30	36	15	2.50	42	24	1.68
nonMPA	279	285	0.97	369	378	0.97	657	669	0.99	900	870	1.03	867	882	0.98
nonMPA&Miss	282	285	0.99	372	378	0.98	663	675	0.98	909	933	0.97	870	888	0.98

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Missing Ethn	.	.	.	.	.	.	.	.	.	9	63	0.14	.	.	.
<i>Nelson</i>															
Māori	.	.	.	.	.	.	.	.	.	33	9	3.67	48	30	1.60
nonMPA	552	564	0.98	660	687	0.96	759	762	1.00	1,128	1,107	1.02	1,056	1,071	0.99
nonMPA&Miss	561	564	1.00	672	687	0.98	759	762	1.00	1,137	1,164	0.98	1,068	1,089	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	9	57	0.14	.	.	.
<i>Marlborough</i>															
Māori	.	.	.	30	18	1.76	27	9	2.70	66	33	2.06	66	54	1.26
nonMPA	546	570	0.96	669	690	0.97	888	900	0.99	1,143	1,143	1.00	1,062	1,071	0.99
nonMPA&Miss	564	570	0.99	675	690	0.98	897	912	0.98	1,170	1,206	0.97	1,068	1,086	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	27	63	0.40	.	.	.
<i>Kaikoura</i>															
Māori	.	.	.	.	.	.	.	.	.	.	.	.	21	9	2.10
nonMPA	60	63	0.98	66	72	0.93	75	78	0.95	126	114	1.09	99	111	0.92
nonMPA&Miss	63	63	0.98	66	69	0.96	75	81	0.96	126	129	0.98	102	111	0.90
<i>Buller</i>															
Māori	.	.	.	.	.	.	.	.	.	21	15	1.50	.	.	.
nonMPA	192	201	0.96	288	297	0.97	279	282	0.99	312	309	1.01	213	216	0.99
nonMPA&Miss	198	198	0.99	291	294	0.99	279	285	0.98	315	321	0.98	213	219	0.98
<i>Grey</i>															
Māori	.	.	.	.	.	.	.	.	.	21	15	1.43	.	.	.
nonMPA	210	228	0.93	324	333	0.98	324	333	0.98	390	393	0.98	285	294	0.96
nonMPA&Miss	225	228	0.99	327	330	0.98	330	336	0.98	396	402	0.98	288	300	0.96
<i>Westland</i>															

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Total Ethnicity</i>															
nonMPA	114	120	0.95	165	171	0.98	171	165	1.02	204	201	1.01	162	165	0.99
nonMPA&Miss	117	120	0.98	168	171	0.99	171	171	1.00	213	219	0.96	171	171	0.99
<i>Hurunui</i>															
nonMPA	126	126	0.98	126	132	0.95	210	207	1.00	240	222	1.08	249	240	1.02
nonMPA&Miss	126	126	1.00	132	132	0.99	210	213	0.98	237	252	0.95	249	252	1.00
Missing Ethn	.	.	.	.	.	.	.	.	.	.	27	.	.	.	.
<i>Waimakariri</i>															
Māori	.	.	.	.	.	.	27	18	1.59	30	18	1.67	33	21	1.55
nonMPA	357	369	0.97	486	504	0.97	585	594	0.98	873	807	1.08	822	795	1.03
nonMPA&Miss	366	366	0.99	495	504	0.99	591	600	0.98	879	888	0.99	834	849	0.98
Missing Ethn	.	.	.	.	.	.	.	.	.	9	84	0.10	12	51	0.25
<i>Christchurch</i>															
Māori	84	33	2.66	141	78	1.79	168	84	2.00	279	162	1.72	279	168	1.66
Total Pacific	.	.	.	33	27	1.35	24	21	1.14	72	60	1.22	48	45	1.09
Total Asian	.	.	.	.	.	.	45	33	1.34	108	69	1.54	126	114	1.09
nonMPA	5,490	5,709	0.96	6,606	6,762	0.98	7,146	7,146	1.00	8,724	8,085	1.08	6,966	6,720	1.04
nonMPA&Miss	5,640	5,709	0.99	6,678	6,762	0.99	7,167	7,269	0.99	8,796	8,949	0.98	7,041	7,167	0.98
Missing Ethn	.	.	.	.	.	.	21	120	0.19	72	861	0.08	75	447	0.17
<i>Banks Peninsula</i>															
nonMPA	105	108	0.95	126	135	0.93	174	171	1.01	216	201	1.08	180	168	1.07
nonMPA&Miss	108	108	0.98	129	135	0.96	171	177	0.98	222	225	0.98	180	192	0.94
<i>Selwyn</i>															
nonMPA	135	141	0.98	231	240	0.97	312	309	1.01	420	390	1.08	429	423	1.02
nonMPA&Miss	138	141	0.99	237	240	0.98	312	321	0.97	426	429	0.99	432	447	0.97

	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Ashburton</i>															
nonMPA	387	399	0.97	501	510	0.98	639	639	1.00	822	792	1.04	660	648	1.02
nonMPA&Miss	396	399	0.99	507	510	1.00	642	648	0.99	828	834	0.99	666	669	1.00
<i>Timaru</i>															
Māori	24	9	2.27	.	.	.	30	18	1.58	54	27	1.86	30	15	1.94
nonMPA	903	924	0.98	1,077	1,104	0.98	1,176	1,191	0.99	1,410	1,353	1.04	1,188	1,179	1.01
nonMPA&Miss	909	924	0.98	1,095	1,104	0.99	1,176	1,191	0.99	1,413	1,443	0.98	1,200	1,218	0.99
Missing Ethn	.	.	.	.	.	.	.	.	.	.	.	.	12	36	0.33
<i>Mackenzie</i>															
nonMPA	72	72	0.99	48	45	1.04	66	69	0.99	87	84	1.04	66	66	1.00
nonMPA&Miss	72	72	0.99	45	45	1.04	69	69	1.00	90	90	1.00	66	66	0.99
<i>Waimate</i>															
nonMPA	144	150	0.97	180	186	0.98	219	222	0.99	222	219	1.01	162	162	1.01
nonMPA&Miss	147	150	0.99	186	186	1.00	219	222	0.99	225	228	0.99	162	162	1.00
<i>Waitaki</i>															
Māori	.	.	.	.	.	.	.	.	.	24	9	2.56	.	.	.
nonMPA	429	444	0.97	543	558	0.98	684	681	1.00	678	663	1.02	555	549	1.00
nonMPA&Miss	438	441	0.99	552	555	0.99	684	684	1.00	681	696	0.98	558	564	0.99
<i>Central Otago</i>															
nonMPA	261	264	0.98	360	372	0.97	438	438	1.00	486	492	0.99	426	417	1.02
nonMPA&Miss	264	267	1.00	369	372	0.99	441	444	1.00	492	501	0.98	429	432	0.99
<i>Queenstown-Lakes</i>															
nonMPA	87	87	1.00	126	126	0.98	183	183	1.01	288	270	1.07	282	279	1.01
nonMPA&Miss	87	87	1.00	126	126	0.98	183	186	0.98	291	297	0.98	288	303	0.95

Total Ethnicity	1981-86			1986-91			1991-96			1996-01			2001-04		
	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
<i>Dunedin</i>															
Māori	30	9	2.90	42	21	1.90	63	42	1.52	99	48	2.17	72	48	1.52
Total Pacific	.	.	.	.	.	.	.	.	.	.	.	.	21	18	1.17
Total Asian	.	.	.	.	.	.	.	.	.	33	21	1.45	33	30	1.21
nonMPA	2,361	2,448	0.96	2,535	2,586	0.98	3,168	3,189	0.99	3,213	3,171	1.01	2,721	2,733	1.00
nonMPA&Miss	2,418	2,448	0.99	2,559	2,586	0.99	3,180	3,216	0.99	3,258	3,330	0.98	2,760	2,790	0.99
Missing Ethn	.	.	.	.	.	.	12	24	0.50	45	159	0.28	36	57	0.64
<i>Clutha</i>															
Māori	.	.	.	.	.	.	24	12	1.92	36	27	1.40	21	12	1.67
nonMPA	312	318	0.97	405	414	0.98	468	483	0.97	480	480	1.00	393	399	0.99
nonMPA&Miss	312	318	0.98	408	414	0.99	468	483	0.97	486	501	0.97	396	411	0.97
Missing Ethn	.	.	.	.	.	.	.	.	.	9	21	0.40	.	.	.
<i>Southland</i>															
Māori	.	.	.	.	.	.	.	.	.	42	21	2.00	27	21	1.29
nonMPA	291	306	0.95	339	351	0.97	513	519	0.99	648	639	1.01	444	444	1.00
nonMPA&Miss	297	306	0.97	348	351	0.99	513	516	0.99	648	669	0.97	447	453	0.98
<i>Gore</i>															
Māori	.	.	.	.	.	.	.	.	.	.	.	.	21	15	1.38
nonMPA	186	195	0.94	264	270	0.98	339	342	1.00	360	354	1.01	276	279	0.99
nonMPA&Miss	195	195	1.00	270	270	0.99	339	342	0.99	360	366	0.99	276	285	0.98
<i>Invercargill</i>															
Māori	39	18	2.05	54	24	2.20	75	48	1.52	84	54	1.62	69	39	1.72
nonMPA	807	840	0.96	948	993	0.95	1,176	1,206	0.97	1,215	1,212	1.00	984	999	0.99
nonMPA&Miss	822	843	0.98	960	993	0.97	1,179	1,206	0.98	1,236	1,275	0.97	1,002	1,029	0.97

	1981-86			1986-91			1991-96			1996-01			2001-04		
Total Ethnicity	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio	Census Eth	First Cancer Eth	Census / 1st Cancer Ratio
Missing Ethn	21	63	0.35	15	27	0.52

Appendix 6. Bias Dataset and Tables

Variables in the bias dataset

Table 115 Description of the main variables in the bias datasets 1981, 1986, 1991, 1996 and 2001

Variable Name	Format 1981	Format 1986	Format 1991	Format 1996	Format 2001	Variable Label
AgeCan1_mth	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Diagnosis of Cancer 1
AgeCan2_mth	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Diagnosis of Cancer 2
AgeCan3_mth	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Diagnosis of Cancer 3
AgeCan4_mth	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Diagnosis of Cancer 4
AgeC_Mths	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Census from Census DOB
AgeC_yrs	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age at Census as taken from Census dataset
AgeDth_mth	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Age in Months at Death
AsianC1	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Asian Ethnicity on Cancer Diag 1
Asian_CanR	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Asian Ethnicity on all Cancer Registry
Asian_Mort	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Asian Ethnicity on Mortality records
Asian_NHI	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Asian Ethnicity on NHI records
AuMobility	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Percentage Mobility in Area Unit within 5 years
AuMobilityGrp10	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Deciles of Mobility in Area Unit within 5 years
BiasTimeSinceCen	[num 5]	[num 5]	[num 5]	[num 5]	[num 5]	Bias Time of First Cancer in Months since census
CenYear	FCYEAR.	FCYEAR.	FCYEAR.	FCYEAR.	FCYEAR.	Year of Census
ChildMorphGp1	FCHILDC.	FCHILDC.	FCHILDC.	FCHILDC.	FCHILDC.	Child (<15 yrs) Cancer Grouping 1
ChildMorphGp2	FCHILDC.	FCHILDC.	FCHILDC.	FCHILDC.	FCHILDC.	Child (<15 yrs) Cancer Grouping 2
CtryBrth	FCOB.	FCOB.	FCOB.	FCOB.	FCOB.	Country of Birth
CtryPresFlag	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	Country of Birth present on Cancer Registration
DiffTimeflag	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Time since census differs between Bias and Unlock datasets flag
G_AHB	F89AHB.	F89AHB.	F89AHB.	F89AHB.	F89AHB.	Area Health Board 1989 (base 2001)
G_AHD	F93AHD.	F93AHD.	F93AHD.	F93AHD.	F93AHD.	Area Health District 1993 (base 2001)
G_DHB	F01DHB.	F01DHB.	F01DHB.	F01DHB.	F01DHB.	District Health Board (base 2001)
G_RC	FREGCO.	FREGCO.	FREGCO.	FREGCO.	FREGCO.	Regional Council (base 2001)
G_RHA	FRHA.	FRHA.	FRHA.	FRHA.	FRHA.	Regional Health Authority (1989 AHB) (base 2001)
G_Rurality	-	-	-	-	F6RUR.	Rurality Indicator (base 2001)
G_Rurality01	F6RUR.	F6RUR.	F6RUR.	F6RUR.	-	Rurality Indicator (base 2001)
G_Rurality81	F6RUR.	-	-	-	-	Rurality Indicator (base 1981)
G_Rurality86	-	F6RUR.	-	-	-	Rurality Indicator (base 1986)
G_Rurality91	-	-	F6RUR.	-	-	Rurality Indicator (base 1991)
G_Rurality96	-	-	-	F6RUR.	-	Rurality Indicator (base 1996)
G_TA	F95TLA.	F95TLA.	F95TLA.	F95TLA.	F95TLA.	Territorial Authority (base 2001)
ICD1Group	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	Cancer 1 ICD Grouping
ICD2Group	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	Cancer 2 ICD Grouping
ICD3Group	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	Cancer 3 ICD Grouping
ICD4Group	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	\$FCANS.D.	Cancer 4 ICD Grouping
ID_Bias	[\$8]	[\$8]	[\$8]	[\$8]	[\$8]	Unique Bias Id
Link	FLINK.	FLINK.	FLINK.	FLINK.	FLINK.	Matched
LinkStat	\$FLKST.	\$FLKST.	\$FLKST.	\$FLKST.	\$FLKST.	Linkage Status (Detailed)

Variable Name	Format 1981	Format 1986	Format 1991	Format 1996	Format 2001	Variable Label
MaoriC1	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Maori Ethnicity on Cancer Diag 1
Maori_CanR	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Maori Ethnicity on all Cancer Registry
Maori_Mort	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Maori Ethnicity on Mortality records
Maori_NHI	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Maori Ethnicity on NHI records
nonMPAC1	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	nonMPA Ethnicity on Cancer Diag 1
nonMPA_CanR	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	nonMPA Ethnicity on all Cancer Registry
nonMPA_Mort	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	nonMPA Ethnicity on Mortality records
nonMPA_NHI	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	nonMPA Ethnicity on NHI records
NumDiffICD	[num 8]	[num 8]	[num 8]	[num 8]	[num 8]	Number Different ICD Groupings
NumKidCancers	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	Number of Child Cancer Groupings
NumYthCancers	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	Number of Youth Cancer Groupings
NZDep2001	BEST.	BEST.	BEST.	BEST.	BEST.	NZ Deprivation 2001 scale MB2001 base
NZDep91	[num 3]	BEST.	BEST.	-	-	NZ Deprivation 1991 scale MB1991 base
NZDep96	-	-	-	[num 3]	-	NZ Deprivation 1996 scale MB96 base
PacificC1	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Pacific Ethnicity on Cancer Diag 1
Pacific_CanR	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Pacific Ethnicity on all Cancer Registry
Pacific_Mort	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Pacific Ethnicity on Mortality records
Pacific_NHI	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	FTOTETH.	Pacific Ethnicity on NHI records
Sex	FVSEX.	FVSEX.	FVSEX.	FVSEX.	FVSEX.	Sex
SumAsian_CanR	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Asian Ethnicity on Cancer Registry
SumAsian_Mort	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Asian Ethnicity on Mortality records
SumAsian_NHI	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Asian Ethnicity on NHI records
SumMaori_CanR	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Maori Ethnicity on Cancer Registry
SumMaori_Mort	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Maori Ethnicity on Mortality records
SumMaori_NHI	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Maori Ethnicity on NHI records
SumnonMPA_CanR	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often nonMPA Ethnicity on Cancer Registry
SumnonMPA_Mort	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often nonMPA Ethnicity on Mortality records
SumnonMPA_NHI	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often nonMPA Ethnicity on NHI records
SumPacific_CanR	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Pacific Ethnicity on Cancer Registry
SumPacific_Mort	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Pacific Ethnicity on Mortality records
SumPacific_NHI	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	How often Pacific Ethnicity on NHI records
UnlockFlag	[num 3]	[num 3]	[num 3]	[num 3]	[num 3]	On Unlock Dataset
UnlockTimeSinceCen	[num 5]	[num 5]	[num 5]	[num 5]	[num 5]	Unlock Time of First Cancer in Months since census
YouthMorphGp1	F2YTHM.	F2YTHM.	F2YTHM.	F2YTHM.	F2YTHM.	Adolescent (>=15 <25 Yrs) Cancer Grouping 1
YouthMorphGp2	F2YTHM.	F2YTHM.	F2YTHM.	F2YTHM.	F2YTHM.	Adolescent (>=15 <25 Yrs) Cancer Grouping 2

Summary of regressions on Bias datasets for Linkage outcome to determine strata for linkage weights

Table 116 Type 1 and Type 3 summaries of Bias Linkage regressions

Bias Linkage		Type1 (tests sequential order)				Type3 (tests each variable)			
		Regression has no missings		Regression includes missings		Regression has no missings		Regression includes missings	
Variable		ChiSq	Prob ChiSq	ChiSq	Prob ChiSq	ChiSq	Prob ChiSq	ChiSq	Prob ChiSq
Sex	1981	0.77	0.3793	0.10	0.7464	4.07	0.0436	3.94	0.0473
	1986	16.55	<.0001	60.96	<.0001	0.46	0.4995	0.33	0.5634
	1991	8.78	0.0030	60.76	<.0001	13.31	0.0003	11.54	0.0007
	1996	47.11	<.0001	128.31	<.0001	15.81	<.0001	18.00	<.0001
	2001	0.05	0.8194	0.22	0.6425	44.90	<.0001	51.33	<.0001
Age10yrs	1981	217.03	<.0001	600.13	<.0001	190.61	<.0001	190.90	<.0001
	1986	521.40	<.0001	1772.29	<.0001	480.19	<.0001	480.57	<.0001
	1991	1241.41	<.0001	2998.26	<.0001	1080.05	<.0001	1097.04	<.0001
	1996	1701.23	<.0001	4140.51	<.0001	1320.49	<.0001	1444.91	<.0001
	2001	618.12	<.0001	1808.72	<.0001	564.44	<.0001	620.07	<.0001
MaoriC1	1981	6.66	0.0099	50.33	<.0001	61411.65	<.0001	0.20	0.6536
	1986	0.00	0.9997	6.04	0.0489	0.00	.	0.00	.
	1991	12.81	0.0003	44.31	<.0001	3.73	0.0534	3.68	0.0551
	1996	13.34	0.0003	92.05	<.0001	2.32	0.1279	3.01	0.0825
	2001	23.19	<.0001	180.10	<.0001	4.41	0.0358	4.63	0.0314
PacificC1	1981	2.17	0.1410	0.17	0.6809	17065.72	<.0001	0.20	0.6572
	1986	3.16	0.0755	3.71	0.0540	0.00	.	0.00	.
	1991	12.92	0.0003	7.34	0.0067	8.10	0.0044	8.19	0.0042
	1996	13.97	0.0002	0.17	0.6831	0.65	0.4211	0.39	0.5313
	2001	20.50	<.0001	5.60	0.0179	3.05	0.0809	3.07	0.0798
AsianC1	1981	2.99	0.0840	5.03	0.0249	452.41	<.0001	0.07	0.7873
	1986	18.66	<.0001	13.97	0.0002	0.00	.	0.00	.
	1991	40.00	<.0001	31.60	<.0001	12.45	0.0004	12.51	0.0004
	1996	45.36	<.0001	28.81	<.0001	2.09	0.1481	1.65	0.1984
	2001	102.05	<.0001	59.13	<.0001	12.42	0.0004	12.34	0.0004
nonMPAC1	1981	0.50	0.4793	0.07	0.7850	0.00	.	0.21	0.6454
	1986	0.00	.	0.00	.	0.00	.	0.00	.
	1991	5.71	0.0168	4.85	0.0276	4.48	0.0343	4.47	0.0344
	1996	0.30	0.5829	0.19	0.6602	1.04	0.3069	1.42	0.2338
	2001	0.38	0.5396	4.07	0.0435	0.41	0.5196	0.39	0.5300
timeSinceCenGp	1981	915.34	<.0001	1762.40	<.0001	631.96	<.0001	636.32	<.0001
	1986	462.48	<.0001	800.77	<.0001	418.20	<.0001	417.36	<.0001
	1991	671.22	<.0001	752.50	<.0001	588.89	<.0001	586.08	<.0001
	1996	1169.68	<.0001	2095.18	<.0001	805.17	<.0001	957.28	<.0001
	2001	980.63	<.0001	1816.21	<.0001	585.32	<.0001	645.29	<.0001
G_TA	1981	241.59	<.0001	1097.94	<.0001	216.56	<.0001	322.83	<.0001
	1986	318.91	<.0001	1305.80	<.0001	313.08	<.0001	438.19	<.0001
	1991	244.78	<.0001	1200.92	<.0001	232.10	<.0001	289.72	<.0001
	1996	334.13	<.0001	925.25	<.0001	309.95	<.0001	369.68	<.0001
	2001	241.77	<.0001	720.17	<.0001	231.68	<.0001	324.35	<.0001
NZDep3	1981	4.08	0.1302	26577.17	<.0001	4.01	0.1345	460.18	<.0001
	1986	0.20	0.9048	31543.56	<.0001	0.30	0.8610	546.10	<.0001
	1991	5.72	0.0573	35242.80	<.0001	6.05	0.0485	941.92	<.0001
	1996	12.45	0.0020	37271.43	<.0001	12.29	0.0021	1411.89	<.0001
	2001	1.71	0.4259	29355.72	<.0001	2.05	0.3593	1214.11	<.0001
G_Rur01Grp	1981	16.15	0.0011	17.07	0.0007	16.04	0.0011	16.94	0.0007

Bias Linkage		Type1 (tests sequential order)				Type3 (tests each variable)			
		Regression has no missings		Regression includes missings		Regression has no missings		Regression includes missings	
Variable		ChiSq	Prob ChiSq	ChiSq	Prob ChiSq	ChiSq	Prob ChiSq	ChiSq	Prob ChiSq
	1986	21.69	<.0001	22.21	<.0001	22.07	<.0001	22.58	<.0001
	1991	13.11	0.0044	13.23	0.0042	12.77	0.0052	12.89	0.0049
	1996	0.15	0.9851	0.43	0.9348	0.15	0.9850	0.43	0.9346
	2001	5.07	0.1669	7.03	0.0710	5.11	0.1636	7.09	0.0690

Table 117 Bias Linkage regression parameter estimates and significance testings

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
Sex	Males	1981	-0.0619	0.031	4.07	0.0436	-0.0608	0.031	3.94	0.0473
		1986	-0.0211	0.031	0.46	0.4995	-0.0180	0.031	0.33	0.5634
		1991	-0.1072	0.029	13.31	0.0003	-0.0984	0.029	11.54	0.0007
		1996	-0.1056	0.027	15.81	<.0001	-0.1058	0.025	18.00	<.0001
		2001	-0.1885	0.028	44.90	<.0001	-0.1924	0.027	51.33	<.0001
	Females	1981	0.0000	0.000	.	.	0.0000	0.000	.	.
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.
Age10yrs	0-14 yrs	1981	0.1927	0.158	1.49	0.2215	0.1925	0.157	1.49	0.2215
		1986	-0.3362	0.148	5.13	0.0235	-0.3398	0.148	5.30	0.0213
		1991	-0.9800	0.139	49.87	<.0001	-1.0301	0.135	57.97	<.0001
		1996	-0.9944	0.126	62.43	<.0001	-0.9986	0.121	67.73	<.0001
		2001	-0.7461	0.148	25.26	<.0001	-0.7330	0.148	24.62	<.0001
	15-24 yrs	1981	-0.4585	0.089	26.25	<.0001	-0.4578	0.089	26.21	<.0001
		1986	-1.0291	0.081	161.54	<.0001	-1.0276	0.081	161.44	<.0001
		1991	-1.6103	0.077	442.25	<.0001	-1.6139	0.076	451.18	<.0001
		1996	-1.5246	0.067	515.93	<.0001	-1.5208	0.065	551.19	<.0001
		2001	-1.1736	0.072	263.64	<.0001	-1.1943	0.070	289.34	<.0001
	25-29 yrs	1981	-0.4760	0.089	28.36	<.0001	-0.4765	0.089	28.49	<.0001
		1986	-0.7400	0.084	76.82	<.0001	-0.7387	0.084	76.73	<.0001
		1991	-1.3930	0.085	266.90	<.0001	-1.3951	0.084	272.61	<.0001
		1996	-1.4444	0.071	409.16	<.0001	-1.4622	0.069	454.86	<.0001
		2001	-1.2414	0.074	279.95	<.0001	-1.2458	0.072	297.88	<.0001
	30-34 yrs	1981	-0.1292	0.089	2.12	0.1457	-0.1272	0.089	2.05	0.1518
		1986	-0.6279	0.085	54.33	<.0001	-0.6242	0.085	53.81	<.0001
		1991	-1.1265	0.085	174.51	<.0001	-1.1304	0.084	179.43	<.0001
		1996	-1.0964	0.074	217.58	<.0001	-1.1172	0.071	246.92	<.0001
		2001	-0.7416	0.080	86.96	<.0001	-0.7923	0.077	106.53	<.0001
	35-39 yrs	1981	-0.1380	0.088	2.46	0.1167	-0.1360	0.088	2.40	0.1216
		1986	-0.2933	0.087	11.33	0.0008	-0.2853	0.087	10.72	0.0011
		1991	-1.0721	0.083	167.74	<.0001	-1.0796	0.082	173.83	<.0001
		1996	-0.9422	0.074	161.53	<.0001	-0.9654	0.070	188.41	<.0001
		2001	-0.6945	0.077	80.52	<.0001	-0.7010	0.075	87.78	<.0001
	40-49 yrs	1981	-0.0110	0.069	0.03	0.8743	-0.0062	0.069	0.01	0.9294

Bias Linkage Regressions		Regression has no missings					Regression includes missings				
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq	
		1986	-0.2948	0.070	17.72	<.0001	-0.2889	0.070	17.06	<.0001	
		1991	-0.8805	0.068	167.65	<.0001	-0.8618	0.067	163.24	<.0001	
		1996	-0.9299	0.060	242.90	<.0001	-0.9096	0.057	255.44	<.0001	
		2001	-0.5452	0.061	80.57	<.0001	-0.5360	0.059	83.33	<.0001	
	50-59 yrs	1981	0.0901	0.062	2.12	0.1454	0.0913	0.062	2.18	0.1400	
		1986	-0.2648	0.064	16.96	<.0001	-0.2658	0.064	17.15	<.0001	
		1991	-0.7724	0.064	144.88	<.0001	-0.7630	0.064	143.95	<.0001	
		1996	-0.8473	0.057	224.64	<.0001	-0.7963	0.054	215.43	<.0001	
		2001	-0.4731	0.056	71.83	<.0001	-0.4611	0.054	72.46	<.0001	
	60-69 yrs	1981	0.2020	0.060	11.40	0.0007	0.2046	0.060	11.71	0.0006	
		1986	0.0098	0.062	0.02	0.8744	0.0107	0.062	0.03	0.8633	
		1991	-0.4196	0.062	45.97	<.0001	-0.4202	0.061	46.91	<.0001	
		1996	-0.3893	0.056	48.48	<.0001	-0.3805	0.054	50.38	<.0001	
		2001	-0.3881	0.054	51.95	<.0001	-0.3742	0.053	50.79	<.0001	
	70-79 yrs	1981	0.3189	0.062	26.69	<.0001	0.3186	0.062	26.70	<.0001	
		1986	0.2351	0.064	13.31	0.0003	0.2370	0.064	13.57	0.0002	
		1991	0.0466	0.066	0.50	0.4793	0.0362	0.065	0.31	0.5790	
		1996	-0.0048	0.058	0.01	0.9343	-0.0100	0.056	0.03	0.8582	
		2001	-0.1193	0.055	4.71	0.0300	-0.1259	0.054	5.51	0.0189	
	>=80 years	1981	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.	
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.	
MaoriC1	Missing	1981	.	.	.	.	1.0693	6.976	0.02	0.8782
		1986	.	.	.	.	-0.5301	0.767	0.48	0.4896
		1991	.	.	.	.	-1.3956	0.557	6.29	0.0122
		1996	.	.	.	.	-0.1436	0.186	0.60	0.4402
		2001	.	.	.	.	-0.5297	0.153	12.06	0.0005
	Total NZ Maori	1981	16.9331	0.068	61411.65	<.0001	3.1178	6.947	0.20	0.6536	
		1986	0.0851	0.065	1.71	0.1913	0.0867	0.065	1.78	0.1826	
		1991	-1.0594	0.548	3.73	0.0534	-1.0519	0.548	3.68	0.0551	
		1996	0.2730	0.179	2.32	0.1279	0.3139	0.181	3.01	0.0825	
		2001	0.3010	0.143	4.41	0.0358	0.3073	0.143	4.63	0.0314	
	Not Relevant	1981	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.	
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.	
PacificC1	Missing	1981	.	.	.	.	0.0000	0.000	.	.
		1986	.	.	.	.	0.0000	0.000	.	.
		1991	.	.	.	.	0.0000	0.000	.	.
		1996	.	.	.	.	0.0000	0.000	.	.
		2001	.	.	.	.	0.0000	0.000	.	.
	Total Pacific	1981	16.9053	0.129	17065.72	<.0001	3.0836	6.949	0.20	0.6572	
		1986	-0.2251	0.105	4.61	0.0317	-0.2282	0.105	4.75	0.0293	
		1991	-1.5712	0.552	8.10	0.0044	-1.5798	0.552	8.19	0.0042	
		1996	-0.1513	0.188	0.65	0.4211	-0.1186	0.189	0.39	0.5313	
		2001	-0.2688	0.154	3.05	0.0809	-0.2689	0.153	3.07	0.0798	
	Not Relevant	1981	0.0000	0.000	.	.	0.0000	0.000	.	.	

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
AsianC1	Missing	1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.
		1981	.	.	.	.	0.0000	0.000	.	.
	Total Asian	1981	15.7056	0.738	452.41	<.0001	1.8849	6.986	0.07	0.7873
		1986	-0.7669	0.198	14.98	0.0001	-0.7693	0.198	15.08	0.0001
		1991	-1.9586	0.555	12.45	0.0004	-1.9626	0.555	12.51	0.0004
		1996	-0.2760	0.191	2.09	0.1481	-0.2472	0.192	1.65	0.1984
		2001	-0.5472	0.155	12.42	0.0004	-0.5440	0.155	12.34	0.0004
	Not Relevant	1981	0.0000	0.000	.	.	0.0000	0.000	.	.
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.
nonMPAC1	Missing	1981	.	.	.	.	0.0000	0.000	.	.
		1986	.	.	.	.	0.0000	0.000	.	.
		1991	.	.	.	.	0.0000	0.000	.	.
		1996	.	.	.	.	0.0000	0.000	.	.
		2001	.	.	.	.	0.0000	0.000	.	.
	nonMPA (E/O)	1981	17.0166	0.000	.	.	3.1967	6.947	0.21	0.6454
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	-1.1625	0.549	4.48	0.0343	-1.1613	0.549	4.47	0.0344
		1996	0.1848	0.181	1.04	0.3069	0.2171	0.182	1.42	0.2338
		2001	0.0941	0.146	0.41	0.5196	0.0915	0.146	0.39	0.5300
	Not Relevant	1981	0.0000	0.000	.	.	0.0000	0.000	.	.
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.
timeSinceCenGp	43-high mths	1981	-2.2667	0.112	412.95	<.0001	-2.2775	0.111	417.40	<.0001
		1986	-1.1006	0.069	252.58	<.0001	-1.0953	0.069	252.31	<.0001
		1991	-1.1610	0.066	306.27	<.0001	-1.1471	0.066	304.23	<.0001
		1996	-2.1808	0.098	493.73	<.0001	-2.2345	0.092	589.32	<.0001
		2001	-1.9037	0.087	476.13	<.0001	-1.9290	0.083	533.82	<.0001
	37-42 mths	1981	-1.8519	0.118	244.24	<.0001	-1.8643	0.118	247.91	<.0001
		1986	-0.7577	0.079	91.57	<.0001	-0.7524	0.079	90.98	<.0001
		1991	-0.9358	0.075	155.27	<.0001	-0.9227	0.075	153.36	<.0001
		1996	-2.0196	0.103	386.21	<.0001	-2.0871	0.096	469.79	<.0001
		2001	-1.9420	0.083	551.61	<.0001	-1.9449	0.079	602.48	<.0001
	31-36 mths	1981	-1.8870	0.119	253.50	<.0001	-1.8986	0.118	256.94	<.0001
		1986	-0.6799	0.081	71.22	<.0001	-0.6700	0.080	69.60	<.0001
		1991	-0.8368	0.078	116.47	<.0001	-0.8227	0.077	114.11	<.0001
		1996	-1.8310	0.104	308.91	<.0001	-1.8972	0.098	378.16	<.0001
		2001	-1.7393	0.084	427.31	<.0001	-1.7337	0.081	462.73	<.0001
	25-30 mths	1981	-1.9144	0.118	261.91	<.0001	-1.9260	0.118	265.49	<.0001

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
G_TA	19-24 mths	1986	-0.7783	0.079	95.96	<.0001	-0.7713	0.079	94.88	<.0001
		1991	-0.8123	0.077	110.13	<.0001	-0.8029	0.077	109.22	<.0001
		1996	-1.7304	0.105	271.24	<.0001	-1.7810	0.098	327.68	<.0001
		2001	-1.8141	0.083	473.04	<.0001	-1.8141	0.080	515.84	<.0001
		1981	-1.6992	0.120	201.13	<.0001	-1.7081	0.120	203.46	<.0001
		1986	-0.5626	0.082	47.14	<.0001	-0.5576	0.082	46.64	<.0001
		1991	-0.5822	0.081	52.11	<.0001	-0.5716	0.080	50.91	<.0001
		1996	-1.7992	0.104	297.06	<.0001	-1.8422	0.098	355.11	<.0001
		2001	-1.6556	0.085	382.68	<.0001	-1.6784	0.081	432.19	<.0001
		13-18 mths	1981	-1.6535	0.121	187.71	<.0001	-1.6617	0.121	189.79	<.0001
	1986	-0.5672	0.083	46.82	<.0001	-0.5627	0.083	46.40	<.0001	
	1991	-0.4233	0.083	25.91	<.0001	-0.4106	0.083	24.70	<.0001	
	1996	-1.4876	0.107	191.84	<.0001	-1.5388	0.100	235.18	<.0001	
	2001	-1.7280	0.084	421.23	<.0001	-1.7127	0.080	452.92	<.0001	
	7-12 mths	1981	-1.5371	0.122	158.91	<.0001	-1.5508	0.122	162.07	<.0001
	1986	-0.3740	0.087	18.66	<.0001	-0.3734	0.086	18.76	<.0001	
	1991	-0.2809	0.086	10.77	0.0010	-0.2693	0.085	10.03	0.0015	
	1996	-1.4756	0.108	187.33	<.0001	-1.4890	0.101	217.75	<.0001	
	2001	-1.7011	0.084	408.46	<.0001	-1.6711	0.081	428.54	<.0001	
	Dates -ve, 0- 6	1981	0.0000	0.000	.	.	0.0000	0.000	.	.
	1986	0.0000	0.000	.	.	0.0000	0.000	.	.	
	1991	0.0000	0.000	.	.	0.0000	0.000	.	.	
	1996	0.0000	0.000	.	.	0.0000	0.000	.	.	
	2001	0.0000	0.000	.	.	0.0000	0.000	.	.	
	Not Applicable	1981	-11.9242	7093.592	0.00	0.9987
	1986	-10.6043	5483.672	0.00	0.9985
	1991	23.7414	5899.728	0.00	0.9968
	Far North	1981	-0.4434	0.201	4.88	0.0271	-0.4562	0.200	5.21	0.0225
	1986	-0.4131	0.174	5.65	0.0175	-0.4231	0.174	5.94	0.0148	
	1991	-0.7016	0.172	16.56	<.0001	-0.7027	0.171	16.83	<.0001	
	1996	-0.2488	0.151	2.72	0.0991	-0.2880	0.146	3.89	0.0487	
	2001	-0.6157	0.164	14.11	0.0002	-0.6625	0.161	16.95	<.0001	
	Whangarei	1981	-0.4078	0.160	6.49	0.0109	-0.4081	0.160	6.52	0.0107
	1986	-0.1718	0.149	1.33	0.2488	-0.1729	0.149	1.35	0.2450	
	1991	-0.3731	0.151	6.08	0.0137	-0.3751	0.150	6.22	0.0127	
	1996	-0.2556	0.134	3.65	0.0561	-0.2925	0.129	5.10	0.0239	
	2001	-0.4914	0.148	10.97	0.0009	-0.5313	0.145	13.34	0.0003	
	Kaipara	1981	-0.0411	0.295	0.02	0.8894	-0.0511	0.295	0.03	0.8622
	1986	0.2669	0.261	1.05	0.3063	0.2567	0.260	0.97	0.3241	
	1991	-0.1714	0.261	0.43	0.5113	-0.1464	0.260	0.32	0.5729	
1996	-0.0069	0.204	0.00	0.9729	-0.1163	0.192	0.37	0.5452		
2001	0.1757	0.249	0.50	0.4804	0.1058	0.242	0.19	0.6625		
Rodney	1981	-0.5178	0.167	9.66	0.0019	-0.5194	0.166	9.75	0.0018	
1986	-0.4019	0.146	7.59	0.0059	-0.3957	0.146	7.36	0.0067		
1991	-0.7476	0.147	26.04	<.0001	-0.7351	0.146	25.45	<.0001		
1996	-0.4785	0.129	13.69	0.0002	-0.4684	0.125	14.13	0.0002		
2001	-0.4606	0.147	9.82	0.0017	-0.4612	0.143	10.36	0.0013		
North Shore	1981	-0.0740	0.137	0.29	0.5903	-0.0721	0.137	0.28	0.5992	
1986	0.0590	0.128	0.21	0.6453	0.0605	0.128	0.22	0.6367		
1991	-0.2375	0.134	3.14	0.0765	-0.2370	0.133	3.17	0.0750		

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
		1996	-0.2086	0.120	3.03	0.0818	-0.2385	0.115	4.26	0.0389
		2001	-0.3444	0.136	6.37	0.0116	-0.3863	0.133	8.46	0.0036
	Waitakere	1981	-0.2942	0.142	4.30	0.0380	-0.2930	0.142	4.28	0.0386
		1986	0.2008	0.137	2.16	0.1416	0.2013	0.136	2.18	0.1401
		1991	-0.2838	0.137	4.30	0.0381	-0.2840	0.136	4.37	0.0366
		1996	-0.2010	0.123	2.69	0.1013	-0.1988	0.119	2.81	0.0940
		2001	-0.1441	0.141	1.04	0.3076	-0.1667	0.138	1.46	0.2268
	Auckland	1981	-0.0772	0.127	0.37	0.5444	-0.0682	0.127	0.29	0.5917
		1986	0.2249	0.120	3.49	0.0616	0.2367	0.120	3.88	0.0490
		1991	-0.1770	0.126	1.97	0.1600	-0.1495	0.126	1.42	0.2337
		1996	-0.1166	0.114	1.04	0.3080	-0.1422	0.111	1.63	0.2010
		2001	-0.3609	0.131	7.58	0.0059	-0.3546	0.129	7.59	0.0059
	Manukau	1981	-0.0348	0.138	0.06	0.8008	-0.0361	0.138	0.07	0.7929
		1986	0.4018	0.132	9.32	0.0023	0.3980	0.131	9.18	0.0024
		1991	0.1013	0.135	0.56	0.4526	0.0948	0.134	0.50	0.4794
		1996	0.1294	0.121	1.15	0.2836	0.1187	0.117	1.03	0.3102
		2001	-0.0767	0.137	0.31	0.5753	-0.1204	0.134	0.81	0.3683
	Papakura	1981	-0.0687	0.204	0.11	0.7361	-0.0687	0.203	0.11	0.7355
		1986	0.5838	0.218	7.16	0.0074	0.5820	0.217	7.17	0.0074
		1991	-0.1590	0.191	0.69	0.4054	-0.1648	0.189	0.76	0.3841
		1996	-0.2777	0.158	3.09	0.0788	-0.2119	0.152	1.94	0.1636
		2001	-0.2826	0.176	2.58	0.1085	-0.3156	0.170	3.44	0.0635
	Franklin	1981	-0.7171	0.213	11.34	0.0008	-0.7264	0.213	11.68	0.0006
		1986	-0.2142	0.201	1.13	0.2868	-0.2246	0.201	1.25	0.2632
		1991	-0.3315	0.193	2.96	0.0855	-0.3320	0.190	3.05	0.0805
		1996	-0.2560	0.163	2.47	0.1163	-0.2668	0.156	2.94	0.0865
		2001	-0.2228	0.187	1.42	0.2327	-0.3215	0.178	3.25	0.0716
	Thames Coromande	1981	-0.6179	0.214	8.36	0.0038	-0.6244	0.213	8.56	0.0034
		1986	-0.0983	0.195	0.25	0.6144	-0.1073	0.195	0.30	0.5818
		1991	-0.6113	0.194	9.91	0.0016	-0.5915	0.193	9.41	0.0022
		1996	-0.1233	0.176	0.49	0.4848	-0.1551	0.168	0.85	0.3559
		2001	-0.0742	0.200	0.14	0.7107	-0.0664	0.196	0.11	0.7354
	Hauraki	1981	-0.0753	0.270	0.08	0.7800	-0.0820	0.269	0.09	0.7607
		1986	0.4356	0.260	2.81	0.0939	0.4257	0.260	2.69	0.1010
		1991	0.0284	0.265	0.01	0.9147	0.0071	0.260	0.00	0.9782
		1996	-0.4297	0.207	4.32	0.0377	-0.4186	0.200	4.39	0.0361
		2001	-0.0888	0.232	0.15	0.7013	-0.1605	0.226	0.51	0.4768
	Waikato	1981	-0.4362	0.203	4.61	0.0318	-0.4406	0.203	4.72	0.0298
		1986	-0.2017	0.191	1.12	0.2902	-0.2083	0.190	1.20	0.2742
		1991	-0.5138	0.178	8.29	0.0040	-0.5029	0.177	8.05	0.0046
		1996	-0.4857	0.156	9.68	0.0019	-0.4832	0.150	10.33	0.0013
		2001	-0.1941	0.182	1.14	0.2863	-0.2241	0.178	1.58	0.2090
	Matamata-Piako	1981	0.5346	0.297	3.23	0.0721	0.5222	0.296	3.12	0.0773
		1986	1.1626	0.289	16.21	<.0001	1.1460	0.287	15.97	<.0001
		1991	0.3226	0.251	1.65	0.1984	0.3635	0.249	2.13	0.1442
		1996	0.4781	0.231	4.29	0.0383	0.4026	0.211	3.64	0.0563
		2001	0.2092	0.224	0.87	0.3499	0.1783	0.215	0.69	0.4060
	Hamilton	1981	-0.5621	0.143	15.47	<.0001	-0.5505	0.143	14.87	0.0001
		1986	-0.1254	0.136	0.85	0.3566	-0.1241	0.136	0.83	0.3609
		1991	-0.2922	0.141	4.31	0.0379	-0.3304	0.140	5.61	0.0179

Bias Linkage Regressions		Regression has no missings					Regression includes missings				
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq	
		1996	-0.2817	0.128	4.84	0.0278	-0.2627	0.125	4.45	0.0349	
		2001	-0.1634	0.148	1.22	0.2684	-0.1978	0.144	1.88	0.1706	
	Waipa	1981	-0.5041	0.185	7.40	0.0065	-0.5041	0.185	7.42	0.0064	
		1986	-0.3541	0.173	4.21	0.0401	-0.3502	0.172	4.13	0.0422	
		1991	-0.4247	0.170	6.25	0.0124	-0.4042	0.169	5.69	0.0170	
		1996	-0.3716	0.152	5.99	0.0144	-0.3887	0.146	7.06	0.0079	
		2001	-0.4639	0.172	7.29	0.0069	-0.4756	0.167	8.16	0.0043	
	Otorohanga	1981	0.1082	0.455	0.06	0.8119	0.0973	0.453	0.05	0.8299	
		1986	-0.3849	0.313	1.51	0.2192	-0.3935	0.313	1.58	0.2087	
		1991	-0.1690	0.376	0.20	0.6535	-0.1641	0.375	0.19	0.6616	
		1996	-0.0603	0.312	0.04	0.8469	-0.0601	0.301	0.04	0.8418	
		2001	-0.6619	0.305	4.70	0.0301	-0.7911	0.292	7.32	0.0068	
	South Waikato	1981	-0.4375	0.272	2.59	0.1072	-0.4479	0.271	2.73	0.0985	
		1986	-0.3687	0.222	2.77	0.0963	-0.3792	0.221	2.93	0.0869	
		1991	-0.2454	0.231	1.12	0.2889	-0.2393	0.228	1.10	0.2949	
		1996	0.0774	0.222	0.12	0.7268	-0.0704	0.205	0.12	0.7318	
		2001	0.0375	0.261	0.02	0.8859	0.0214	0.255	0.01	0.9330	
	Waitomo	1981	-0.3299	0.324	1.04	0.3080	-0.3382	0.323	1.10	0.2952	
		1986	-0.0240	0.309	0.01	0.9382	-0.0330	0.309	0.01	0.9149	
		1991	-0.2540	0.298	0.73	0.3942	-0.2473	0.297	0.69	0.4055	
		1996	0.4443	0.336	1.75	0.1865	0.4422	0.332	1.77	0.1835	
		2001	-0.5105	0.273	3.50	0.0613	-0.5532	0.271	4.16	0.0413	
	Taupo	1981	-0.6437	0.234	7.60	0.0058	-0.6534	0.233	7.85	0.0051	
		1986	-0.3136	0.212	2.18	0.1396	-0.3246	0.212	2.35	0.1257	
		1991	-0.4719	0.210	5.07	0.0244	-0.4478	0.209	4.61	0.0318	
		1996	-0.4037	0.178	5.14	0.0234	-0.4340	0.173	6.30	0.0120	
		2001	-0.4664	0.199	5.49	0.0191	-0.5652	0.192	8.64	0.0033	
	Western Bay of P	1981	-0.6520	0.216	9.14	0.0025	-0.6578	0.215	9.34	0.0022	
		1986	-0.3481	0.191	3.32	0.0684	-0.3554	0.191	3.47	0.0625	
		1991	-0.7957	0.178	19.96	<.0001	-0.7525	0.177	18.01	<.0001	
		1996	-0.2222	0.162	1.87	0.1715	-0.1939	0.157	1.52	0.2174	
		2001	-0.4115	0.171	5.76	0.0164	-0.3934	0.166	5.62	0.0178	
	Tauranga	1981	0.1120	0.168	0.44	0.5053	0.1127	0.168	0.45	0.5019	
		1986	0.0945	0.149	0.40	0.5255	0.0953	0.149	0.41	0.5216	
		1991	-0.4472	0.141	10.01	0.0016	-0.4644	0.140	10.96	0.0009	
		1996	-0.1470	0.130	1.28	0.2583	-0.1825	0.125	2.12	0.1454	
		2001	-0.3394	0.144	5.58	0.0182	-0.3452	0.140	6.12	0.0134	
	Rotorua	1981	-0.4612	0.164	7.90	0.0050	-0.4612	0.164	7.92	0.0049	
		1986	-0.3288	0.152	4.68	0.0306	-0.3288	0.152	4.68	0.0304	
		1991	-0.1979	0.156	1.61	0.2047	-0.1999	0.155	1.65	0.1986	
		1996	-0.2241	0.140	2.55	0.1103	-0.2085	0.137	2.32	0.1275	
		2001	-0.1677	0.161	1.08	0.2978	-0.1700	0.158	1.16	0.2813	
	Whakatane	1981	-0.6366	0.242	6.92	0.0085	-0.6469	0.242	7.17	0.0074	
		1986	0.1617	0.241	0.45	0.5028	0.1496	0.241	0.39	0.5344	
		1991	-0.2852	0.217	1.74	0.1878	-0.2801	0.214	1.71	0.1911	
		1996	-0.1151	0.190	0.37	0.5440	-0.1667	0.182	0.84	0.3598	
		2001	-0.2676	0.205	1.71	0.1913	-0.3043	0.201	2.29	0.1305	
	Kawerau	1981	0.5806	0.618	0.88	0.3474	0.5701	0.616	0.86	0.3545	
		1986	0.8527	0.484	3.10	0.0783	0.8429	0.484	3.03	0.0817	
		1991	0.9170	0.530	2.99	0.0836	0.9507	0.528	3.25	0.0716	

Bias Linkage Regressions		Regression has no missings					Regression includes missings				
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq	
		1996	0.2631	0.342	0.59	0.4421	0.2914	0.340	0.73	0.3915	
		2001	0.1185	0.420	0.08	0.7779	0.0776	0.396	0.04	0.8446	
	Opotiki	1981	-0.3026	0.389	0.61	0.4364	-0.3116	0.388	0.64	0.4219	
		1986	0.4296	0.360	1.43	0.2324	0.4193	0.359	1.36	0.2431	
		1991	0.6801	0.477	2.03	0.1541	0.6815	0.470	2.10	0.1471	
		1996	-0.0802	0.286	0.08	0.7796	-0.0847	0.278	0.09	0.7606	
		2001	0.4854	0.412	1.38	0.2393	0.4911	0.406	1.46	0.2265	
	Gisborne	1981	-0.1770	0.177	1.00	0.3165	-0.1777	0.176	1.01	0.3140	
		1986	0.0226	0.164	0.02	0.8903	0.0221	0.164	0.02	0.8926	
		1991	-0.1422	0.176	0.65	0.4194	-0.1621	0.174	0.86	0.3528	
		1996	0.3055	0.157	3.79	0.0517	0.2611	0.152	2.95	0.0860	
		2001	-0.0335	0.178	0.04	0.8508	-0.0572	0.175	0.11	0.7437	
	Wairoa	1981	-0.0831	0.355	0.05	0.8150	-0.0935	0.354	0.07	0.7918	
		1986	0.3009	0.334	0.81	0.3679	0.2888	0.333	0.75	0.3859	
		1991	0.4967	0.412	1.45	0.2282	0.3845	0.386	0.99	0.3190	
		1996	1.1779	0.404	8.48	0.0036	0.9999	0.368	7.37	0.0066	
		2001	-0.1289	0.306	0.18	0.6736	-0.2203	0.297	0.55	0.4589	
	Hastings	1981	-0.2892	0.163	3.15	0.0761	-0.2880	0.163	3.13	0.0769	
		1986	0.2498	0.159	2.47	0.1158	0.2503	0.159	2.49	0.1146	
		1991	-0.0909	0.159	0.33	0.5683	-0.1220	0.156	0.61	0.4344	
		1996	0.0803	0.144	0.31	0.5771	0.0748	0.139	0.29	0.5898	
		2001	-0.0214	0.162	0.02	0.8947	-0.0156	0.157	0.01	0.9211	
	Napier	1981	-0.4198	0.156	7.24	0.0071	-0.4154	0.156	7.12	0.0076	
		1986	0.2867	0.161	3.19	0.0743	0.2900	0.160	3.27	0.0707	
		1991	-0.2835	0.156	3.28	0.0699	-0.2842	0.154	3.40	0.0652	
		1996	0.0358	0.143	0.06	0.8021	0.0131	0.137	0.01	0.9239	
		2001	-0.0347	0.163	0.05	0.8314	-0.0774	0.158	0.24	0.6240	
	Central Hawkes B	1981	-0.2121	0.304	0.49	0.4848	-0.2198	0.303	0.53	0.4685	
		1986	0.7714	0.353	4.79	0.0287	0.7598	0.351	4.68	0.0306	
		1991	0.0499	0.318	0.02	0.8756	0.0613	0.317	0.04	0.8465	
		1996	0.1671	0.259	0.42	0.5192	0.2209	0.256	0.74	0.3887	
		2001	0.0550	0.283	0.04	0.8457	0.0575	0.275	0.04	0.8343	
	New Plymouth	1981	-0.2392	0.151	2.49	0.1142	-0.2391	0.151	2.50	0.1138	
		1986	0.0899	0.148	0.37	0.5430	0.0889	0.148	0.36	0.5469	
		1991	-0.1946	0.150	1.68	0.1943	-0.1887	0.149	1.60	0.2064	
		1996	0.0106	0.138	0.01	0.9389	0.0046	0.134	0.00	0.9727	
		2001	-0.2689	0.152	3.14	0.0765	-0.3006	0.148	4.15	0.0417	
	Stratford	1981	-0.2497	0.321	0.61	0.4364	-0.2573	0.320	0.65	0.4218	
		1986	0.6980	0.371	3.53	0.0602	0.6866	0.370	3.44	0.0637	
		1991	0.3049	0.372	0.67	0.4121	0.3117	0.369	0.71	0.3982	
		1996	0.0375	0.259	0.02	0.8848	-0.0719	0.246	0.09	0.7696	
		2001	-0.0767	0.284	0.07	0.7872	-0.0721	0.282	0.07	0.7981	
	South Taranaki	1981	-0.1593	0.231	0.48	0.4895	-0.1686	0.230	0.54	0.4636	
		1986	0.3409	0.232	2.15	0.1425	0.3290	0.232	2.01	0.1560	
		1991	-0.3684	0.209	3.11	0.0778	-0.3910	0.206	3.60	0.0578	
		1996	0.0198	0.188	0.01	0.9159	-0.0698	0.180	0.15	0.6980	
		2001	-0.3377	0.203	2.77	0.0960	-0.3747	0.198	3.58	0.0584	
	Ruapehu	1981	-0.7324	0.264	7.71	0.0055	-0.7393	0.263	7.87	0.0050	
		1986	-0.0128	0.251	0.00	0.9592	-0.0224	0.251	0.01	0.9287	
		1991	-0.3011	0.284	1.12	0.2899	-0.2801	0.283	0.98	0.3229	

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
		1996	-0.2781	0.224	1.54	0.2141	-0.2521	0.221	1.30	0.2543
		2001	-0.0527	0.274	0.04	0.8473	-0.1451	0.267	0.30	0.5870
	Wanganui	1981	-0.4636	0.163	8.08	0.0045	-0.4617	0.163	8.03	0.0046
		1986	-0.1098	0.154	0.51	0.4763	-0.1086	0.154	0.50	0.4810
		1991	-0.3916	0.155	6.36	0.0117	-0.4006	0.154	6.72	0.0095
		1996	-0.2055	0.147	1.97	0.1609	-0.1994	0.143	1.94	0.1639
		2001	0.0234	0.174	0.02	0.8930	0.0129	0.171	0.01	0.9400
	Rangitikei	1981	-0.1082	0.270	0.16	0.6886	-0.1158	0.270	0.18	0.6674
		1986	0.2496	0.254	0.96	0.3266	0.2404	0.254	0.89	0.3442
		1991	-0.2105	0.259	0.66	0.4154	-0.2297	0.254	0.82	0.3659
		1996	0.5032	0.249	4.08	0.0434	0.5205	0.242	4.64	0.0312
		2001	-0.1099	0.249	0.20	0.6585	-0.2916	0.229	1.62	0.2035
	Manawatu	1981	-0.3550	0.244	2.12	0.1450	-0.3647	0.243	2.25	0.1334
		1986	-0.1785	0.218	0.67	0.4126	-0.1883	0.217	0.75	0.3865
		1991	-0.5873	0.205	8.19	0.0042	-0.5474	0.204	7.20	0.0073
		1996	-0.0608	0.200	0.09	0.7610	-0.1847	0.187	0.97	0.3241
		2001	-0.3915	0.206	3.62	0.0570	-0.4186	0.198	4.47	0.0345
	Palmerston North	1981	0.0494	0.161	0.09	0.7596	0.0510	0.161	0.10	0.7519
		1986	0.3872	0.155	6.22	0.0126	0.3883	0.155	6.27	0.0123
		1991	-0.1714	0.151	1.29	0.2561	-0.1511	0.151	1.01	0.3157
		1996	0.1320	0.145	0.83	0.3620	0.0778	0.138	0.32	0.5727
		2001	-0.1234	0.160	0.60	0.4401	-0.1101	0.155	0.51	0.4767
	Tararua	1981	0.1417	0.276	0.26	0.6078	0.1341	0.276	0.24	0.6266
		1986	0.8881	0.283	9.82	0.0017	0.8790	0.283	9.65	0.0019
		1991	0.2731	0.285	0.92	0.3373	0.3138	0.283	1.23	0.2678
		1996	0.2000	0.222	0.81	0.3676	0.1237	0.213	0.34	0.5622
		2001	-0.0296	0.236	0.02	0.9003	-0.0520	0.232	0.05	0.8224
	Horowhenua	1981	-0.0240	0.235	0.01	0.9185	-0.0350	0.234	0.02	0.8810
		1986	0.0557	0.205	0.07	0.7859	0.0449	0.205	0.05	0.8262
		1991	-0.4643	0.191	5.93	0.0149	-0.4411	0.189	5.43	0.0198
		1996	-0.1748	0.177	0.97	0.3243	-0.2311	0.169	1.88	0.1706
		2001	-0.2644	0.197	1.80	0.1797	-0.3035	0.192	2.50	0.1135
	Kapiti Coast	1981	-0.4421	0.166	7.06	0.0079	-0.4416	0.166	7.06	0.0079
		1986	0.0656	0.166	0.16	0.6925	0.0699	0.166	0.18	0.6730
		1991	-0.3715	0.158	5.51	0.0189	-0.3936	0.157	6.31	0.0120
		1996	-0.3459	0.143	5.88	0.0153	-0.3127	0.137	5.22	0.0223
		2001	0.0302	0.170	0.03	0.8594	-0.0210	0.165	0.02	0.8986
	Porirua	1981	-0.2264	0.185	1.49	0.2220	-0.2250	0.185	1.48	0.2244
		1986	0.1554	0.185	0.71	0.4003	0.1563	0.185	0.72	0.3973
		1991	-0.0595	0.184	0.10	0.7467	-0.0501	0.184	0.07	0.7851
		1996	0.1594	0.175	0.83	0.3631	0.1447	0.166	0.76	0.3820
		2001	-0.0414	0.191	0.05	0.8285	-0.0269	0.188	0.02	0.8861
	Upper Hutt	1981	-0.3398	0.183	3.46	0.0628	-0.3383	0.182	3.44	0.0637
		1986	0.1607	0.183	0.77	0.3790	0.1643	0.183	0.81	0.3679
		1991	-0.1590	0.186	0.73	0.3922	-0.1199	0.185	0.42	0.5177
		1996	0.0008	0.167	0.00	0.9963	-0.0251	0.160	0.02	0.8756
		2001	0.0631	0.195	0.11	0.7456	0.0314	0.189	0.03	0.8679
	Lower Hutt	1981	-0.0331	0.147	0.05	0.8214	-0.0317	0.147	0.05	0.8289
		1986	0.3951	0.146	7.35	0.0067	0.3959	0.146	7.40	0.0065
		1991	-0.0579	0.149	0.15	0.6981	-0.0506	0.149	0.12	0.7335

Bias Linkage Regressions		Regression has no missings					Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
		1996	-0.1025	0.132	0.60	0.4375	-0.1160	0.128	0.82	0.3657
		2001	-0.0890	0.152	0.34	0.5582	-0.0947	0.149	0.40	0.5262
	Wellington	1981	-0.2428	0.137	3.16	0.0756	-0.2409	0.136	3.12	0.0775
		1986	0.1720	0.134	1.64	0.1999	0.1707	0.134	1.62	0.2025
		1991	0.1596	0.144	1.23	0.2680	0.1519	0.143	1.13	0.2873
		1996	0.0949	0.129	0.54	0.4619	0.1271	0.125	1.04	0.3081
		2001	0.0892	0.146	0.37	0.5422	0.0059	0.142	0.00	0.9671
	Masterton	1981	-0.4339	0.257	2.86	0.0907	-0.4446	0.256	3.01	0.0825
		1986	-0.4350	0.225	3.74	0.0531	-0.4460	0.225	3.94	0.0471
		1991	-0.0671	0.232	0.08	0.7725	-0.0629	0.230	0.08	0.7840
		1996	0.2795	0.227	1.52	0.2180	0.2997	0.221	1.84	0.1746
		2001	0.0364	0.238	0.02	0.8782	-0.1375	0.226	0.37	0.5438
	Carterton	1981	-0.1727	0.429	0.16	0.6874	-0.1787	0.429	0.17	0.6770
		1986	0.4799	0.375	1.64	0.2007	0.4714	0.375	1.58	0.2083
		1991	0.7410	0.530	1.96	0.1618	0.5361	0.477	1.27	0.2606
		1996	0.7882	0.408	3.72	0.0537	0.6296	0.364	2.99	0.0840
		2001	0.3301	0.414	0.63	0.4257	0.2592	0.391	0.44	0.5070
	South Wairarapa	1981	-0.0153	0.366	0.00	0.9666	-0.0215	0.366	0.00	0.9532
		1986	-0.4364	0.259	2.84	0.0921	-0.4446	0.259	2.95	0.0860
		1991	0.1807	0.371	0.24	0.6264	0.2191	0.371	0.35	0.5543
		1996	0.9536	0.383	6.20	0.0128	0.6405	0.320	4.01	0.0452
		2001	0.6652	0.389	2.93	0.0869	0.5625	0.368	2.33	0.1266
	Tasman	1981	0.2694	0.284	0.90	0.3431	0.2588	0.282	0.84	0.3592
		1986	0.6574	0.272	5.84	0.0157	0.6424	0.270	5.68	0.0172
		1991	-0.0592	0.214	0.08	0.7820	-0.0453	0.213	0.05	0.8314
		1996	0.1406	0.177	0.63	0.4269	0.0894	0.169	0.28	0.5973
		2001	-0.1321	0.182	0.52	0.4690	-0.1754	0.180	0.95	0.3288
	Nelson	1981	-0.0344	0.193	0.03	0.8586	-0.0332	0.193	0.03	0.8631
		1986	0.6307	0.212	8.88	0.0029	0.6301	0.211	8.90	0.0029
		1991	-0.3291	0.177	3.46	0.0630	-0.3456	0.176	3.86	0.0495
		1996	-0.0238	0.157	0.02	0.8794	-0.0968	0.151	0.41	0.5204
		2001	-0.1310	0.170	0.59	0.4416	-0.1456	0.168	0.75	0.3851
	Marlborough	1981	-0.2802	0.231	1.47	0.2248	-0.2909	0.230	1.60	0.2065
		1986	-0.1116	0.209	0.28	0.5935	-0.1226	0.209	0.35	0.5567
		1991	-0.5685	0.193	8.70	0.0032	-0.5373	0.192	7.87	0.0050
		1996	-0.1137	0.170	0.45	0.5036	-0.2023	0.163	1.54	0.2144
		2001	-0.6009	0.178	11.38	0.0007	-0.6749	0.175	14.94	0.0001
	Kaikoura	1981	-0.3808	0.462	0.68	0.4101	-0.3872	0.462	0.70	0.4020
		1986	0.5575	0.539	1.07	0.3009	0.5470	0.538	1.04	0.3090
		1991	0.4178	0.613	0.46	0.4955	0.4469	0.607	0.54	0.4619
		1996	-0.1196	0.347	0.12	0.7305	-0.0245	0.343	0.01	0.9431
		2001	0.5687	0.481	1.39	0.2376	0.5512	0.477	1.34	0.2477
	Buller	1981	-0.3326	0.278	1.43	0.2313	-0.3391	0.278	1.49	0.2217
		1986	-0.1091	0.238	0.21	0.6470	-0.1171	0.238	0.24	0.6228
		1991	-0.4764	0.258	3.40	0.0651	-0.4589	0.257	3.18	0.0746
		1996	0.0929	0.242	0.15	0.7005	0.0029	0.231	0.00	0.9899
		2001	-0.5804	0.254	5.23	0.0222	-0.6107	0.252	5.89	0.0152
	Grey	1981	-0.2497	0.314	0.63	0.4265	-0.2609	0.313	0.69	0.4052
		1986	-0.0262	0.281	0.01	0.9259	-0.0377	0.281	0.02	0.8930
		1991	-0.4691	0.249	3.54	0.0601	-0.4420	0.248	3.17	0.0751

Bias Linkage Regressions		Regression has no missings					Regression includes missings				
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq	
		1996	0.0346	0.237	0.02	0.8839	-0.0043	0.231	0.00	0.9851	
		2001	-0.1459	0.271	0.29	0.5903	-0.2073	0.268	0.60	0.4388	
	Westland	1981	0.4998	0.448	1.24	0.2649	0.4896	0.446	1.20	0.2727	
		1986	0.7007	0.390	3.23	0.0725	0.6878	0.388	3.14	0.0764	
		1991	-0.4785	0.316	2.30	0.1297	-0.4312	0.315	1.87	0.1713	
		1996	0.6481	0.366	3.13	0.0767	0.4532	0.322	1.98	0.1595	
		2001	-0.0522	0.322	0.03	0.8715	-0.0173	0.320	0.00	0.9568	
	Hurunui	1981	-0.7924	0.311	6.50	0.0108	-0.8002	0.310	6.64	0.0100	
		1986	-0.0712	0.337	0.04	0.8326	-0.0810	0.336	0.06	0.8094	
		1991	-0.4801	0.286	2.81	0.0936	-0.5399	0.275	3.85	0.0497	
		1996	-0.2838	0.250	1.29	0.2563	-0.3209	0.235	1.87	0.1714	
		2001	-0.5696	0.247	5.31	0.0212	-0.5933	0.243	5.98	0.0145	
	Waimakariri	1981	-0.2734	0.219	1.55	0.2127	-0.2771	0.219	1.60	0.2057	
		1986	0.1269	0.204	0.39	0.5329	0.1207	0.203	0.35	0.5525	
		1991	-0.5355	0.185	8.35	0.0039	-0.5248	0.184	8.13	0.0044	
		1996	-0.3571	0.157	5.17	0.0230	-0.3798	0.150	6.38	0.0115	
		2001	-0.1258	0.185	0.46	0.4965	-0.1707	0.179	0.91	0.3397	
	Christchurch	1981	-0.1114	0.128	0.75	0.3854	-0.1102	0.128	0.74	0.3898	
		1986	0.2244	0.120	3.49	0.0618	0.2266	0.120	3.57	0.0590	
		1991	-0.1815	0.125	2.10	0.1473	-0.1784	0.125	2.04	0.1527	
		1996	0.1170	0.115	1.03	0.3106	0.0924	0.112	0.68	0.4102	
		2001	0.0047	0.133	0.00	0.9720	0.0032	0.131	0.00	0.9807	
	Banks Peninsula	1981	0.6049	0.478	1.60	0.2061	0.6033	0.478	1.60	0.2065	
		1986	0.6702	0.439	2.33	0.1269	0.6666	0.438	2.31	0.1282	
		1991	0.3664	0.410	0.80	0.3711	0.2847	0.386	0.54	0.4605	
		1996	0.4497	0.347	1.68	0.1947	0.4824	0.330	2.14	0.1433	
		2001	-0.0714	0.328	0.05	0.8279	0.0469	0.316	0.02	0.8820	
	Selwyn	1981	-0.8342	0.270	9.55	0.0020	-0.8409	0.270	9.73	0.0018	
		1986	0.4331	0.293	2.18	0.1398	0.4224	0.292	2.09	0.1485	
		1991	-0.6601	0.232	8.07	0.0045	-0.6476	0.228	8.09	0.0045	
		1996	-0.0123	0.211	0.00	0.9533	-0.0962	0.198	0.24	0.6263	
		2001	-0.0998	0.227	0.19	0.6600	-0.2104	0.213	0.98	0.3234	
	Ashburton	1981	-0.2703	0.259	1.09	0.2965	-0.2816	0.258	1.19	0.2756	
		1986	0.2254	0.255	0.78	0.3772	0.2134	0.255	0.70	0.4019	
		1991	-0.3265	0.213	2.35	0.1251	-0.2845	0.212	1.80	0.1796	
		1996	0.1736	0.199	0.76	0.3826	0.1368	0.192	0.51	0.4763	
		2001	0.0684	0.227	0.09	0.7632	-0.0710	0.217	0.11	0.7435	
	Timaru	1981	-0.2294	0.204	1.26	0.2615	-0.2388	0.204	1.37	0.2415	
		1986	-0.0353	0.187	0.04	0.8507	-0.0451	0.187	0.06	0.8093	
		1991	-0.2152	0.190	1.29	0.2568	-0.2206	0.188	1.38	0.2403	
		1996	0.5081	0.186	7.49	0.0062	0.4490	0.177	6.41	0.0113	
		2001	-0.0428	0.188	0.05	0.8198	-0.1204	0.183	0.43	0.5106	
	Mackenzie	1981	-0.2121	0.461	0.21	0.6456	-0.2191	0.461	0.23	0.6345	
		1986	-0.2037	0.503	0.16	0.6854	-0.2125	0.502	0.18	0.6722	
		1991	-0.4477	0.456	0.96	0.3266	-0.4080	0.455	0.80	0.3699	
		1996	1.2812	0.733	3.05	0.0806	0.9295	0.589	2.49	0.1144	
		2001	1.5686	1.020	2.36	0.1242	1.3980	0.904	2.39	0.1221	
	Waimate	1981	0.0248	0.364	0.00	0.9455	0.0180	0.363	0.00	0.9604	
		1986	0.3730	0.344	1.18	0.2783	0.3637	0.343	1.12	0.2895	
		1991	0.2495	0.389	0.41	0.5209	0.2571	0.386	0.44	0.5058	

Bias Linkage Regressions			Regression has no missings				Regression includes missings			
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq
		1996	0.7818	0.383	4.16	0.0415	0.8345	0.380	4.83	0.0280
		2001	0.4290	0.414	1.08	0.2997	0.3773	0.409	0.85	0.3563
	Chatham Islands	1981	15.4493	6513.726	0.00	0.9981	9.1104	0.907	100.95	<.0001
		1986	.	.	.	.	8.0067	0.707	128.08	<.0001
		1991	16.5852	7930.870	0.00	0.9983	8.6669	1.187	53.29	<.0001
		1996	16.8881	4951.580	0.00	0.9973	7.9594	1.151	47.78	<.0001
		2001	.	.	.	.	7.3649	0.832	78.35	<.0001
	Waitaki	1981	-0.3995	0.244	2.67	0.1020	-0.4099	0.244	2.83	0.0926
		1986	-0.2381	0.217	1.20	0.2735	-0.2485	0.217	1.31	0.2524
		1991	-0.1018	0.228	0.20	0.6553	-0.1094	0.225	0.24	0.6271
		1996	0.0934	0.208	0.20	0.6533	0.0565	0.200	0.08	0.7778
		2001	-0.3623	0.215	2.83	0.0923	-0.4515	0.209	4.65	0.0310
	Central Otago	1981	0.0613	0.283	0.05	0.8284	0.0546	0.283	0.04	0.8467
		1986	0.4792	0.248	3.73	0.0535	0.4706	0.248	3.61	0.0575
		1991	-0.1914	0.233	0.67	0.4118	-0.2067	0.230	0.80	0.3696
		1996	0.3135	0.229	1.87	0.1714	0.2737	0.224	1.49	0.2222
		2001	0.1965	0.253	0.60	0.4378	0.1570	0.247	0.40	0.5258
	Queenstown-Lakes	1981	-0.4224	0.392	1.16	0.2815	-0.4289	0.392	1.20	0.2739
		1986	-0.4689	0.285	2.70	0.1004	-0.4772	0.285	2.80	0.0944
		1991	-0.4715	0.279	2.86	0.0908	-0.4320	0.278	2.42	0.1199
		1996	-0.6682	0.207	10.47	0.0012	-0.6943	0.197	12.42	0.0004
		2001	-0.4956	0.227	4.75	0.0292	-0.4871	0.222	4.83	0.0280
	Dunedin	1981	0.2198	0.143	2.37	0.1234	0.2208	0.142	2.40	0.1212
		1986	0.5207	0.137	14.43	0.0001	0.5212	0.137	14.49	0.0001
		1991	-0.1021	0.135	0.57	0.4509	-0.1049	0.135	0.61	0.4366
		1996	-0.0434	0.125	0.12	0.7287	-0.0678	0.122	0.31	0.5783
		2001	0.0323	0.146	0.05	0.8244	-0.0190	0.143	0.02	0.8941
	Clutha	1981	0.2218	0.271	0.67	0.4132	0.2144	0.271	0.63	0.4281
		1986	1.0180	0.314	10.51	0.0012	1.0053	0.312	10.35	0.0013
		1991	0.1221	0.252	0.23	0.6281	0.1386	0.251	0.30	0.5811
		1996	-0.0206	0.201	0.01	0.9187	0.0083	0.199	0.00	0.9667
		2001	-0.2385	0.221	1.17	0.2803	-0.2444	0.219	1.25	0.2638
	Southland	1981	-0.3977	0.238	2.78	0.0952	-0.4049	0.238	2.90	0.0888
		1986	0.2860	0.253	1.28	0.2573	0.2765	0.252	1.20	0.2727
		1991	-0.0335	0.236	0.02	0.8872	-0.0301	0.235	0.02	0.8983
		1996	0.3864	0.216	3.19	0.0740	0.3227	0.207	2.43	0.1193
		2001	-0.2364	0.217	1.19	0.2751	-0.3463	0.209	2.75	0.0974
	Gore	1981	-0.8696	0.281	9.58	0.0020	-0.8798	0.281	9.83	0.0017
		1986	-0.1550	0.295	0.28	0.5987	-0.1658	0.294	0.32	0.5731
		1991	-0.3142	0.259	1.47	0.2257	-0.2935	0.258	1.29	0.2558
		1996	0.2174	0.264	0.68	0.4104	0.1126	0.253	0.20	0.6566
		2001	-0.4872	0.253	3.70	0.0545	-0.5670	0.249	5.20	0.0226
	Invercargill	1981	0.0000	0.000	.	.	0.0000	0.000	.	.
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.
		2001	0.0000	0.000	.	.	0.0000	0.000	.	.
NZDep3	Missing	1981	.	.	.	.	-9.7276	0.455	457.78	<.0001
		1986	.	.	.	.	-9.6600	0.414	545.07	<.0001
		1991	.	.	.	.	-9.3859	0.308	929.38	<.0001

Bias Linkage Regressions		Regression has no missings					Regression includes missings				
Variable	Level		Estimate	Std Err	ChiSq	Prob ChiSq	Estimate	Std Err	ChiSq	Prob ChiSq	
G_Rur01Grp	Dep 9-10	1996	.	.	.	.	-8.5548	0.229	1396.72	<.0001
		2001	.	.	.	.	-8.4001	0.242	1208.93	<.0001
		1981	-0.0792	0.040	3.83	0.0503	-0.0798	0.040	3.90	0.0484	
		1986	0.0222	0.041	0.29	0.5908	0.0232	0.041	0.31	0.5747	
		1991	0.0887	0.040	4.88	0.0272	0.0958	0.040	5.79	0.0161	
		1996	0.1106	0.037	9.08	0.0026	0.0933	0.035	7.10	0.0077	
	Dep 7-8	2001	0.0362	0.039	0.86	0.3537	0.0307	0.038	0.65	0.4183	
		1981	-0.0407	0.038	1.15	0.2841	-0.0410	0.038	1.16	0.2812	
		1986	0.0032	0.038	0.01	0.9339	0.0040	0.038	0.01	0.9172	
		1991	0.0616	0.036	2.95	0.0860	0.0634	0.035	3.19	0.0742	
		1996	-0.0248	0.032	0.61	0.4365	-0.0424	0.030	1.96	0.1616	
	Dep 1-6	2001	0.0457	0.035	1.73	0.1887	0.0392	0.034	1.37	0.2421	
		1981	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1986	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1991	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1996	0.0000	0.000	.	.	0.0000	0.000	.	.	
	NonUrban or Miss	2001	0.0000	0.000	.	.	0.0000	0.000	.	.	
		1981	0.2813	0.099	8.11	0.0044	0.2899	0.099	8.66	0.0033	
		1986	0.0730	0.084	0.75	0.3856	0.0818	0.084	0.95	0.3304	
		1991	0.2640	0.077	11.78	0.0006	0.2607	0.076	11.84	0.0006	
		1996	-0.0078	0.062	0.02	0.9001	-0.0030	0.059	0.00	0.9600	
		2001	0.0005	0.066	0.00	0.9940	0.0313	0.064	0.24	0.6224	
		Minor Urban Area	1981	0.2203	0.098	5.09	0.0241	0.2281	0.097	5.49	0.0191
			1986	-0.0127	0.088	0.02	0.8853	-0.0027	0.088	0.00	0.9754
			1991	0.2038	0.081	6.39	0.0115	0.1879	0.080	5.59	0.0181
			1996	-0.0099	0.069	0.02	0.8856	-0.0080	0.065	0.02	0.9015
	2001		-0.0715	0.073	0.96	0.3277	-0.0372	0.070	0.28	0.5968	
	Secondary Urban	1981	0.5375	0.137	15.38	<.0001	0.5501	0.137	16.23	<.0001	
1986		0.4635	0.122	14.33	0.0002	0.4764	0.122	15.21	<.0001		
1991		0.1533	0.113	1.84	0.1747	0.1351	0.111	1.47	0.2248		
1996		0.0208	0.100	0.04	0.8355	0.0446	0.094	0.22	0.6356		
2001		0.1300	0.104	1.57	0.2098	0.1979	0.099	3.95	0.0467		
Main Urban	1981	0.0000	0.000	.	.	0.0000	0.000	.	.		
	1986	0.0000	0.000	.	.	0.0000	0.000	.	.		
	1991	0.0000	0.000	.	.	0.0000	0.000	.	.		
	1996	0.0000	0.000	.	.	0.0000	0.000	.	.		
	2001	0.0000	0.000	.	.	0.0000	0.000	.	.		

Results from bias weighting

Table 118 Linkage details by cohort and age groups for males

Total Ethnicity on Cancer Reg	1981-86			1986-91			1991-96			1996-01			2001-04		
	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer
<i>Males All Ages</i>															
All Ethnicities	24,894	18,201	24,894	28,278	22,197	28,278	36,153	29,070	36,153	45,075	36,642	45,072	38,700	31,581	38,700
Total NZ Māori	1,158	711	1,149	1,341	918	1,326	1,767	1,308	1,773	2,334	1,752	2,337	2,205	1,770	2,208
Total Pacific	270	171	261	507	342	498	579	396	576	930	687	921	816	609	798
Total Asian	6	6	6	90	60	84	246	150	231	567	378	555	654	462	648
nonMPA	23,481	17,331	23,505	26,364	20,892	26,394	32,979	26,784	33,006	36,798	30,480	37,191	32,673	27,048	32,928
Missing	6	6	6	6	6	6	585	438	570	3,594	2,826	3,393	1,560	1,188	1,491
<i>Males 0-14 years</i>															
All Ethnicities	309	192	306	351	249	396	345	249	393	387	279	423	264	210	303
Total NZ Māori	42	27	39	51	45	57	45	36	48	54	42	54	57	45	66
Total Pacific	18	15	15	33	24	33	24	21	27	33	27	27	27	21	27
Total Asian	6	6	6	6	6	6	18	12	18	30	24	33	15	12	21
nonMPA	249	153	255	264	177	303	255	174	297	264	186	306	171	135	198
Missing	.	.	.	.	.	.	6	6	6	15	9	15	6	6	6
<i>Males 0-24 years</i>															
All Ethnicities	783	477	783	882	558	885	900	576	900	933	606	936	636	435	642
Total NZ Māori	105	78	111	123	96	123	108	84	111	123	93	123	123	84	123
Total Pacific	30	24	27	69	57	72	48	42	48	60	51	60	39	30	39
Total Asian	6	6	6	6	6	6	33	24	30	51	36	51	30	21	33
nonMPA	648	378	648	684	402	687	699	423	699	648	399	663	444	300	450
Missing	.	.	.	.	.	.	6	6	12	57	33	51	18	9	12
<i>Males 15-24 years</i>															
All Ethnicities	477	285	477	531	306	489	555	330	507	549	324	513	372	228	336
Total NZ Māori	63	51	72	72	51	63	63	48	63	69	54	69	63	39	57
Total Pacific	12	9	9	36	30	42	24	21	24	27	24	30	12	12	12
Total Asian	.	.	.	6	6	6	12	12	15	18	12	15	12	6	12
nonMPA	402	225	396	420	222	384	444	249	399	384	213	360	270	165	249
Missing	.	.	.	.	.	.	6	6	6	45	27	36	12	9	9
<i>Males 25-44 years</i>															
All Ethnicities	2,073	1,317	2,046	2,355	1,560	2,328	2,823	1,815	2,775	3,387	2,199	3,363	2,700	1,851	2,664
Total NZ Māori	168	105	159	189	129	192	267	186	270	348	240	351	312	225	315
Total Pacific	63	48	66	99	78	99	96	66	93	141	114	138	99	78	99
Total Asian	6	6	6	21	12	18	42	30	42	102	75	99	84	57	84
nonMPA	1,839	1,161	1,821	2,049	1,341	2,022	2,367	1,509	2,328	2,331	1,503	2,364	1,938	1,332	1,935
Missing	.	.	.	6	.	.	48	24	42	330	204	303	177	114	168
<i>Males 25-74 years</i>															
All Ethnicities	19,512	14,253	19,482	21,396	16,743	21,441	27,060	21,402	27,057	34,236	27,306	34,248	28,596	22,887	28,596
Total NZ Māori	966	594	963	1,119	774	1,122	1,512	1,116	1,512	2,022	1,512	2,019	1,881	1,515	1,878
Total Pacific	231	147	231	402	270	399	495	333	498	774	570	771	663	504	663
Total Asian	6	6	6	72	51	69	183	111	177	456	300	450	540	378	531
nonMPA	18,327	13,524	18,303	19,827	15,669	19,875	24,357	19,467	24,363	27,120	22,041	27,462	23,376	18,966	23,589
Missing	6	6	6	6	6	6	516	384	507	3,048	2,367	2,874	1,362	1,035	1,314
<i>Males 45-64 years</i>															
All Ethnicities	9,489	6,843	9,441	10,413	7,962	10,353	12,507	9,558	12,372	15,702	12,069	15,639	13,785	10,809	13,770
Total NZ Māori	561	360	570	663	462	648	837	627	831	1,098	825	1,095	1,002	813	996

Total Ethnicity on Cancer Reg	1981-86			1986-91			1991-96			1996-01			2001-04		
	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer
Total Pacific	123	69	117	219	147	222	264	180	267	384	276	372	327	255	336
Total Asian	6	6	6	42	30	42	93	54	93	237	150	231	291	216	288
nonMPA	8,820	6,420	8,769	9,504	7,332	9,453	11,028	8,493	10,899	11,952	9,327	12,075	10,893	8,616	10,992
Missing	6	6	6	6	.	.	288	213	291	1,518	1,161	1,428	798	606	771
Males 65-74 years															
All Ethnicities	7,950	6,096	7,995	8,628	7,221	8,757	11,724	10,029	11,907	15,147	13,038	15,246	12,114	10,224	12,159
Total NZ Māori	237	129	234	267	183	282	408	306	414	573	447	573	567	474	567
Total Pacific	45	27	48	84	45	78	138	87	138	249	177	255	234	171	228
Total Asian	.	.	.	12	9	9	42	24	45	114	75	117	165	99	159
nonMPA	7,668	5,943	7,716	8,274	6,990	8,400	10,962	9,465	11,133	12,837	11,211	13,026	10,548	9,021	10,659
Missing	6	6	6	6	6	6	180	147	174	1,200	1,005	1,140	387	315	378
Males 75+ years															
All Ethnicities	4,599	3,471	4,629	5,997	4,896	5,949	8,193	7,086	8,199	9,903	8,730	9,891	9,468	8,262	9,465
Total NZ Māori	84	42	75	99	51	81	147	108	150	189	144	195	204	171	207
Total Pacific	12	6	6	36	15	27	36	21	27	93	66	90	111	75	96
Total Asian	.	.	.	12	9	9	30	15	21	60	42	57	84	63	84
nonMPA	4,503	3,426	4,548	5,850	4,821	5,835	7,926	6,894	7,944	9,030	8,037	9,066	8,850	7,782	8,889
Missing	.	.	.	.	.	.	60	51	54	492	423	468	180	144	165
Males 75-84 years															
All Ethnicities	3,954	3,054	4,041	5,235	4,323	5,232	6,975	6,099	7,032	8,304	7,350	8,340	7,875	6,879	7,917
Total NZ Māori	78	39	72	93	48	81	129	99	132	171	135	180	180	153	183
Total Pacific	12	6	6	33	15	27	33	18	27	87	60	87	102	66	87
Total Asian	.	.	.	6	6	6	24	12	18	51	33	45	69	54	75
nonMPA	3,870	3,015	3,966	5,100	4,254	5,121	6,735	5,922	6,801	7,539	6,735	7,605	7,320	6,444	7,389
Missing	.	.	.	.	.	.	54	45	48	429	369	405	168	135	153
Males 85+ years															
All Ethnicities	645	417	588	765	573	720	1,218	990	1,164	1,596	1,383	1,551	1,593	1,380	1,548
Total NZ Māori	12	6	6	6	6	6	18	12	15	21	12	15	24	18	24
Total Pacific	.	.	.	6	.	.	6	6	6	9	6	6	12	9	9
Total Asian	.	.	.	6	6	6	6	6	6	12	6	6	12	9	6
nonMPA	633	411	582	750	570	714	1,191	972	1,143	1,491	1,302	1,461	1,533	1,341	1,503
Missing	.	.	.	.	.	.	6	6	6	60	54	60	12	12	9

Table 119 Linkage details by cohort and age groups for females

Total Ethnicity on Cancer Reg	1981-86			1986-91			1991-96			1996-01			2001-04		
	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer
Females All Ages															
All Ethnicities	27,807	20,364	27,804	35,349	26,823	35,349	41,007	32,037	41,007	51,369	40,248	51,369	45,090	36,852	45,090
Total NZ Māori	1,488	1,032	1,485	2,286	1,686	2,271	2,940	2,322	2,958	4,386	3,423	4,389	3,822	3,126	3,822
Total Pacific	330	249	324	615	453	615	756	564	738	1,164	918	1,158	1,191	972	1,185
Total Asian	12	6	9	105	57	87	312	210	306	951	693	948	1,332	993	1,323
nonMPA	26,013	19,107	26,034	32,385	24,657	32,415	36,558	28,635	36,600	41,295	32,541	41,580	37,458	30,819	37,644

Total Ethnicity on Cancer Reg	1981-86			1986-91			1991-96			1996-01			2001-04		
	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer
Missing	6	6	6	9	6	9	507	360	474	3,114	2,424	2,985	1,299	993	1,203
<i>Females 0-14 years</i>															
All Ethnicities	294	216	363	348	225	405	351	231	426	408	285	474	282	198	315
Total NZ Māori	42	33	42	42	36	51	57	39	54	81	69	90	45	36	45
Total Pacific	15	18	18	30	24	33	27	21	27	45	30	39	24	18	21
Total Asian	6	.	.	6	6	9	12	9	12	18	12	15	24	15	18
nonMPA	231	171	303	273	159	315	249	162	333	261	171	315	207	144	249
Missing	.	.	.	.	.	.	9	6	6	15	12	18	6	6	6
<i>Females 0-24 years</i>															
All Ethnicities	1,548	927	1,548	2,448	1,335	2,451	3,072	1,701	3,072	4,260	2,499	4,257	3,321	2,169	3,318
Total NZ Māori	165	132	168	264	192	267	387	285	384	663	486	663	516	396	519
Total Pacific	51	48	51	66	51	63	102	78	102	114	90	114	93	75	93
Total Asian	6	.	.	12	9	18	24	18	24	78	57	81	93	72	96
nonMPA	1,338	756	1,338	2,112	1,089	2,109	2,538	1,317	2,550	3,267	1,803	3,264	2,631	1,668	2,655
Missing	.	.	.	.	.	.	24	6	15	138	81	141	63	33	57
<i>Females 15-24 years</i>															
All Ethnicities	1,254	708	1,185	2,103	1,110	2,049	2,721	1,473	2,643	3,852	2,214	3,786	3,039	1,971	3,003
Total NZ Māori	123	99	126	219	156	219	327	246	330	582	417	576	474	363	474
Total Pacific	33	33	33	36	24	30	72	57	75	72	60	78	72	57	72
Total Asian	.	.	.	9	6	9	12	6	12	60	45	66	72	54	78
nonMPA	1,101	588	1,035	1,839	927	1,797	2,289	1,155	2,217	3,009	1,635	2,952	2,424	1,524	2,406
Missing	.	.	.	.	.	.	18	6	12	126	69	123	63	33	57
<i>Females 25-44 years</i>															
All Ethnicities	5,928	4,071	5,907	8,529	5,943	8,502	8,856	6,225	8,853	11,904	8,403	11,904	10,155	7,794	10,140
Total NZ Māori	516	372	507	882	684	888	1,101	900	1,104	1,638	1,299	1,623	1,284	1,059	1,287
Total Pacific	132	108	135	249	201	252	261	210	261	399	333	399	360	312	363
Total Asian	6	6	6	30	15	24	117	78	117	396	291	396	534	393	534
nonMPA	5,295	3,600	5,286	7,377	5,049	7,347	7,278	4,977	7,287	8,799	6,063	8,901	7,857	5,973	7,869
Missing	6	6	6	6	6	6	117	72	111	606	408	570	201	135	174
<i>Females 25-74 years</i>															
All Ethnicities	21,531	15,882	21,531	26,943	20,565	26,919	30,045	23,448	30,015	37,911	29,604	37,911	32,979	27,045	33,000
Total NZ Māori	1,272	882	1,287	1,947	1,449	1,941	2,424	1,950	2,442	3,552	2,796	3,549	3,123	2,589	3,132
Total Pacific	264	195	261	525	390	525	627	468	612	978	780	975	996	828	1,008
Total Asian	12	6	9	81	45	66	267	177	261	795	579	795	1,173	876	1,161
nonMPA	20,019	14,823	20,007	24,426	18,705	24,417	26,364	20,601	26,367	29,574	23,199	29,832	26,574	21,927	26,721
Missing	6	6	6	9	6	9	420	300	402	2,574	1,986	2,448	1,071	822	987
<i>Females 45-64 years</i>															
All Ethnicities	9,582	7,143	9,564	11,220	8,616	11,154	12,753	9,963	12,690	16,230	12,702	16,179	14,874	12,420	14,907
Total NZ Māori	588	426	633	819	594	813	1,032	834	1,053	1,458	1,143	1,458	1,368	1,140	1,383
Total Pacific	111	69	105	213	147	210	276	198	264	429	345	426	447	366	444
Total Asian	6	6	6	36	24	33	111	72	111	303	219	300	501	384	501
nonMPA	8,895	6,657	8,838	10,176	7,869	10,125	11,145	8,724	11,079	12,345	9,696	12,393	11,829	9,966	11,928
Missing	6	6	6	6	6	6	216	165	216	1,410	1,104	1,350	651	513	606
<i>Females 65-74 years</i>															
All Ethnicities	6,021	4,668	6,060	7,194	6,006	7,260	8,436	7,260	8,472	9,780	8,502	9,828	7,950	6,828	7,956
Total NZ Māori	168	84	147	243	168	243	288	213	285	456	357	468	471	390	462

Total Ethnicity on Cancer Reg	1981-86			1986-91			1991-96			1996-01			2001-04		
	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer	Eligible to link i.e. number with cancer	Number actual links	Weighted number with cancer
Total Pacific	24	15	24	66	42	69	90	57	84	150	105	153	189	150	198
Total Asian	6	.	.	15	6	9	39	24	33	99	69	99	138	99	132
nonMPA	5,829	4,566	5,889	6,873	5,787	6,945	7,941	6,900	8,004	8,433	7,440	8,535	6,885	5,988	6,921
Missing	6	.	.	6	6	6	87	69	75	561	474	525	216	177	207
<i>Females 75+ years</i>															
All Ethnicities	4,728	3,552	4,728	5,958	4,923	5,979	7,890	6,885	7,920	9,195	8,145	9,201	8,790	7,635	8,769
Total NZ Māori	51	18	30	78	42	63	129	90	132	171	141	174	180	141	171
Total Pacific	15	6	9	24	12	24	27	15	24	69	51	66	99	69	84
Total Asian	.	.	.	6	6	6	21	15	24	78	54	69	66	48	63
nonMPA	4,662	3,528	4,689	5,847	4,863	5,892	7,659	6,720	7,683	8,454	7,539	8,484	8,256	7,224	8,271
Missing	.	.	.	6	6	6	63	51	57	399	357	396	162	135	159
<i>Females 75-84 years</i>															
All Ethnicities	3,807	2,958	3,903	4,749	4,002	4,836	6,192	5,466	6,282	7,179	6,408	7,230	6,588	5,742	6,594
Total NZ Māori	48	15	30	69	39	57	117	84	126	156	126	159	159	123	147
Total Pacific	12	6	9	21	12	21	24	12	21	60	42	60	90	63	78
Total Asian	.	.	.	6	6	6	21	15	24	66	45	63	54	42	54
nonMPA	3,747	2,934	3,867	4,653	3,951	4,758	5,982	5,310	6,063	6,555	5,895	6,624	6,129	5,388	6,165
Missing	.	.	.	.	.	.	54	45	54	324	297	330	138	111	132
<i>Females 85+ years</i>															
All Ethnicities	921	594	825	1,206	921	1,143	1,698	1,419	1,638	2,019	1,740	1,971	2,199	1,896	2,175
Total NZ Māori	6	6	6	9	6	6	12	6	6	18	15	15	21	21	27
Total Pacific	6	6	6	6	6	6	6	6	6	12	6	9	12	9	9
Total Asian	.	.	.	6	6	6	.	.	.	12	9	9	12	9	6
nonMPA	915	594	822	1,194	912	1,131	1,674	1,410	1,623	1,899	1,644	1,863	2,127	1,836	2,103
Missing	.	.	.	6	6	6	9	6	6	72	60	66	24	24	27

Appendix 7. Imputation Method Comparison Tables

Table 120 Imputation comparisons for Lung Cancer, Males, Income, NZ Maori 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1981-86</i>			
<i>Income</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	141	.	94,055	205 (161 - 248)	1.49 (0.96 - 2.32)	67 (-1.3 - 136)
	Est. Imputed Only	48	25.4	63,433	159 (-22.3% diff)	0.97 (-34.6% diff)	-4.1 (-106.2% diff)
	Imputation 1	186	24.2	157,427	184 (148 - 219)	1.29 (0.90 - 1.86)	42 (-15 - 98)
	Imputation 2	192	26.6	157,625	187 (152 - 223)	1.27 (0.89 - 1.81)	40 (-18 - 97)
	Imputation 3	189	25.4	157,411	188 (153 - 224)	1.30 (0.91 - 1.87)	44 (-13 - 100)
	Imputation Summary	189	25.4	157,487	186 (151 - 222)	1.29 (0.90 - 1.85)	42 (-15 - 99)
	FWI Analysis	189	25.4	157,487	186 (147 - 226)	1.29 (0.85 - 1.95)	42 (-23 - 106)
Medium Income	Complete Income and Eth.	51	.	72,864	132 (82 - 182)	0.96 (0.56 - 1.65)	-5.1 (-78 - 68)
	Est. Imputed Only	39	43.3	44,029	162 (22.9% diff)	1.00 (3.7% diff)	-0.8 (-84.3% diff)
	Imputation 1	96	46.9	116,965	150 (107 - 192)	1.06 (0.69 - 1.61)	8.0 (-54 - 69)
	Imputation 2	87	41.4	116,838	140 (98 - 182)	0.95 (0.62 - 1.45)	-7.9 (-70 - 54)
	Imputation 3	90	43.3	116,874	141 (100 - 183)	0.98 (0.64 - 1.49)	-3.1 (-64 - 57)
	Imputation Summary	90	43.3	116,892	144 (100 - 187)	1.00 (0.64 - 1.55)	-1.0 (-65 - 63)
	FWI Analysis	90	43.3	116,892	144 (95 - 192)	0.99 (0.61 - 1.62)	-1.1 (-72 - 70)
High Income	Complete Income and Eth.	45	.	47,303	137 (84 - 190)	1	0
	Est. Imputed Only	24	34.8	18,853	163 (18.9% diff)	1	0
	Imputation 1	69	34.8	66,145	142 (98 - 186)	1	0
	Imputation 2	69	34.8	66,073	148 (103 - 193)	1	0
	Imputation 3	69	34.8	66,251	144 (100 - 188)	1	0
	Imputation Summary	69	34.8	66,156	145 (100 - 190)	1	0
	FWI Analysis	69	34.8	66,156	145 (93 - 196)	1	0

Table 121 Imputation comparisons for Lung Cancer, Males, Income, NZ Maori 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Income</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	144	.	115,291	177 (141 - 212)	1.62 (1.02 - 2.57)	67 (9.8 - 125)
	Est. Imputed Only	33	18.6	51,945	136 (-23.2% diff)	0.65 (-59.7% diff)	-72 (-206.7% diff)
	Imputation 1	177	18.6	167,433	165 (134 - 195)	1.21 (0.81 - 1.82)	29 (-29 - 87)
	Imputation 2	177	18.6	167,054	164 (133 - 194)	1.32 (0.88 - 1.98)	39 (-15 - 94)
	Imputation 3	177	18.6	167,222	163 (133 - 193)	1.28 (0.85 - 1.95)	36 (-20 - 92)
	Imputation Summary	177	18.6	167,236	164 (133 - 195)	1.27 (0.83 - 1.94)	35 (-23 - 92)
	FWI Analysis	177	18.6	167,256	164 (131 - 197)	1.27 (0.79 - 2.05)	35 (-31 - 100)
Medium Income	Complete Income and Eth.	93	.	96,278	165 (119 - 211)	1.51 (0.91 - 2.49)	56 (-9.1 - 120)
	Est. Imputed Only	39	29.5	42,469	169 (2.4% diff)	0.81 (-46.2% diff)	-39 (-170.3% diff)
	Imputation 1	129	27.9	138,607	161 (122 - 201)	1.19 (0.77 - 1.84)	26 (-37 - 89)
	Imputation 2	132	29.5	138,791	168 (128 - 207)	1.35 (0.87 - 2.07)	43 (-17 - 103)
	Imputation 3	135	31.1	138,844	168 (128 - 209)	1.33 (0.85 - 2.07)	42 (-21 - 104)
	Imputation Summary	132	29.5	138,747	166 (125 - 207)	1.29 (0.81 - 2.05)	37 (-29 - 102)
	FWI Analysis	129	27.9	138,744	166 (122 - 210)	1.28 (0.77 - 2.14)	37 (-35 - 108)
High Income	Complete Income and Eth.	36	.	48,366	109 (64 - 154)	1	0
	Est. Imputed Only	15	29.4	12,259	208 (90.2% diff)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation 1	54	33.3	60,569	136 (87 - 185)	1	0
	Imputation 2	54	33.3	60,764	125 (80 - 170)	1	0
	Imputation 3	48	25.0	60,543	127 (80 - 174)	1	0
	Imputation Summary	51	29.4	60,625	129 (80 - 178)	1	0
	FWI Analysis	54	33.3	60,609	129 (73 - 185)	1	0

Table 122 Imputation comparisons for Lung Cancer, Males, Income, NZ Maori 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Income</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	192	.	153,464	184 (151 - 217)	1.46 (0.94 - 2.26)	58 (-2.3 - 118)
	Est. Imputed Only	36	15.8	42,666	176 (-4.2% diff)	0.82 (-43.8% diff)	-39 (-166.6% diff)
	Imputation 1	231	16.9	195,924	184 (153 - 216)	1.35 (0.93 - 1.97)	48 (-8.0 - 103)
	Imputation 2	225	14.7	196,126	180 (149 - 210)	1.17 (0.82 - 1.69)	26 (-32 - 84)
	Imputation 3	231	16.9	196,337	184 (153 - 215)	1.21 (0.84 - 1.73)	32 (-26 - 89)
	Imputation Summary	228	15.8	196,129	183 (151 - 214)	1.24 (0.83 - 1.86)	35 (-27 - 98)
	FWI Analysis	228	15.8	196,135	183 (148 - 217)	1.24 (0.80 - 1.93)	35 (-33 - 103)
Medium Income	Complete Income and Eth.	126	.	94,253	170 (134 - 205)	1.34 (0.86 - 2.11)	43 (-18 - 105)
	Est. Imputed Only	33	20.8	38,709	174 (2.4% diff)	0.81 (-39.7% diff)	-41 (-195.1% diff)
	Imputation 1	162	22.2	133,163	172 (140 - 203)	1.26 (0.85 - 1.84)	35 (-21 - 91)
	Imputation 2	162	22.2	132,981	173 (141 - 205)	1.13 (0.78 - 1.64)	20 (-39 - 79)
	Imputation 3	156	19.2	132,742	168 (136 - 199)	1.10 (0.76 - 1.60)	16 (-42 - 74)
	Imputation Summary	159	20.8	132,962	171 (138 - 203)	1.16 (0.77 - 1.75)	24 (-38 - 85)
	FWI Analysis	162	22.2	132,954	171 (134 - 207)	1.16 (0.74 - 1.82)	24 (-46 - 93)
High Income	Complete Income and Eth.	36	.	54,659	126 (76 - 177)	1	0
	Est. Imputed Only	15	29.4	17,039	215 (70.4% diff)	1	0
	Imputation 1	48	25.0	71,702	137 (91 - 183)	1	0
	Imputation 2	54	33.3	71,682	153 (104 - 202)	1	0
	Imputation 3	54	33.3	71,710	152 (103 - 200)	1	0
	Imputation Summary	51	29.4	71,698	147 (95 - 200)	1	0
	FWI Analysis	51	29.4	71,673	147 (89 - 206)	1	0

Table 123 Imputation comparisons for Lung Cancer, Males, Income, NZ Maori 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Income</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	228	.	164,380	203 (167 - 240)	3.32 (2.14 - 5.13)	142 (98 - 186)
	Est. Imputed Only	60	20.8	55,807	189 (-7.2% diff)	1.66 (-50.0% diff)	75 (-47.1% diff)
	Imputation 1	291	21.6	220,214	201 (170 - 232)	2.21 (1.59 - 3.07)	110 (69 - 151)
	Imputation 2	282	19.1	220,301	196 (165 - 227)	2.55 (1.79 - 3.64)	119 (80 - 158)
	Imputation 3	288	20.8	220,046	202 (170 - 233)	2.84 (1.98 - 4.07)	131 (92 - 170)
	Imputation Summary	288	20.8	220,187	200 (168 - 232)	2.52 (1.61 - 3.96)	120 (74 - 166)
	FWI Analysis	288	20.8	220,187	200 (169 - 231)	2.51 (1.74 - 3.62)	120 (79 - 161)
Medium Income	Complete Income and Eth.	135	.	112,828	158 (127 - 190)	2.58 (1.66 - 4.03)	97 (57 - 137)
	Est. Imputed Only	51	27.4	57,012	154 (-3.0% diff)	1.35 (-47.6% diff)	40 (-58.8% diff)
	Imputation 1	174	22.4	169,866	147 (121 - 172)	1.61 (1.14 - 2.26)	56 (18 - 93)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
High Income	Imputation 2	192	29.7	169,504	164 (137 - 192)	2.14 (1.49 - 3.07)	88 (51 - 124)
	Imputation 3	189	28.6	170,151	159 (133 - 186)	2.24 (1.56 - 3.23)	88 (53 - 124)
	Imputation Summary	186	27.4	169,840	157 (123 - 190)	1.98 (1.15 - 3.39)	77 (21 - 133)
	FWI Analysis	186	27.4	169,839	157 (129 - 184)	1.97 (1.35 - 2.87)	77 (39 - 116)
	Complete Income and Eth.	33	.	79,906	61.3 (36.9 - 85.6)	1	0
	Est. Imputed Only	24	42.1	43,034	114 (85.3% diff)	1	0
	Imputation 1	66	50.0	122,888	91.1 (64.4 - 118)	1	0
	Imputation 2	54	38.9	123,162	76.7 (52.2 - 101)	1	0
	Imputation 3	51	35.3	122,770	71.0 (48.0 - 94.1)	1	0
	Imputation Summary	57	42.1	122,940	79.6 (45.5 - 114)	1	0
FWI Analysis	57	42.1	122,942	79.5 (53.1 - 106)	1	0	

Table 124 Imputation comparisons for Lung Cancer, Males, Income, NZ Maori 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Males 25+ years 2001-04</i>							
<i>Income By: Total NZ Māori Age Standardised</i>							
Low Income	Complete Income and Eth.	171	.	113,022	180 (147 - 213)	2.01 (1.30 - 3.10)	90 (42 - 139)
	Est. Imputed Only	33	16.2	47,741	137 (-24.0% diff)	1.34 (-33.6% diff)	34 (-61.9% diff)
	Imputation 1	204	16.2	160,816	167 (140 - 194)	1.88 (1.35 - 2.61)	78 (41 - 115)
	Imputation 2	204	16.2	160,578	169 (141 - 197)	1.74 (1.25 - 2.42)	72 (32 - 111)
	Imputation 3	201	14.9	160,895	166 (138 - 193)	1.72 (1.23 - 2.41)	69 (30 - 109)
	Imputation Summary	204	16.2	160,763	167 (139 - 195)	1.78 (1.25 - 2.52)	73 (33 - 113)
	FWI Analysis	204	16.2	160,755	167 (143 - 191)	1.78 (1.23 - 2.56)	73 (33 - 113)
Medium Income	Complete Income and Eth.	102	.	74,982	171 (133 - 209)	1.91 (1.21 - 3.00)	81 (29 - 133)
	Est. Imputed Only	33	24.4	48,237	132 (-22.9% diff)	1.29 (-32.6% diff)	29 (-63.8% diff)
	Imputation 1	135	24.4	123,204	159 (128 - 190)	1.79 (1.27 - 2.53)	70 (30 - 110)
	Imputation 2	132	22.7	123,312	151 (122 - 181)	1.56 (1.10 - 2.20)	54 (13 - 95)
	Imputation 3	138	26.1	123,142	157 (127 - 187)	1.63 (1.15 - 2.31)	61 (19 - 102)
	Imputation Summary	135	24.4	123,219	156 (124 - 187)	1.66 (1.13 - 2.43)	62 (17 - 106)
	FWI Analysis	135	24.4	123,215	156 (127 - 185)	1.65 (1.13 - 2.43)	62 (19 - 105)
High Income	Complete Income and Eth.	36	.	68,062	89.6 (54.2 - 125)	1	0
	Est. Imputed Only	30	45.5	36,801	102 (14.3% diff)	1	0
	Imputation 1	66	45.5	104,825	88.7 (63.3 - 114)	1	0
	Imputation 2	69	47.8	104,955	97.3 (69.3 - 125)	1	0
	Imputation 3	66	45.5	104,809	96.3 (68.2 - 124)	1	0
	Imputation Summary	66	45.5	104,863	94.1 (64.9 - 123)	1	0
	FWI Analysis	66	45.5	104,859	94.1 (62.5 - 126)	1	0

Table 125 Imputation comparisons for Lung Cancer, Males, Income, European 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Males 25+ years 1981-86</i>							
<i>Income By: European/Other Age Standardised</i>							
Low Income	Complete Income and Eth.	1413	.	776,216	112 (105 - 120)	1.35 (1.22 - 1.49)	29 (19 - 39)
	Est. Imputed Only	288	16.9	276,793	113 (0.3% diff)	1.47 (8.8% diff)	36 (24.4% diff)
	Imputation 1	1692	16.5	1,052,672	112 (106 - 119)	1.37 (1.25 - 1.49)	30 (22 - 39)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation 2	1704	17.1	1,053,118	113 (106 - 119)	1.36 (1.25 - 1.49)	30 (22 - 39)
	Imputation 3	1704	17.1	1,053,237	113 (106 - 119)	1.37 (1.25 - 1.49)	30 (22 - 39)
	Imputation Summary	1701	16.9	1,053,009	113 (106 - 119)	1.37 (1.25 - 1.49)	30 (22 - 39)
	FWI Analysis	1701	16.9	1,054,804	112 (107 - 118)	1.37 (1.26 - 1.48)	30 (22 - 38)
Medium Income	Complete Income and Eth.	876	.	981,098	89.8 (82.7 - 96.9)	1.07 (0.96 - 1.20)	6.2 (-3.5 - 16)
	Est. Imputed Only	348	28.4	343,349	90.2 (0.4% diff)	1.17 (9.7% diff)	13 (115.6% diff)
	Imputation 1	1236	29.1	1,324,349	90.7 (84.8 - 96.7)	1.11 (1.01 - 1.21)	8.6 (0.5 - 17)
	Imputation 2	1212	27.7	1,324,174	89.4 (83.5 - 95.4)	1.08 (0.99 - 1.19)	6.9 (-1.3 - 15)
	Imputation 3	1221	28.3	1,324,818	89.5 (83.5 - 95.4)	1.09 (0.99 - 1.19)	7.1 (-1.0 - 15)
	Imputation Summary	1224	28.4	1,324,447	89.9 (83.7 - 96.0)	1.09 (0.99 - 1.21)	7.5 (-0.9 - 16)
	FWI Analysis	1224	28.4	1,326,093	89.9 (84.0 - 95.7)	1.09 (1.00 - 1.20)	7.5 (-0.4 - 15)
High Income	Complete Income and Eth.	1002	.	1,086,578	83.6 (77.1 - 90.1)	1	0
	Est. Imputed Only	267	21.0	233,548	76.8 (-8.1% diff)	1	0
	Imputation 1	1263	20.7	1,320,399	82.1 (76.6 - 87.7)	1	0
	Imputation 2	1275	21.4	1,320,344	82.6 (77.0 - 88.1)	1	0
	Imputation 3	1266	20.9	1,319,635	82.4 (76.8 - 87.9)	1	0
	Imputation Summary	1269	21.0	1,320,126	82.4 (76.8 - 87.9)	1	0
	FWI Analysis	1269	21.0	1,321,264	82.4 (77.1 - 87.6)	1	0

Table 126 Imputation comparisons for Lung Cancer, Males, Income, European 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	1461	.	951,157	100 (94 - 106)	1.51 (1.37 - 1.67)	34 (26 - 42)
	Est. Imputed Only	108	6.9	221,905	99.0 (-1.1% diff)	1.39 (-8.2% diff)	28 (-18.8% diff)
	Imputation 1	1563	6.5	1,172,843	99.2 (93.5 - 105)	1.49 (1.36 - 1.63)	33 (25 - 40)
	Imputation 2	1578	7.4	1,173,028	101 (95 - 106)	1.51 (1.38 - 1.66)	34 (27 - 42)
	Imputation 3	1563	6.5	1,173,316	99.7 (94.0 - 105)	1.49 (1.36 - 1.63)	33 (25 - 40)
	Imputation Summary	1569	6.9	1,173,062	99.9 (93.9 - 106)	1.50 (1.36 - 1.64)	33 (26 - 41)
	FWI Analysis	1566	6.7	1,177,822	99.6 (94.2 - 105)	1.49 (1.36 - 1.64)	33 (26 - 40)
Medium Income	Complete Income and Eth.	1248	.	1,163,441	88.1 (82.6 - 93.6)	1.33 (1.21 - 1.47)	22 (15 - 30)
	Est. Imputed Only	213	14.6	288,855	94.1 (6.8% diff)	1.32 (-0.9% diff)	23 (3.1% diff)
	Imputation 1	1470	15.1	1,453,075	89.9 (84.7 - 95.1)	1.35 (1.23 - 1.48)	23 (16 - 30)
	Imputation 2	1455	14.2	1,452,279	88.7 (83.6 - 93.9)	1.33 (1.22 - 1.46)	22 (15 - 29)
	Imputation 3	1461	14.6	1,451,533	89.4 (84.2 - 94.5)	1.34 (1.22 - 1.46)	22 (15 - 30)
	Imputation Summary	1461	14.6	1,452,296	89.3 (84.0 - 94.7)	1.34 (1.22 - 1.47)	23 (16 - 30)
	FWI Analysis	1461	14.6	1,454,111	89.4 (84.2 - 94.6)	1.34 (1.22 - 1.47)	23 (16 - 30)
High Income	Complete Income and Eth.	834	.	1,082,417	66.1 (60.9 - 71.3)	1	0
	Est. Imputed Only	150	15.2	136,922	71.4 (8.1% diff)	1	0
	Imputation 1	981	15.0	1,218,912	66.5 (61.7 - 71.3)	1	0
	Imputation 2	984	15.2	1,219,278	66.6 (61.8 - 71.4)	1	0
	Imputation 3	987	15.5	1,219,824	66.9 (62.1 - 71.7)	1	0
	Imputation Summary	984	15.2	1,219,338	66.7 (61.8 - 71.5)	1	0
	FWI Analysis	984	15.2	1,219,964	66.7 (61.7 - 71.6)	1	0

Table 127 Imputation comparisons for Lung Cancer, Males, Income, European 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	900	.	830,339	96.4 (89.2 - 104)	1.53 (1.37 - 1.70)	33 (25 - 42)
	Est. Imputed Only	60	6.3	176,733	89.0 (-7.7% diff)	1.54 (0.7% diff)	31 (-6.6% diff)
	Imputation 1	960	6.3	1,007,038	95.2 (88.3 - 102)	1.54 (1.39 - 1.70)	33 (25 - 41)
	Imputation 2	963	6.5	1,007,053	95.4 (88.5 - 102)	1.54 (1.39 - 1.70)	33 (25 - 42)
	Imputation 3	960	6.3	1,007,127	94.8 (87.9 - 102)	1.52 (1.38 - 1.69)	33 (25 - 41)
	Imputation Summary	960	6.3	1,007,073	95.1 (88.2 - 102)	1.53 (1.38 - 1.70)	33 (25 - 41)
	FWI Analysis	963	6.5	1,011,088	95.0 (88.3 - 102)	1.53 (1.38 - 1.70)	33 (25 - 41)
Medium Income	Complete Income and Eth.	1959	.	1,213,529	87.8 (83.0 - 92.6)	1.39 (1.27 - 1.53)	25 (18 - 32)
	Est. Imputed Only	120	5.8	310,082	79.0 (-10.1% diff)	1.37 (-1.7% diff)	21 (-14.6% diff)
	Imputation 1	2079	5.8	1,523,357	86.1 (81.7 - 90.4)	1.39 (1.27 - 1.51)	24 (18 - 30)
	Imputation 2	2079	5.8	1,523,741	86.0 (81.7 - 90.4)	1.39 (1.27 - 1.51)	24 (18 - 30)
	Imputation 3	2079	5.8	1,523,737	85.8 (81.4 - 90.1)	1.38 (1.27 - 1.50)	24 (18 - 30)
	Imputation Summary	2079	5.8	1,523,612	86.0 (81.6 - 90.3)	1.39 (1.27 - 1.51)	24 (18 - 30)
	FWI Analysis	2079	5.8	1,525,850	85.9 (81.8 - 90.0)	1.38 (1.27 - 1.51)	24 (18 - 30)
High Income	Complete Income and Eth.	807	.	1,188,933	63.0 (58.1 - 67.9)	1	0
	Est. Imputed Only	171	17.5	247,864	57.8 (-8.3% diff)	1	0
	Imputation 1	978	17.5	1,436,897	62.0 (57.7 - 66.4)	1	0
	Imputation 2	978	17.5	1,436,931	62.0 (57.7 - 66.4)	1	0
	Imputation 3	978	17.5	1,436,565	62.2 (57.8 - 66.5)	1	0
	Imputation Summary	978	17.5	1,436,798	62.1 (57.7 - 66.4)	1	0
	FWI Analysis	978	17.5	1,437,887	62.0 (57.3 - 66.7)	1	0

Table 128 Imputation comparisons for Lung Cancer, Males, Income, European 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	1185	.	876,895	86.6 (81.0 - 92.1)	1.75 (1.57 - 1.95)	37 (30 - 44)
	Est. Imputed Only	108	8.4	180,063	86.6 (0.0% diff)	1.56 (-10.7% diff)	31 (-15.7% diff)
	Imputation 1	1296	8.6	1,056,580	86.7 (81.4 - 92.0)	1.69 (1.54 - 1.86)	35 (29 - 42)
	Imputation 2	1287	7.9	1,057,143	86.4 (81.1 - 91.7)	1.70 (1.54 - 1.87)	36 (29 - 42)
	Imputation 3	1293	8.4	1,057,150	86.7 (81.4 - 92.0)	1.70 (1.54 - 1.87)	36 (29 - 42)
	Imputation Summary	1293	8.4	1,056,958	86.6 (81.3 - 91.9)	1.70 (1.54 - 1.87)	36 (29 - 42)
	FWI Analysis	1296	8.6	1,060,567	86.7 (82.2 - 91.1)	1.70 (1.55 - 1.85)	36 (30 - 41)
Medium Income	Complete Income and Eth.	1392	.	1,041,753	76.5 (71.5 - 81.4)	1.54 (1.39 - 1.72)	27 (20 - 33)
	Est. Imputed Only	168	10.8	350,389	71.3 (-6.8% diff)	1.29 (-16.4% diff)	16 (-40.9% diff)
	Imputation 1	1554	10.4	1,392,720	75.0 (70.6 - 79.4)	1.46 (1.33 - 1.61)	24 (18 - 30)
	Imputation 2	1566	11.1	1,391,937	75.6 (71.2 - 80.0)	1.48 (1.35 - 1.63)	25 (19 - 30)
	Imputation 3	1560	10.8	1,391,769	75.1 (70.8 - 79.5)	1.47 (1.34 - 1.62)	24 (18 - 30)
	Imputation Summary	1560	10.8	1,392,142	75.2 (70.8 - 79.7)	1.47 (1.34 - 1.62)	24 (18 - 30)
	FWI Analysis	1563	10.9	1,394,849	75.3 (71.6 - 78.9)	1.47 (1.35 - 1.61)	24 (19 - 29)
High Income	Complete Income and Eth.	627	.	1,169,047	49.5 (45.3 - 53.8)	1	0
	Est. Imputed Only	222	26.1	432,247	55.4 (12.0% diff)	1	0
	Imputation 1	852	26.4	1,601,263	51.3 (47.5 - 55.1)	1	0
	Imputation 2	849	26.1	1,601,294	50.9 (47.2 - 54.7)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation 3	849	26.1	1,601,322	51.0 (47.2 - 54.8)	1	0
	Imputation Summary	849	26.1	1,601,293	51.1 (47.3 - 54.9)	1	0
	FWI Analysis	849	26.1	1,603,605	51.1 (47.4 - 54.8)	1	0

Table 129 Imputation comparisons for Lung Cancer, Males, Income, European 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Males 25+ years 2001-04</i>							
<i>Income By: European/Other Age Standardised</i>							
Low Income	Complete Income and Eth.	954	.	617,818	87.2 (80.8 - 93.6)	1.91 (1.69 - 2.16)	42 (34 - 49)
	Est. Imputed Only	123	11.4	152,687	85.2 (-2.3% diff)	1.59 (-16.8% diff)	32 (-24.1% diff)
	Imputation 1	1080	11.7	770,569	87.1 (81.2 - 93.0)	1.82 (1.64 - 2.02)	39 (32 - 46)
	Imputation 2	1074	11.2	770,793	86.5 (80.6 - 92.4)	1.83 (1.65 - 2.03)	39 (32 - 46)
	Imputation 3	1077	11.4	770,152	86.9 (80.9 - 92.8)	1.82 (1.64 - 2.02)	39 (32 - 46)
	Imputation Summary	1077	11.4	770,505	86.8 (80.9 - 92.8)	1.82 (1.64 - 2.03)	39 (32 - 46)
	FWI Analysis	1083	11.9	774,356	86.9 (81.8 - 92.0)	1.82 (1.65 - 2.01)	39 (33 - 46)
Medium Income	Complete Income and Eth.	915	.	697,487	64.9 (59.9 - 69.9)	1.42 (1.26 - 1.61)	19 (13 - 26)
	Est. Imputed Only	153	14.3	279,130	67.3 (3.8% diff)	1.26 (-11.5% diff)	14 (-28.4% diff)
	Imputation 1	1062	13.8	976,070	65.5 (61.0 - 70.0)	1.37 (1.23 - 1.52)	18 (12 - 24)
	Imputation 2	1077	15.0	976,690	66.2 (61.7 - 70.7)	1.40 (1.26 - 1.55)	19 (13 - 25)
	Imputation 3	1062	13.8	977,092	65.0 (60.5 - 69.4)	1.36 (1.22 - 1.51)	17 (11 - 23)
	Imputation Summary	1068	14.3	976,617	65.6 (60.9 - 70.3)	1.38 (1.23 - 1.54)	18 (12 - 24)
	FWI Analysis	1068	14.3	979,261	65.5 (61.5 - 69.4)	1.37 (1.24 - 1.52)	18 (12 - 23)
High Income	Complete Income and Eth.	504	.	1,018,362	45.7 (41.3 - 50.1)	1	0
	Est. Imputed Only	228	31.1	345,042	53.6 (17.3% diff)	1	0
	Imputation 1	735	31.4	1,363,815	47.9 (44.1 - 51.7)	1	0
	Imputation 2	726	30.6	1,362,917	47.3 (43.5 - 51.0)	1	0
	Imputation 3	738	31.7	1,363,480	47.8 (44.0 - 51.6)	1	0
	Imputation Summary	732	31.1	1,363,404	47.7 (43.8 - 51.5)	1	0
	FWI Analysis	735	31.4	1,366,036	47.7 (43.9 - 51.5)	1	0

Table 130 Imputation comparisons for Lung Cancer, Females, Income, 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1981-86</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	591	.	1,359,360	30.6 (27.6 - 33.7)	1.28 (1.07 - 1.52)	6.7 (2.1 - 11)
	Est. Imputed Only	162	21.5	341,904	43.0 (40.7% diff)	1.95 (52.5% diff)	21 (213.3% diff)
	Imputation 1	759	22.1	1,700,403	33.3 (30.5 - 36.2)	1.39 (1.20 - 1.62)	9.4 (5.3 - 14)
	Imputation 2	741	20.2	1,701,727	32.5 (29.7 - 35.3)	1.39 (1.20 - 1.62)	9.2 (5.2 - 13)
	Imputation 3	759	22.1	1,701,661	33.4 (30.5 - 36.3)	1.43 (1.23 - 1.67)	10 (6.0 - 14)
	Imputation Summary	753	21.5	1,701,264	33.1 (30.0 - 36.1)	1.40 (1.20 - 1.64)	9.6 (5.4 - 14)
	FWI Analysis	753	21.5	1,701,264	33.1 (30.4 - 35.7)	1.41 (1.22 - 1.62)	9.6 (5.7 - 13)
Medium Income	Complete Income and Eth.	273	.	1,105,576	23.5 (20.3 - 26.6)	0.98 (0.80 - 1.19)	-0.5 (-5.2 - 4.2)
	Est. Imputed Only	117	30.0	380,311	30.5 (29.9% diff)	1.38 (41.3% diff)	8.5 (-1796.2% diff)
	Imputation 1	378	27.8	1,486,078	24.5 (21.7 - 27.3)	1.02 (0.86 - 1.21)	0.5 (-3.5 - 4.6)
	Imputation 2	408	33.1	1,485,818	26.3 (23.4 - 29.3)	1.13 (0.96 - 1.33)	3.0 (-1.1 - 7.1)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
High Income	Imputation 3	387	29.5	1,485,764	25.1 (22.2 - 28.0)	1.08 (0.91 - 1.27)	1.8 (-2.2 - 5.8)
	Imputation Summary	390	30.0	1,485,887	25.3 (21.8 - 28.8)	1.08 (0.88 - 1.32)	1.8 (-3.2 - 6.7)
	FWI Analysis	390	30.0	1,485,887	25.3 (22.5 - 28.2)	1.08 (0.91 - 1.27)	1.8 (-2.2 - 5.7)
	Complete Income and Eth.	264	.	937,198	24.0 (20.5 - 27.4)	1	0
	Est. Imputed Only	93	26.1	323,525	22.1 (-8.1% diff)	1	0
	Imputation 1	363	27.3	1,261,393	24.0 (21.1 - 26.9)	1	0
	Imputation 2	354	25.4	1,260,329	23.3 (20.5 - 26.2)	1	0
	Imputation 3	354	25.4	1,260,449	23.3 (20.4 - 26.2)	1	0
	Imputation Summary	357	26.1	1,260,723	23.5 (20.5 - 26.6)	1	0
FWI Analysis	357	26.1	1,260,723	23.5 (20.8 - 26.3)	1	0	
<i>Income</i>	<i>By: All Ethnicities</i>	<i>Age and Ethnicity Standardised</i>					
Low Income	Complete Income and Eth.	591	.	1,359,360	33.2 (29.2 - 37.1)	1.18 (0.90 - 1.54)	5.0 (-2.9 - 13)
	Est. Imputed Only	162	21.5	341,904	46.1 (39.0% diff)	2.03 (71.9% diff)	23 (367.9% diff)
	Imputation 1	759	22.1	1,700,403	36.5 (32.7 - 40.3)	1.30 (1.05 - 1.61)	8.5 (2.0 - 15)
	Imputation 2	741	20.2	1,701,727	35.0 (31.4 - 38.7)	1.36 (1.10 - 1.67)	9.2 (3.2 - 15)
	Imputation 3	762	22.4	1,701,661	35.8 (32.1 - 39.5)	1.35 (1.09 - 1.68)	9.3 (3.1 - 16)
	Imputation Summary	753	21.5	1,701,264	35.8 (31.7 - 39.8)	1.34 (1.07 - 1.66)	9.0 (2.7 - 15)
	FWI Analysis	756	21.8	1,701,264	35.8 (32.3 - 39.3)	1.34 (1.07 - 1.66)	9.0 (2.7 - 15)
Medium Income	Complete Income and Eth.	276	.	1,105,576	27.3 (22.0 - 32.7)	0.97 (0.71 - 1.32)	-0.9 (-9.5 - 7.7)
	Est. Imputed Only	114	29.2	380,311	38.2 (40.1% diff)	1.68 (73.3% diff)	15 (-1821.7% diff)
	Imputation 1	378	27.0	1,486,078	27.9 (23.5 - 32.3)	0.99 (0.78 - 1.27)	-0.2 (-6.9 - 6.6)
	Imputation 2	405	31.9	1,485,818	32.1 (27.0 - 37.3)	1.24 (0.97 - 1.59)	6.3 (-0.7 - 13)
	Imputation 3	387	28.7	1,485,764	30.4 (25.6 - 35.3)	1.15 (0.90 - 1.47)	3.9 (-3.0 - 11)
	Imputation Summary	390	29.2	1,485,887	30.1 (23.3 - 36.9)	1.12 (0.79 - 1.60)	3.3 (-6.8 - 14)
	FWI Analysis	390	29.2	1,485,887	30.2 (25.3 - 35.0)	1.13 (0.87 - 1.45)	3.4 (-3.8 - 11)
High Income	Complete Income and Eth.	264	.	937,198	28.2 (21.5 - 35.0)	1	0
	Est. Imputed Only	93	26.1	323,525	22.7 (-19.3% diff)	1	0
	Imputation 1	366	27.9	1,261,393	28.0 (22.9 - 33.2)	1	0
	Imputation 2	354	25.4	1,260,329	25.9 (21.1 - 30.6)	1	0
	Imputation 3	354	25.4	1,260,449	26.5 (21.5 - 31.5)	1	0
	Imputation Summary	357	26.1	1,260,723	26.8 (21.3 - 32.3)	1	0
	FWI Analysis	357	26.1	1,260,723	26.8 (21.6 - 32.0)	1	0

Table 131 Imputation comparisons for Lung Cancer, Females, Income, 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>	<i>1986-91</i>				
<i>Income</i>	<i>By: All Ethnicities</i>	<i>Age Standardised</i>					
Low Income	Complete Income and Eth.	780	.	1,541,745	39.6 (36.4 - 42.8)	1.48 (1.27 - 1.72)	13 (8.1 - 18)
	Est. Imputed Only	90	10.3	249,641	47.5 (19.9% diff)	1.66 (12.0% diff)	19 (47.1% diff)
	Imputation 1	867	10.0	1,791,372	40.4 (37.4 - 43.5)	1.49 (1.29 - 1.71)	13 (8.8 - 18)
	Imputation 2	879	11.3	1,790,840	41.1 (38.0 - 44.2)	1.51 (1.32 - 1.74)	14 (9.5 - 18)
	Imputation 3	870	10.3	1,791,948	40.6 (37.6 - 43.7)	1.50 (1.31 - 1.73)	14 (9.2 - 18)
	Imputation Summary	870	10.3	1,791,387	40.7 (37.5 - 43.9)	1.50 (1.30 - 1.73)	14 (9.1 - 18)
	FWI Analysis	873	10.7	1,791,408	40.7 (37.8 - 43.7)	1.50 (1.31 - 1.73)	14 (9.2 - 18)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Medium Income	Complete Income and Eth.	627	.	1,433,329	34.2 (31.1 - 37.4)	1.28 (1.09 - 1.50)	7.5 (2.8 - 12)
	Est. Imputed Only	87	12.2	282,294	39.1 (14.2% diff)	1.36 (6.5% diff)	10 (38.7% diff)
	Imputation 1	717	12.6	1,715,699	35.3 (32.4 - 38.3)	1.30 (1.12 - 1.50)	8.1 (3.8 - 13)
	Imputation 2	708	11.4	1,715,877	34.6 (31.7 - 37.5)	1.28 (1.10 - 1.47)	7.5 (3.1 - 12)
	Imputation 3	717	12.6	1,715,294	35.2 (32.2 - 38.1)	1.30 (1.13 - 1.50)	8.1 (3.8 - 13)
	Imputation Summary	714	12.2	1,715,623	35.0 (32.0 - 38.1)	1.29 (1.12 - 1.50)	7.9 (3.5 - 12)
	FWI Analysis	714	12.2	1,715,648	35.1 (32.2 - 38.0)	1.29 (1.12 - 1.50)	8.0 (3.6 - 12)
High Income	Complete Income and Eth.	324	.	981,242	26.8 (23.4 - 30.2)	1	0
	Est. Imputed Only	60	15.6	188,401	28.7 (6.9% diff)	1	0
	Imputation 1	384	15.6	1,169,582	27.2 (24.0 - 30.4)	1	0
	Imputation 2	384	15.6	1,169,936	27.1 (23.9 - 30.3)	1	0
	Imputation 3	384	15.6	1,169,411	27.0 (23.9 - 30.2)	1	0
	Imputation Summary	384	15.6	1,169,643	27.1 (23.9 - 30.3)	1	0
	FWI Analysis	384	15.6	1,169,597	27.1 (23.8 - 30.4)	1	0
<i>Income</i>	<i>By: All Ethnicities</i>			<i>Age and Ethnicity Standardised</i>			
Low Income	Complete Income and Eth.	780	.	1,541,745	44.4 (39.7 - 49.0)	1.32 (1.06 - 1.63)	11 (2.9 - 18)
	Est. Imputed Only	93	10.7	249,641	51.6 (16.2% diff)	0.99 (-25.3% diff)	-0.7 (-107.0% diff)
	Imputation 1	867	10.0	1,791,372	44.9 (40.7 - 49.2)	1.22 (1.00 - 1.49)	8.2 (0.5 - 16)
	Imputation 2	882	11.6	1,790,840	45.9 (41.6 - 50.2)	1.25 (1.02 - 1.52)	9.1 (1.4 - 17)
	Imputation 3	870	10.3	1,791,948	45.3 (41.0 - 49.6)	1.24 (1.01 - 1.51)	8.6 (1.0 - 16)
	Imputation Summary	873	10.7	1,791,387	45.4 (40.9 - 49.8)	1.24 (1.01 - 1.51)	8.6 (0.9 - 16)
	FWI Analysis	873	10.7	1,791,408	45.4 (41.3 - 49.5)	1.24 (1.03 - 1.49)	8.7 (1.4 - 16)
Medium Income	Complete Income and Eth.	627	.	1,433,329	43.7 (38.2 - 49.3)	1.30 (1.04 - 1.62)	10 (1.7 - 18)
	Est. Imputed Only	87	12.2	282,294	46.7 (7.0% diff)	0.89 (-31.3% diff)	-5.6 (-155.9% diff)
	Imputation 1	720	12.9	1,715,699	44.7 (39.7 - 49.7)	1.22 (0.99 - 1.50)	8.0 (-0.2 - 16)
	Imputation 2	705	11.1	1,715,877	43.7 (38.8 - 48.7)	1.19 (0.97 - 1.47)	7.0 (-1.1 - 15)
	Imputation 3	714	12.2	1,715,294	44.2 (39.2 - 49.2)	1.21 (0.98 - 1.48)	7.5 (-0.5 - 16)
	Imputation Summary	714	12.2	1,715,623	44.2 (39.1 - 49.3)	1.21 (0.98 - 1.49)	7.5 (-0.7 - 16)
	FWI Analysis	714	12.2	1,715,648	44.2 (39.4 - 49.1)	1.21 (0.99 - 1.47)	7.6 (-0.1 - 15)
High Income	Complete Income and Eth.	324	.	981,242	33.7 (27.4 - 40.0)	1	0
	Est. Imputed Only	60	15.6	188,401	52.3 (55.3% diff)	1	0
	Imputation 1	384	15.6	1,169,582	36.7 (30.3 - 43.1)	1	0
	Imputation 2	384	15.6	1,169,936	36.7 (30.3 - 43.2)	1	0
	Imputation 3	384	15.6	1,169,411	36.7 (30.3 - 43.0)	1	0
	Imputation Summary	384	15.6	1,169,643	36.7 (30.3 - 43.0)	1	0
	FWI Analysis	384	15.6	1,169,597	36.7 (30.7 - 42.7)	1	0

Table 132 Imputation comparisons for Lung Cancer, Females, Income, 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Income</i>	<i>By: All Ethnicities</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	867	.	1,512,890	52.4 (48.5 - 56.4)	1.66 (1.45 - 1.90)	21 (16 - 26)
	Est. Imputed Only	66	7.1	216,048	51.6 (-1.5% diff)	1.56 (-5.9% diff)	19 (-10.8% diff)
	Imputation 1	930	6.8	1,729,145	52.1 (48.3 - 55.8)	1.63 (1.44 - 1.84)	20 (15 - 25)
	Imputation 2	933	7.1	1,728,455	52.6 (48.8 - 56.4)	1.66 (1.46 - 1.87)	21 (16 - 26)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Medium Income	Imputation 3	930	6.8	1,729,216	52.1 (48.4 - 55.9)	1.63 (1.44 - 1.85)	20 (15 - 25)
	Imputation Summary	933	7.1	1,728,939	52.3 (48.4 - 56.1)	1.64 (1.45 - 1.86)	20 (15 - 25)
	FWI Analysis	930	6.8	1,728,910	52.3 (48.5 - 56.0)	1.64 (1.44 - 1.86)	20 (15 - 25)
	Complete Income and Eth.	957	.	1,552,723	36.5 (33.6 - 39.5)	1.16 (1.01 - 1.33)	5.0 (0.3 - 9.6)
	Est. Imputed Only	66	6.5	271,644	38.5 (5.5% diff)	1.17 (0.5% diff)	5.5 (9.3% diff)
	Imputation 1	1023	6.5	1,824,139	36.8 (34.0 - 39.6)	1.15 (1.01 - 1.30)	4.8 (0.5 - 9.0)
	Imputation 2	1020	6.2	1,824,843	36.8 (34.0 - 39.6)	1.16 (1.02 - 1.31)	5.0 (0.8 - 9.3)
	Imputation 3	1023	6.5	1,824,120	36.8 (34.0 - 39.6)	1.15 (1.02 - 1.31)	4.9 (0.6 - 9.1)
	Imputation Summary	1023	6.5	1,824,367	36.8 (34.0 - 39.6)	1.15 (1.02 - 1.31)	4.9 (0.6 - 9.2)
High Income	FWI Analysis	1023	6.5	1,824,347	36.8 (34.1 - 39.4)	1.15 (1.01 - 1.31)	4.9 (0.6 - 9.2)
	Complete Income and Eth.	423	.	1,154,585	31.6 (28.0 - 35.2)	1	0
	Est. Imputed Only	90	17.5	301,799	33.0 (4.6% diff)	1	0
	Imputation 1	513	17.5	1,456,404	32.0 (28.8 - 35.2)	1	0
	Imputation 2	510	17.1	1,456,392	31.7 (28.5 - 34.9)	1	0
	Imputation 3	510	17.1	1,456,354	31.9 (28.7 - 35.1)	1	0
	Imputation Summary	513	17.5	1,456,383	31.9 (28.6 - 35.1)	1	0
	FWI Analysis	510	17.1	1,456,369	31.9 (28.5 - 35.3)	1	0
	<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>						
Low Income	Complete Income and Eth.	870	.	1,512,890	56.4 (51.7 - 61.1)	1.23 (1.00 - 1.53)	11 (0.6 - 21)
	Est. Imputed Only	60	6.5	216,048	52.4 (-7.1% diff)	1.12 (-8.7% diff)	5.7 (-46.4% diff)
	Imputation 1	927	6.1	1,729,145	55.6 (51.2 - 60.0)	1.21 (1.01 - 1.46)	9.8 (0.8 - 19)
	Imputation 2	933	6.8	1,728,455	56.4 (51.9 - 60.9)	1.23 (1.02 - 1.49)	11 (1.5 - 20)
	Imputation 3	927	6.1	1,729,216	55.8 (51.4 - 60.3)	1.21 (1.00 - 1.47)	9.7 (0.5 - 19)
	Imputation Summary	930	6.5	1,728,939	55.9 (51.4 - 60.5)	1.22 (1.00 - 1.47)	10 (0.9 - 19)
	FWI Analysis	930	6.5	1,728,910	55.9 (51.5 - 60.4)	1.22 (0.99 - 1.50)	10 (0.3 - 20)
Medium Income	Complete Income and Eth.	957	.	1,552,723	43.3 (38.6 - 48.1)	0.95 (0.76 - 1.19)	-2.4 (-13 - 7.8)
	Est. Imputed Only	66	6.5	271,644	47.3 (9.3% diff)	1.01 (6.8% diff)	0.7 (-127.7% diff)
	Imputation 1	1023	6.5	1,824,139	44.1 (39.7 - 48.5)	0.96 (0.79 - 1.17)	-1.7 (-11 - 7.2)
	Imputation 2	1020	6.2	1,824,843	43.6 (39.3 - 47.9)	0.95 (0.78 - 1.16)	-2.2 (-11 - 6.9)
	Imputation 3	1023	6.5	1,824,120	43.9 (39.5 - 48.2)	0.95 (0.78 - 1.16)	-2.2 (-11 - 6.9)
	Imputation Summary	1023	6.5	1,824,367	43.9 (39.5 - 48.3)	0.95 (0.78 - 1.16)	-2.0 (-11 - 7.0)
	FWI Analysis	1020	6.2	1,824,347	43.9 (39.8 - 47.9)	0.96 (0.77 - 1.18)	-2.1 (-12 - 7.5)
High Income	Complete Income and Eth.	423	.	1,154,585	45.7 (36.7 - 54.6)	1	0
	Est. Imputed Only	87	17.1	301,799	46.7 (2.1% diff)	1	0
	Imputation 1	513	17.5	1,456,404	45.8 (38.1 - 53.6)	1	0
	Imputation 2	507	16.6	1,456,392	45.7 (37.8 - 53.7)	1	0
	Imputation 3	510	17.1	1,456,354	46.1 (38.1 - 54.2)	1	0
	Imputation Summary	510	17.1	1,456,383	45.9 (37.9 - 53.8)	1	0
	FWI Analysis	510	17.1	1,456,369	45.9 (37.2 - 54.6)	1	0

Table 133 Imputation comparisons for Lung Cancer, Females, Income, 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Income</i>	<i>By: All Ethnicities</i>			<i>Age Standardised</i>			

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Low Income	Complete Income and Eth.	954	.	1,565,854	51.6 (47.9 - 55.3)	1.61 (1.42 - 1.83)	20 (15 - 25)
	Est. Imputed Only	168	15.0	274,560	68.4 (32.5% diff)	2.08 (29.5% diff)	36 (82.4% diff)
	Imputation 1	1125	15.2	1,840,804	54.2 (50.7 - 57.7)	1.67 (1.49 - 1.87)	22 (17 - 26)
	Imputation 2	1119	14.7	1,841,140	54.0 (50.5 - 57.5)	1.67 (1.49 - 1.87)	22 (17 - 26)
	Imputation 3	1122	15.0	1,839,298	54.1 (50.6 - 57.6)	1.69 (1.51 - 1.89)	22 (18 - 27)
	Imputation Summary	1122	15.0	1,840,414	54.1 (50.6 - 57.6)	1.68 (1.50 - 1.88)	22 (17 - 26)
	FWI Analysis	1125	15.2	1,840,409	54.1 (50.9 - 57.2)	1.68 (1.51 - 1.86)	22 (18 - 26)
Medium Income	Complete Income and Eth.	963	.	1,548,280	40.5 (37.3 - 43.7)	1.26 (1.11 - 1.44)	8.4 (3.7 - 13)
	Est. Imputed Only	111	10.3	290,921	40.5 (0.0% diff)	1.23 (-2.0% diff)	7.7 (-8.3% diff)
	Imputation 1	1068	9.8	1,838,844	40.3 (37.4 - 43.3)	1.24 (1.11 - 1.40)	7.9 (3.7 - 12)
	Imputation 2	1077	10.6	1,838,961	40.4 (37.4 - 43.3)	1.25 (1.11 - 1.40)	8.1 (3.9 - 12)
	Imputation 3	1080	10.8	1,839,798	40.8 (37.8 - 43.8)	1.27 (1.13 - 1.43)	8.8 (4.6 - 13)
	Imputation Summary	1074	10.3	1,839,201	40.5 (37.5 - 43.5)	1.25 (1.11 - 1.41)	8.3 (4.0 - 13)
	FWI Analysis	1074	10.3	1,839,191	40.5 (37.8 - 43.1)	1.26 (1.13 - 1.40)	8.2 (4.4 - 12)
High Income	Complete Income and Eth.	435	.	1,214,218	32.1 (28.7 - 35.5)	1	0
	Est. Imputed Only	135	23.7	491,562	32.8 (2.2% diff)	1	0
	Imputation 1	573	24.1	1,705,747	32.5 (29.5 - 35.4)	1	0
	Imputation 2	570	23.7	1,705,293	32.3 (29.4 - 35.3)	1	0
	Imputation 3	567	23.3	1,706,298	32.0 (29.1 - 34.9)	1	0
	Imputation Summary	570	23.7	1,705,779	32.3 (29.3 - 35.3)	1	0
	FWI Analysis	570	23.7	1,705,787	32.3 (29.4 - 35.1)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	954	.	1,565,854	56.5 (52.0 - 61.1)	1.56 (1.34 - 1.82)	20 (14 - 27)
	Est. Imputed Only	168	15.0	274,560	67.9 (20.2% diff)	1.68 (7.6% diff)	27 (35.8% diff)
	Imputation 1	1125	15.2	1,840,804	58.1 (53.9 - 62.3)	1.54 (1.35 - 1.75)	20 (14 - 26)
	Imputation 2	1122	15.0	1,841,140	57.9 (53.8 - 62.0)	1.56 (1.36 - 1.77)	21 (15 - 27)
	Imputation 3	1122	15.0	1,839,298	58.5 (54.3 - 62.7)	1.57 (1.37 - 1.79)	21 (15 - 27)
	Imputation Summary	1122	15.0	1,840,414	58.2 (53.9 - 62.4)	1.56 (1.36 - 1.78)	21 (15 - 27)
	FWI Analysis	1122	15.0	1,840,409	58.2 (54.4 - 61.9)	1.55 (1.37 - 1.75)	21 (15 - 26)
Medium Income	Complete Income and Eth.	963	.	1,548,280	46.1 (41.9 - 50.3)	1.27 (1.08 - 1.49)	9.8 (3.4 - 16)
	Est. Imputed Only	114	10.6	290,921	48.0 (4.1% diff)	1.19 (-6.6% diff)	7.5 (-23.1% diff)
	Imputation 1	1071	10.1	1,838,844	46.4 (42.6 - 50.2)	1.23 (1.07 - 1.41)	8.6 (2.9 - 14)
	Imputation 2	1077	10.6	1,838,961	46.7 (42.8 - 50.5)	1.25 (1.09 - 1.44)	9.5 (3.8 - 15)
	Imputation 3	1080	10.8	1,839,798	46.0 (42.3 - 49.8)	1.23 (1.07 - 1.41)	8.6 (3.1 - 14)
	Imputation Summary	1077	10.6	1,839,201	46.4 (42.5 - 50.3)	1.24 (1.08 - 1.42)	8.9 (3.2 - 15)
	FWI Analysis	1074	10.3	1,839,191	46.4 (43.1 - 49.7)	1.24 (1.09 - 1.40)	8.9 (3.8 - 14)
High Income	Complete Income and Eth.	435	.	1,214,218	36.3 (31.6 - 41.1)	1	0
	Est. Imputed Only	135	23.7	491,562	40.5 (11.5% diff)	1	0
	Imputation 1	573	24.1	1,705,747	37.8 (33.7 - 42.0)	1	0
	Imputation 2	570	23.7	1,705,293	37.2 (33.1 - 41.3)	1	0
	Imputation 3	570	23.7	1,706,298	37.4 (33.2 - 41.5)	1	0
	Imputation Summary	570	23.7	1,705,779	37.5 (33.3 - 41.6)	1	0
	FWI Analysis	570	23.7	1,705,787	37.5 (33.6 - 41.4)	1	0

Table 134 Imputation comparisons for Lung Cancer, Females, Income, 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 2001-04</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	996	.	1,223,828	57.5 (53.4 - 61.6)	1.74 (1.53 - 1.98)	24 (19 - 30)
	Est. Imputed Only	225	18.4	279,595	74.7 (29.9% diff)	1.81 (4.0% diff)	33 (37.0% diff)
	Imputation 1	1227	18.8	1,503,462	61.0 (57.1 - 64.9)	1.72 (1.54 - 1.92)	26 (21 - 31)
	Imputation 2	1209	17.6	1,503,860	60.3 (56.5 - 64.2)	1.68 (1.50 - 1.87)	24 (19 - 29)
	Imputation 3	1224	18.6	1,502,945	60.9 (57.0 - 64.7)	1.72 (1.54 - 1.92)	26 (21 - 31)
	Imputation Summary	1221	18.4	1,503,422	60.7 (56.8 - 64.7)	1.71 (1.52 - 1.91)	25 (20 - 30)
	FWI Analysis	1218	18.2	1,503,414	60.7 (57.3 - 64.2)	1.71 (1.53 - 1.90)	25 (20 - 30)
Medium Income	Complete Income and Eth.	615	.	991,934	40.0 (36.4 - 43.7)	1.21 (1.05 - 1.40)	7.0 (1.8 - 12)
	Est. Imputed Only	150	19.6	290,559	50.6 (26.5% diff)	1.23 (1.3% diff)	9.3 (33.2% diff)
	Imputation 1	759	19.0	1,282,387	42.2 (38.8 - 45.5)	1.19 (1.05 - 1.34)	6.7 (2.1 - 11)
	Imputation 2	771	20.2	1,282,341	42.5 (39.1 - 45.9)	1.18 (1.05 - 1.33)	6.5 (1.9 - 11)
	Imputation 3	768	19.9	1,282,749	42.4 (39.1 - 45.8)	1.20 (1.07 - 1.36)	7.1 (2.5 - 12)
	Imputation Summary	765	19.6	1,282,492	42.4 (39.0 - 45.8)	1.19 (1.05 - 1.34)	6.8 (2.1 - 12)
	FWI Analysis	765	19.6	1,282,469	42.4 (39.3 - 45.4)	1.19 (1.06 - 1.34)	6.8 (2.3 - 11)
High Income	Complete Income and Eth.	384	.	1,059,137	33.1 (29.4 - 36.7)	1	0
	Est. Imputed Only	186	32.6	440,694	41.3 (24.7% diff)	1	0
	Imputation 1	570	32.6	1,499,898	35.4 (32.3 - 38.6)	1	0
	Imputation 2	579	33.7	1,499,545	35.9 (32.7 - 39.2)	1	0
	Imputation 3	567	32.3	1,500,052	35.3 (32.1 - 38.5)	1	0
	Imputation Summary	570	32.6	1,499,832	35.5 (32.3 - 38.8)	1	0
	FWI Analysis	570	32.6	1,499,855	35.6 (32.3 - 38.8)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	993	.	1,223,828	61.7 (56.9 - 66.5)	1.45 (1.23 - 1.71)	19 (11 - 27)
	Est. Imputed Only	225	18.5	279,595	76.2 (23.5% diff)	1.59 (9.4% diff)	28 (47.5% diff)
	Imputation 1	1224	18.9	1,503,462	64.5 (60.1 - 68.8)	1.47 (1.29 - 1.67)	21 (14 - 27)
	Imputation 2	1209	17.9	1,503,860	64.1 (59.7 - 68.5)	1.45 (1.27 - 1.65)	20 (13 - 26)
	Imputation 3	1224	18.9	1,502,945	64.7 (60.3 - 69.1)	1.45 (1.27 - 1.65)	20 (14 - 27)
	Imputation Summary	1218	18.5	1,503,422	64.4 (60.0 - 68.9)	1.46 (1.28 - 1.66)	20 (14 - 27)
	FWI Analysis	1221	18.7	1,503,414	64.4 (60.5 - 68.3)	1.46 (1.28 - 1.65)	20 (14 - 26)
Medium Income	Complete Income and Eth.	615	.	991,934	49.1 (43.6 - 54.7)	1.15 (0.96 - 1.39)	6.5 (-1.8 - 15)
	Est. Imputed Only	153	19.9	290,559	56.6 (15.3% diff)	1.18 (2.4% diff)	8.6 (31.7% diff)
	Imputation 1	762	19.3	1,282,387	51.2 (46.3 - 56.1)	1.17 (1.01 - 1.35)	7.3 (0.4 - 14)
	Imputation 2	771	20.2	1,282,341	50.7 (46.0 - 55.5)	1.15 (0.99 - 1.32)	6.5 (-0.3 - 13)
	Imputation 3	768	19.9	1,282,749	50.5 (45.8 - 55.2)	1.13 (0.98 - 1.31)	6.0 (-0.9 - 13)
	Imputation Summary	768	19.9	1,282,492	50.8 (45.9 - 55.7)	1.15 (0.99 - 1.34)	6.6 (-0.4 - 14)
	FWI Analysis	768	19.9	1,282,469	50.8 (46.7 - 55.0)	1.15 (1.00 - 1.32)	6.6 (0.2 - 13)
High Income	Complete Income and Eth.	384	.	1,059,137	42.6 (36.4 - 48.8)	1	0
	Est. Imputed Only	189	33.0	440,694	48.0 (12.8% diff)	1	0
	Imputation 1	570	32.6	1,499,898	43.9 (39.1 - 48.7)	1	0
	Imputation 2	579	33.7	1,499,545	44.3 (39.4 - 49.1)	1	0
	Imputation 3	567	32.3	1,500,052	44.5 (39.6 - 49.5)	1	0
	Imputation Summary	573	33.0	1,499,832	44.2 (39.3 - 49.2)	1	0
	FWI Analysis	573	33.0	1,499,855	44.2 (39.4 - 49.1)	1	0

Table 135 Imputation comparisons for Lung Cancer, Females, Income, NZ Maori 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1981-86</i>							
<i>Income By: Total NZ Māori Age Standardised</i>							
Low Income	Complete Income and Eth.	75	.	137,365	76.6 (54.3 - 98.9)	1.29 (0.61 - 2.74)	17 (-30 - 64)
	Est. Imputed Only	36	32.4	58,744	102 (33.1% diff)	2.19 (70.1% diff)	56 (222.7% diff)
	Imputation 1	117	35.9	196,083	88.8 (67.3 - 110)	1.43 (0.81 - 2.50)	27 (-12 - 65)
	Imputation 2	108	30.6	196,042	81.2 (61.0 - 101)	1.67 (0.90 - 3.11)	33 (-1.7 - 67)
	Imputation 3	111	32.4	196,200	82.6 (62.1 - 103)	1.53 (0.83 - 2.83)	29 (-7.8 - 65)
	Imputation Summary	111	32.4	196,109	84.2 (61.5 - 107)	1.54 (0.82 - 2.88)	29 (-7.7 - 66)
	FWI Analysis	111	32.4	196,109	84.2 (60.6 - 108)	1.53 (0.73 - 3.21)	29 (-15 - 74)
Medium Income	Complete Income and Eth.	24	.	68,612	57.6 (26.6 - 88.6)	0.97 (0.40 - 2.34)	-1.8 (-54 - 50)
	Est. Imputed Only	24	50.0	40,677	92.5 (60.6% diff)	1.99 (105.3% diff)	46 (-2659.4% diff)
	Imputation 1	39	38.5	109,263	56.1 (31.9 - 80.3)	0.90 (0.46 - 1.75)	-6.2 (-46 - 34)
	Imputation 2	54	55.6	109,392	81.0 (49.8 - 112)	1.67 (0.84 - 3.32)	32 (-9.3 - 74)
	Imputation 3	51	52.9	109,212	74.6 (46.2 - 103)	1.38 (0.70 - 2.73)	21 (-21 - 62)
	Imputation Summary	48	50.0	109,289	70.6 (30.0 - 111)	1.28 (0.48 - 3.42)	16 (-45 - 76)
	FWI Analysis	48	50.0	109,289	70.7 (35.2 - 106)	1.29 (0.55 - 3.00)	16 (-36 - 67)
High Income	Complete Income and Eth.	15	.	37,473	59.4 (18.1 - 101)	1	0
	Est. Imputed Only	6	28.6	19,977	46.5 (-21.8% diff)	1	0
	Imputation 1	27	44.4	57,501	62.2 (30.7 - 93.8)	1	0
	Imputation 2	18	16.7	57,413	48.6 (20.9 - 76.3)	1	0
	Imputation 3	21	28.6	57,435	53.9 (23.7 - 84.1)	1	0
	Imputation Summary	21	28.6	57,450	54.9 (21.3 - 88.5)	1	0
	FWI Analysis	21	28.6	57,450	54.9 (17.5 - 92.3)	1	0

Table 136 Imputation comparisons for Lung Cancer, Females, Income, NZ Maori 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1986-91</i>							
<i>Income By: Total NZ Māori Age Standardised</i>							
Low Income	Complete Income and Eth.	108	.	162,512	102 (79 - 125)	1.15 (0.70 - 1.86)	13 (-32 - 58)
	Est. Imputed Only	36	25.0	51,431	122 (19.1% diff)	0.65 (-43.2% diff)	-65 (-598.5% diff)
	Imputation 1	141	23.4	213,754	106 (85 - 128)	0.97 (0.64 - 1.47)	-3.8 (-49 - 42)
	Imputation 2	144	25.0	213,822	108 (87 - 130)	0.94 (0.62 - 1.42)	-6.8 (-54 - 40)
	Imputation 3	144	25.0	214,252	106 (85 - 128)	0.95 (0.63 - 1.44)	-5.2 (-51 - 40)
	Imputation Summary	144	25.0	213,943	107 (85 - 129)	0.95 (0.63 - 1.44)	-5.3 (-51 - 41)
	FWI Analysis	144	25.0	213,978	107 (83 - 131)	0.95 (0.60 - 1.52)	-5.4 (-57 - 46)
Medium Income	Complete Income and Eth.	69	.	97,609	109 (78 - 139)	1.22 (0.73 - 2.04)	19 (-30 - 68)
	Est. Imputed Only	27	28.1	35,256	122 (12.5% diff)	0.66 (-46.3% diff)	-64 (-431.9% diff)
	Imputation 1	99	30.3	133,097	115 (88 - 143)	1.05 (0.68 - 1.62)	5.4 (-43 - 54)
	Imputation 2	93	25.8	132,986	109 (82 - 136)	0.95 (0.61 - 1.47)	-6.0 (-55 - 43)
	Imputation 3	96	28.1	132,510	112 (85 - 140)	1.01 (0.65 - 1.56)	0.9 (-48 - 50)
	Imputation Summary	96	28.1	132,865	112 (84 - 141)	1.00 (0.64 - 1.57)	0.1 (-51 - 51)
	FWI Analysis	96	28.1	132,831	112 (82 - 143)	1	0
High Income	Complete Income and Eth.	27	.	39,335	89.3 (50.7 - 128)	1	0
	Est. Imputed Only	15	35.7	12,097	187 (109.0% diff)	1	0
	Imputation 1	42	35.7	51,389	110 (70 - 150)	1	0
	Imputation 2	45	40.0	51,431	115 (74 - 157)	1	0
	Imputation 3	42	35.7	51,478	112 (71 - 152)	1	0
	Imputation Summary	42	35.7	51,432	112 (71 - 153)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	FWI Analysis	42	35.7	51,431	112 (67 - 158)	1	0

Table 137 Imputation comparisons for Lung Cancer, Females, Income, NZ Maori 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1991-96</i>							
<i>Income By: Total NZ Māori Age Standardised</i>							
Low Income	Complete Income and Eth.	174	.	216,257	128 (104 - 152)	0.90 (0.57 - 1.42)	-14 (-77 - 50)
	Est. Imputed Only	33	15.9	46,313	138 (8.0% diff)	0.98 (8.9% diff)	-2.8 (-79.5% diff)
	Imputation 1	207	15.9	262,672	128 (106 - 151)	0.92 (0.62 - 1.38)	-11 (-66 - 44)
	Imputation 2	210	17.1	262,470	131 (108 - 153)	0.92 (0.61 - 1.39)	-11 (-68 - 46)
	Imputation 3	207	15.9	262,567	130 (107 - 152)	0.90 (0.60 - 1.36)	-14 (-71 - 44)
	Imputation Summary	207	15.9	262,570	130 (107 - 152)	0.91 (0.61 - 1.37)	-12 (-68 - 45)
	FWI Analysis	210	17.1	262,556	130 (104 - 155)	0.92 (0.55 - 1.53)	-12 (-83 - 60)
Medium Income	Complete Income and Eth.	84	.	96,015	108 (81 - 135)	0.76 (0.47 - 1.24)	-34 (-98 - 31)
	Est. Imputed Only	21	20.0	30,443	130 (20.8% diff)	0.93 (21.9% diff)	-10 (-69.0% diff)
	Imputation 1	108	22.2	126,369	115 (89 - 141)	0.83 (0.54 - 1.26)	-24 (-81 - 32)
	Imputation 2	105	20.0	126,584	112 (87 - 138)	0.79 (0.51 - 1.23)	-29 (-87 - 29)
	Imputation 3	105	20.0	126,421	113 (87 - 138)	0.79 (0.51 - 1.21)	-31 (-89 - 28)
	Imputation Summary	105	20.0	126,458	113 (88 - 139)	0.80 (0.52 - 1.24)	-28 (-86 - 30)
	FWI Analysis	105	20.0	126,475	113 (85 - 141)	0.80 (0.47 - 1.37)	-28 (-101 - 44)
High Income	Complete Income and Eth.	39	.	46,605	142 (83 - 200)	1	0
	Est. Imputed Only	9	18.8	16,502	141 (-0.5% diff)	1	0
	Imputation 1	51	23.5	63,093	139 (89 - 190)	1	0
	Imputation 2	48	18.8	63,080	141 (89 - 194)	1	0
	Imputation 3	48	18.8	63,146	143 (91 - 196)	1	0
	Imputation Summary	48	18.8	63,106	141 (89 - 193)	1	0
	FWI Analysis	51	23.5	63,079	141 (75 - 208)	1	0

Table 138 Imputation comparisons for Lung Cancer, Females, Income, NZ Maori 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1996-01</i>							
<i>Income By: Total NZ Māori Age Standardised</i>							
Low Income	Complete Income and Eth.	195	.	232,206	136 (113 - 160)	1.89 (1.27 - 2.80)	64 (29 - 99)
	Est. Imputed Only	69	26.1	69,291	164 (20.4% diff)	1.56 (-17.5% diff)	59 (-8.1% diff)
	Imputation 1	261	25.3	301,736	141 (120 - 161)	1.60 (1.18 - 2.16)	53 (21 - 84)
	Imputation 2	264	26.1	301,456	141 (121 - 162)	1.74 (1.28 - 2.38)	60 (30 - 91)
	Imputation 3	270	27.8	301,297	146 (125 - 167)	1.79 (1.31 - 2.44)	64 (33 - 95)
	Imputation Summary	264	26.1	301,497	143 (121 - 165)	1.71 (1.22 - 2.39)	59 (25 - 93)
	FWI Analysis	264	26.1	301,492	143 (121 - 164)	1.71 (1.21 - 2.40)	59 (26 - 93)
Medium Income	Complete Income and Eth.	111	.	126,027	110 (87 - 132)	1.52 (1.01 - 2.29)	37 (3.1 - 72)
	Est. Imputed Only	39	26.0	41,897	126 (15.4% diff)	1.20 (-20.9% diff)	21 (-43.3% diff)
	Imputation 1	150	26.0	167,716	114 (94 - 134)	1.29 (0.94 - 1.77)	26 (-5.0 - 56)
	Imputation 2	153	27.5	167,981	116 (96 - 137)	1.43 (1.04 - 1.98)	35 (5.0 - 65)
	Imputation 3	147	24.5	168,075	112 (92 - 131)	1.37 (0.99 - 1.89)	30 (0.0 - 60)
	Imputation Summary	150	26.0	167,924	114 (93 - 135)	1.36 (0.97 - 1.92)	30 (-1.8 - 62)
	FWI Analysis	150	26.0	167,924	114 (94 - 133)	1.36 (0.96 - 1.94)	30 (-2.0 - 63)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
High Income	Complete Income and Eth.	36	.	72,189	72.2 (46.4 - 98.0)	1	0
	Est. Imputed Only	27	42.9	37,551	105 (45.7% diff)	1	0
	Imputation 1	66	45.5	109,708	87.9 (64.7 - 111)	1	0
	Imputation 2	63	42.9	109,723	81.1 (58.9 - 103)	1	0
	Imputation 3	63	42.9	109,789	81.6 (59.3 - 104)	1	0
	Imputation Summary	63	42.9	109,740	83.5 (59.4 - 108)	1	0
	FWI Analysis	63	42.9	109,738	83.5 (58.0 - 109)	1	0

Table 139 Imputation comparisons for Lung Cancer, Females, Income, NZ Maori 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 2001-04</i>							
<i>Income By: Total NZ Mäori Age Standardised</i>							
Low Income	Complete Income and Eth.	156	.	166,343	127 (104 - 150)	1.10 (0.77 - 1.58)	12 (-31 - 55)
	Est. Imputed Only	78	33.3	63,032	182 (43.3% diff)	1.70 (55.0% diff)	75 (537.0% diff)
	Imputation 1	234	33.3	229,549	140 (120 - 161)	1.29 (0.97 - 1.72)	31 (-2.6 - 65)
	Imputation 2	237	34.2	229,331	143 (122 - 164)	1.30 (0.98 - 1.74)	33 (-0.9 - 67)
	Imputation 3	234	33.3	229,246	143 (122 - 164)	1.21 (0.92 - 1.61)	25 (-10 - 61)
	Imputation Summary	234	33.3	229,375	142 (121 - 163)	1.27 (0.94 - 1.71)	30 (-5.8 - 66)
	FWI Analysis	237	34.2	229,367	142 (122 - 162)	1.27 (0.95 - 1.70)	30 (-4.9 - 65)
Medium Income	Complete Income and Eth.	87	.	84,731	131 (100 - 162)	1.14 (0.77 - 1.69)	16 (-32 - 64)
	Est. Imputed Only	45	34.1	40,154	146 (11.6% diff)	1.37 (20.2% diff)	39 (151.3% diff)
	Imputation 1	135	35.6	124,705	143 (115 - 170)	1.31 (0.95 - 1.79)	33 (-5.3 - 72)
	Imputation 2	132	34.1	124,971	135 (108 - 161)	1.23 (0.90 - 1.68)	25 (-13 - 63)
	Imputation 3	129	32.6	124,977	130 (105 - 156)	1.11 (0.81 - 1.51)	13 (-26 - 51)
	Imputation Summary	132	34.1	124,885	136 (106 - 166)	1.21 (0.84 - 1.75)	24 (-21 - 69)
	FWI Analysis	132	34.1	124,870	136 (110 - 161)	1.21 (0.88 - 1.66)	24 (-15 - 62)
High Income	Complete Income and Eth.	51	.	62,694	115 (79 - 152)	1	0
	Est. Imputed Only	30	37.0	35,897	107 (-7.4% diff)	1	0
	Imputation 1	78	34.6	98,596	109 (82 - 136)	1	0
	Imputation 2	81	37.0	98,549	110 (82 - 137)	1	0
	Imputation 3	87	41.4	98,627	118 (89 - 146)	1	0
	Imputation Summary	81	37.0	98,591	112 (82 - 142)	1	0
	FWI Analysis	81	37.0	98,605	112 (84 - 141)	1	0

Table 140 Imputation comparisons for Lung Cancer, Females, Income, European/Other 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1981-86</i>							
<i>Income By: European/Other Age Standardised</i>							
Low Income	Complete Income and Eth.	507	.	1,176,232	27.2 (24.3 - 30.1)	1.16 (0.97 - 1.39)	3.8 (-0.7 - 8.3)
	Est. Imputed Only	126	19.9	257,650	38.3 (40.9% diff)	1.83 (57.5% diff)	17 (356.4% diff)
	Imputation 1	633	19.9	1,433,238	29.3 (26.5 - 32.1)	1.27 (1.08 - 1.49)	6.2 (2.1 - 10)
	Imputation 2	627	19.1	1,434,400	28.8 (26.0 - 31.5)	1.27 (1.08 - 1.49)	6.1 (2.0 - 10)
	Imputation 3	642	21.0	1,434,008	29.5 (26.7 - 32.3)	1.30 (1.11 - 1.53)	6.8 (2.8 - 11)
	Imputation Summary	633	19.9	1,433,882	29.2 (26.3 - 32.1)	1.28 (1.09 - 1.50)	6.4 (2.3 - 11)
	FWI Analysis	636	20.3	1,436,801	29.2 (26.7 - 31.7)	1.28 (1.10 - 1.48)	6.3 (2.6 - 10)
Medium Income	Complete Income and Eth.	246	.	1,007,402	21.8 (18.7 - 25.0)	0.93 (0.76 - 1.15)	-1.6 (-6.2 - 3.1)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	87	26.1	317,051	26.4 (21.1% diff)	1.26 (35.2% diff)	5.4 (-438.1% diff)
	Imputation 1	330	25.5	1,324,651	22.6 (19.8 - 25.4)	0.98 (0.82 - 1.17)	-0.5 (-4.5 - 3.5)
	Imputation 2	342	28.1	1,324,364	23.6 (20.8 - 26.4)	1.04 (0.87 - 1.24)	0.9 (-3.2 - 4.9)
	Imputation 3	327	24.8	1,324,346	22.5 (19.8 - 25.3)	0.99 (0.83 - 1.19)	-0.2 (-4.2 - 3.9)
	Imputation Summary	333	26.1	1,324,453	22.9 (19.8 - 26.0)	1.00 (0.83 - 1.21)	0.1 (-4.3 - 4.4)
	FWI Analysis	333	26.1	1,326,174	22.9 (20.2 - 25.6)	1	0
High Income	Complete Income and Eth.	246	.	880,937	23.4 (19.9 - 26.9)	1	0
	Est. Imputed Only	84	25.5	291,322	21.0 (-10.3% diff)	1	0
	Imputation 1	336	26.8	1,172,634	23.1 (20.2 - 26.0)	1	0
	Imputation 2	327	24.8	1,171,874	22.7 (19.8 - 25.6)	1	0
	Imputation 3	330	25.5	1,172,267	22.7 (19.8 - 25.6)	1	0
	Imputation Summary	330	25.5	1,172,259	22.8 (19.9 - 25.8)	1	0
	FWI Analysis	330	25.5	1,173,310	22.8 (20.1 - 25.6)	1	0

Table 141 Imputation comparisons for Lung Cancer, Females, Income, European/Other 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>	<i>1986-91</i>				
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	660	.	1,316,849	34.8 (31.7 - 37.8)	1.37 (1.17 - 1.61)	9.4 (4.8 - 14)
	Est. Imputed Only	54	7.6	166,242	37.5 (7.7% diff)	1.69 (23.4% diff)	15 (62.8% diff)
	Imputation 1	711	7.2	1,482,931	35.0 (32.1 - 38.0)	1.40 (1.20 - 1.63)	10 (5.7 - 14)
	Imputation 2	717	7.9	1,482,821	35.4 (32.4 - 38.4)	1.42 (1.22 - 1.66)	11 (6.2 - 15)
	Imputation 3	711	7.2	1,483,520	34.9 (31.9 - 37.8)	1.40 (1.21 - 1.63)	10 (5.7 - 14)
	Imputation Summary	714	7.6	1,483,090	35.1 (32.1 - 38.1)	1.41 (1.21 - 1.64)	10 (5.8 - 15)
	FWI Analysis	711	7.2	1,488,015	35.0 (32.2 - 37.8)	1.41 (1.21 - 1.64)	10 (5.9 - 14)
Medium Income	Complete Income and Eth.	543	.	1,289,771	31.1 (28.0 - 34.2)	1.23 (1.04 - 1.45)	5.7 (1.1 - 10)
	Est. Imputed Only	57	9.5	225,709	32.4 (4.3% diff)	1.46 (19.0% diff)	10 (80.2% diff)
	Imputation 1	600	9.5	1,515,308	31.3 (28.4 - 34.2)	1.25 (1.07 - 1.46)	6.3 (2.0 - 11)
	Imputation 2	597	9.0	1,515,570	31.0 (28.1 - 33.9)	1.25 (1.07 - 1.46)	6.1 (1.9 - 10)
	Imputation 3	606	10.4	1,515,562	31.5 (28.6 - 34.4)	1.27 (1.08 - 1.48)	6.6 (2.4 - 11)
	Imputation Summary	600	9.5	1,515,480	31.3 (28.3 - 34.2)	1.26 (1.07 - 1.47)	6.3 (2.0 - 11)
	FWI Analysis	603	10.0	1,517,302	31.3 (28.5 - 34.1)	1.26 (1.08 - 1.47)	6.4 (2.2 - 11)
High Income	Complete Income and Eth.	294	.	915,232	25.4 (21.9 - 28.8)	1	0
	Est. Imputed Only	45	13.3	167,582	22.2 (-12.7% diff)	1	0
	Imputation 1	339	13.3	1,082,818	25.0 (21.9 - 28.2)	1	0
	Imputation 2	339	13.3	1,083,069	24.9 (21.7 - 28.0)	1	0
	Imputation 3	339	13.3	1,082,555	24.9 (21.7 - 28.0)	1	0
	Imputation Summary	339	13.3	1,082,814	24.9 (21.8 - 28.1)	1	0
	FWI Analysis	336	12.5	1,083,500	24.9 (21.7 - 28.1)	1	0

Table 142 Imputation comparisons for Lung Cancer, Females, Income, European/Other 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>	<i>1991-96</i>				
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	681	.	1,186,446	46.4 (42.5 - 50.4)	1.58 (1.36 - 1.83)	17 (12 - 22)
	Est. Imputed Only	21	3.0	123,721	34.8 (-25.1% diff)	1.20 (-24.2% diff)	5.7 (-66.2% diff)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation 1	702	3.0	1,310,258	45.3 (41.5 - 49.1)	1.54 (1.34 - 1.76)	16 (11 - 21)
	Imputation 2	702	3.0	1,309,928	45.3 (41.5 - 49.0)	1.54 (1.34 - 1.77)	16 (11 - 21)
	Imputation 3	702	3.0	1,310,315	45.3 (41.5 - 49.1)	1.53 (1.34 - 1.76)	16 (11 - 21)
	Imputation Summary	702	3.0	1,310,167	45.3 (41.5 - 49.1)	1.54 (1.34 - 1.76)	16 (11 - 21)
	FWI Analysis	702	3.0	1,314,449	45.2 (41.6 - 48.9)	1.54 (1.34 - 1.77)	16 (11 - 21)
Medium Income	Complete Income and Eth.	861	.	1,393,460	32.8 (30.0 - 35.7)	1.11 (0.96 - 1.29)	3.4 (-1.2 - 7.9)
	Est. Imputed Only	39	4.3	213,732	33.6 (2.3% diff)	1.16 (4.2% diff)	4.5 (33.7% diff)
	Imputation 1	897	4.0	1,607,133	33.0 (30.3 - 35.6)	1.12 (0.98 - 1.28)	3.5 (-0.7 - 7.7)
	Imputation 2	900	4.3	1,607,462	33.0 (30.3 - 35.7)	1.12 (0.98 - 1.29)	3.7 (-0.5 - 7.8)
	Imputation 3	900	4.3	1,606,983	32.8 (30.1 - 35.5)	1.11 (0.97 - 1.27)	3.3 (-0.9 - 7.5)
	Imputation Summary	900	4.3	1,607,193	32.9 (30.2 - 35.6)	1.12 (0.97 - 1.28)	3.5 (-0.7 - 7.7)
	FWI Analysis	900	4.3	1,609,013	32.9 (30.4 - 35.4)	1.12 (0.97 - 1.28)	3.5 (-0.7 - 7.7)
High Income	Complete Income and Eth.	372	.	1,063,201	29.5 (25.9 - 33.0)	1	0
	Est. Imputed Only	72	16.2	268,915	29.0 (-1.7% diff)	1	0
	Imputation 1	444	16.2	1,332,100	29.5 (26.3 - 32.6)	1	0
	Imputation 2	441	15.6	1,332,173	29.3 (26.1 - 32.5)	1	0
	Imputation 3	444	16.2	1,332,074	29.5 (26.3 - 32.7)	1	0
	Imputation Summary	444	16.2	1,332,116	29.4 (26.2 - 32.6)	1	0
	FWI Analysis	444	16.2	1,333,007	29.4 (26.0 - 32.8)	1	0

Table 143 Imputation comparisons for Lung Cancer, Females, Income, European/Other 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Income</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
Low Income	Complete Income and Eth.	726	.	1,182,954	44.3 (40.6 - 47.9)	1.46 (1.27 - 1.68)	14 (9.1 - 19)
	Est. Imputed Only	84	10.4	144,291	49.8 (12.5% diff)	1.73 (18.6% diff)	21 (50.3% diff)
	Imputation 1	816	11.0	1,327,478	45.2 (41.7 - 48.7)	1.51 (1.33 - 1.71)	15 (11 - 20)
	Imputation 2	810	10.4	1,328,194	45.1 (41.6 - 48.6)	1.50 (1.32 - 1.70)	15 (10 - 20)
	Imputation 3	801	9.4	1,326,061	44.5 (41.0 - 48.0)	1.51 (1.33 - 1.71)	15 (11 - 20)
	Imputation Summary	810	10.4	1,327,244	44.9 (41.3 - 48.5)	1.51 (1.33 - 1.71)	15 (11 - 20)
	FWI Analysis	810	10.4	1,331,354	44.9 (41.8 - 48.0)	1.51 (1.34 - 1.69)	15 (11 - 19)
Medium Income	Complete Income and Eth.	834	.	1,338,201	36.8 (33.5 - 40.1)	1.22 (1.05 - 1.40)	6.6 (1.8 - 11)
	Est. Imputed Only	66	7.3	208,819	30.1 (-18.1% diff)	1.05 (-14.2% diff)	1.4 (-79.4% diff)
	Imputation 1	891	6.4	1,546,840	35.6 (32.7 - 38.6)	1.19 (1.05 - 1.35)	5.7 (1.5 - 9.9)
	Imputation 2	897	7.0	1,546,431	35.5 (32.5 - 38.4)	1.18 (1.04 - 1.34)	5.4 (1.2 - 9.6)
	Imputation 3	912	8.6	1,547,787	36.5 (33.5 - 39.5)	1.24 (1.09 - 1.41)	7.0 (2.8 - 11)
	Imputation Summary	900	7.3	1,547,020	35.9 (32.6 - 39.1)	1.20 (1.04 - 1.39)	6.0 (1.4 - 11)
	FWI Analysis	903	7.6	1,549,652	35.8 (33.2 - 38.5)	1.20 (1.07 - 1.35)	6.0 (2.1 - 9.9)
High Income	Complete Income and Eth.	384	.	1,078,831	30.2 (26.8 - 33.6)	1	0
	Est. Imputed Only	102	21.0	420,493	28.8 (-4.7% diff)	1	0
	Imputation 1	489	21.5	1,499,378	29.9 (27.0 - 32.9)	1	0
	Imputation 2	489	21.5	1,499,048	30.0 (27.1 - 33.0)	1	0
	Imputation 3	483	20.5	1,499,545	29.5 (26.5 - 32.4)	1	0
	Imputation Summary	486	21.0	1,499,324	29.8 (26.8 - 32.8)	1	0
	FWI Analysis	486	21.0	1,501,222	29.8 (27.0 - 32.6)	1	0

Table 144 Imputation comparisons for Lung Cancer, Females, Income, European/Other 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 2001-04</i>							
<i>Income By: European/Other Age Standardised</i>							
Low Income	Complete Income and Eth.	798	.	915,884	51.3 (47.2 - 55.4)	1.75 (1.51 - 2.02)	22 (17 - 27)
	Est. Imputed Only	126	13.6	149,022	59.9 (16.7% diff)	1.71 (-2.1% diff)	25 (13.3% diff)
	Imputation 1	936	14.7	1,064,922	52.9 (49.0 - 56.9)	1.70 (1.50 - 1.93)	22 (17 - 27)
	Imputation 2	915	12.8	1,065,129	52.1 (48.2 - 56.1)	1.66 (1.47 - 1.89)	21 (16 - 26)
	Imputation 3	924	13.6	1,064,667	52.6 (48.7 - 56.6)	1.74 (1.53 - 1.97)	22 (17 - 27)
	Imputation Summary	924	13.6	1,064,906	52.5 (48.5 - 56.6)	1.70 (1.48 - 1.95)	22 (16 - 27)
	FWI Analysis	927	13.9	1,068,858	52.7 (49.1 - 56.2)	1.70 (1.50 - 1.92)	22 (17 - 26)
Medium Income	Complete Income and Eth.	504	.	834,961	34.6 (31.0 - 38.1)	1.18 (1.00 - 1.38)	5.2 (0.2 - 10)
	Est. Imputed Only	93	15.6	202,771	41.3 (19.2% diff)	1.18 (0.0% diff)	6.3 (21.1% diff)
	Imputation 1	585	13.8	1,037,965	35.2 (31.9 - 38.5)	1.13 (0.98 - 1.29)	4.0 (-0.5 - 8.5)
	Imputation 2	600	16.0	1,037,612	36.0 (32.6 - 39.3)	1.15 (1.00 - 1.32)	4.6 (0.1 - 9.2)
	Imputation 3	603	16.4	1,037,620	36.4 (33.1 - 39.8)	1.20 (1.05 - 1.38)	6.1 (1.6 - 11)
	Imputation Summary	597	15.6	1,037,732	35.9 (32.3 - 39.5)	1.16 (0.99 - 1.35)	4.9 (-0.3 - 10)
	FWI Analysis	597	15.6	1,039,823	36.0 (33.0 - 39.0)	1.16 (1.02 - 1.32)	5.0 (0.6 - 9.3)
High Income	Complete Income and Eth.	312	.	926,639	29.3 (25.8 - 32.9)	1	0
	Est. Imputed Only	138	30.7	365,672	35.0 (19.3% diff)	1	0
	Imputation 1	456	31.6	1,292,180	31.2 (28.0 - 34.3)	1	0
	Imputation 2	456	31.6	1,292,130	31.3 (28.2 - 34.5)	1	0
	Imputation 3	441	29.3	1,292,626	30.3 (27.2 - 33.4)	1	0
	Imputation Summary	450	30.7	1,292,312	30.9 (27.6 - 34.3)	1	0
	FWI Analysis	450	30.7	1,294,173	31.0 (27.9 - 34.2)	1	0

Table 145 Imputation comparisons for Lung Cancer, Males, Education, NZ Maori 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Males 25+ years 1981-86</i>							
<i>Education By: Total NZ Mäori Age Standardised</i>							
No Qualifications	Complete Educ. and Eth.	294	.	220,323	185 (157 - 213)	2.40 (0.85 - 6.79)	108 (23 - 192)
	Est. Imputed Only	42	12.5	46,911	102 (-44.6% diff)	0.82 (-65.7% diff)	-22 (-120.5% diff)
	Imputation 1	336	12.5	267,090	172 (147 - 196)	2.58 (1.12 - 5.96)	105 (45 - 165)
	Imputation 2	336	12.5	267,456	170 (146 - 194)	1.59 (0.67 - 3.75)	63 (-31 - 157)
	Imputation 3	336	12.5	267,155	170 (146 - 194)	1.82 (0.83 - 3.95)	77 (0.7 - 152)
	Imputation Summary	336	12.5	267,234	171 (146 - 195)	1.95 (0.72 - 5.32)	82 (-10 - 173)
	FWI Analysis	336	12.5	267,234	171 (150 - 191)	1.95 (0.66 - 5.78)	83 (-14 - 180)
School Qualifications	Complete Educ. and Eth.	9	.	26,230	188 (10 - 366)	2.43 (0.60 - 9.86)	110 (-85 - 305)
	Est. Imputed Only	.	.	9,257	-53.5 (-128.5% diff)	-0.4 (-117.7% diff)	-178 (-261.5% diff)
	Imputation 1	9	0.0	35,620	128 (15 - 242)	1.93 (0.57 - 6.47)	62 (-64 - 188)
	Imputation 2	6	.	35,390	123 (9 - 237)	1.15 (0.33 - 4.03)	16 (-129 - 162)
	Imputation 3	6	.	35,450	123 (9 - 237)	1.31 (0.39 - 4.36)	29 (-106 - 164)
	Imputation Summary	6	.	35,487	125 (11 - 239)	1.43 (0.36 - 5.59)	36 (-110 - 181)
	FWI Analysis	6	.	35,487	124 (11 - 238)	1.42 (0.34 - 5.84)	37 (-111 - 185)
Post-School Qualifications	Complete Educ. and Eth.	9	.	38,525	77.3 (27.6 - 217)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	6	40.0	12,796	125 (61.2% diff)	1	0
	Imputation 1	12	25.0	51,332	66.5 (11.6 - 121)	1	0
	Imputation 2	15	40.0	51,195	107 (16 - 198)	1	0
	Imputation 3	15	40.0	51,436	93.8 (22.0 - 166)	1	0
	Imputation Summary	15	40.0	51,321	89.1 (1.6 - 177)	1	0
	FWI Analysis	12	25.0	51,321	87.5 (29.7 - 258)	1	0

Table 146 Imputation comparisons for Lung Cancer, Males, Education, NZ Maori 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Education</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	273	.	239,047	164 (139 - 189)	2.46 (1.54 - 3.92)	97 (59 - 136)
	Est. Imputed Only	36	11.7	10,278	307 (87.2% diff)	0.30 (-88.0% diff)	-730 (-850.6% diff)
	Imputation 1	309	11.7	249,432	169 (145 - 194)	1.81 (1.03 - 3.18)	76 (19 - 132)
	Imputation 2	309	11.7	249,297	169 (145 - 194)	1.80 (1.02 - 3.17)	75 (18 - 132)
	Imputation 3	309	11.7	249,247	172 (147 - 196)	1.82 (1.03 - 3.22)	77 (20 - 135)
	Imputation Summary	309	11.7	249,325	170 (146 - 195)	1.81 (1.03 - 3.19)	76 (19 - 133)
	FWI Analysis	309	11.7	249,325	170 (149 - 191)	1.81 (1.21 - 2.70)	76 (35 - 118)
School Qualifications	Complete Educ. and Eth.	36	.	59,398	148 (83 - 212)	2.21 (1.18 - 4.11)	81 (9.5 - 152)
	Est. Imputed Only	0	0.0	1,614	83.4 (-43.5% diff)	0.08 (-96.4% diff)	-954 (-1282.5% diff)
	Imputation 1	36	0.0	60,883	153 (87 - 219)	1.63 (0.82 - 3.27)	59 (-24 - 143)
	Imputation 2	36	0.0	61,076	149 (86 - 212)	1.58 (0.79 - 3.16)	55 (-26 - 136)
	Imputation 3	36	0.0	61,080	136 (77 - 194)	1.44 (0.71 - 2.90)	41 (-37 - 120)
	Imputation Summary	36	0.0	61,013	146 (80 - 212)	1.55 (0.76 - 3.15)	52 (-32 - 136)
	FWI Analysis	36	0.0	61,013	146 (88 - 204)	1.55 (0.89 - 2.69)	52 (-16 - 120)
Post-School Qualifications	Complete Educ. and Eth.	30	.	85,145	66.9 (37.4 - 96.4)	1	0
	Est. Imputed Only	6	16.7	2,445	1038 (1451.1% diff)	1	0
	Imputation 1	36	16.7	87,614	93.6 (42.5 - 145)	1	0
	Imputation 2	36	16.7	87,556	94.1 (42.5 - 146)	1	0
	Imputation 3	36	16.7	87,602	94.3 (42.1 - 147)	1	0
	Imputation Summary	36	16.7	87,591	94.0 (42.4 - 146)	1	0
	FWI Analysis	36	16.7	87,591	94.0 (58.1 - 130)	1	0

Table 147 Imputation comparisons for Lung Cancer, Males, Education, NZ Maori 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Education</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	351	.	239,486	192 (168 - 216)	1.04 (0.74 - 1.45)	7.1 (-55 - 69)
	Est. Imputed Only	15	4.1	5,918	229 (19.5% diff)	-7.8 (-850.7% diff)	258 (3540.4% diff)
	Imputation 1	366	4.1	245,400	192 (168 - 216)	1.06 (0.78 - 1.45)	12 (-44 - 68)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
School Qualifications	Imputation 2	369	4.9	245,360	194 (170 - 218)	1.15 (0.84 - 1.57)	25 (-30 - 80)
	Imputation 3	366	4.1	245,451	192 (168 - 216)	1.07 (0.78 - 1.46)	13 (-44 - 69)
	Imputation Summary	366	4.1	245,404	193 (169 - 217)	1.09 (0.79 - 1.52)	16 (-42 - 75)
	FWI Analysis	366	4.1	245,404	193 (173 - 213)	1.09 (0.82 - 1.45)	16 (-34 - 67)
	Complete Educ. and Eth.	30	.	67,486	90.7 (52.4 - 129)	0.49 (0.29 - 0.83)	-94 (-163 - -25)
	Est. Imputed Only	0	0.0	1,287	-85.7 (-194.5% diff)	2.92 (495.7% diff)	-56 (-40.0% diff)
	Imputation 1	30	0.0	68,674	87.0 (50.2 - 124)	0.48 (0.29 - 0.80)	-93 (-156 - -31)
	Imputation 2	30	0.0	68,799	89.1 (52.2 - 126)	0.53 (0.32 - 0.87)	-80 (-142 - -19)
	Imputation 3	30	0.0	68,846	86.1 (49.7 - 122)	0.48 (0.29 - 0.80)	-94 (-157 - -31)
	Imputation Summary	30	0.0	68,773	87.4 (50.5 - 124)	0.50 (0.29 - 0.84)	-89 (-154 - -24)
Post-School Qualifications	FWI Analysis	30	0.0	68,773	87.4 (53.4 - 121)	0.50 (0.31 - 0.79)	-89 (-147 - -31)
	Complete Educ. and Eth.	72	.	117,921	185 (128 - 242)	1	0
	Est. Imputed Only	9	11.1	4,759	-29.3 (-115.9% diff)	1	0
	Imputation 1	81	11.1	122,783	180 (130 - 231)	1	0
	Imputation 2	78	7.7	122,698	169 (120 - 218)	1	0
	Imputation 3	84	14.3	122,559	180 (128 - 231)	1	0
	Imputation Summary	81	11.1	122,680	176 (124 - 229)	1	0
	FWI Analysis	81	11.1	122,680	176 (130 - 223)	1	0

Table 148 Imputation comparisons for Lung Cancer, Males, Education, NZ Maori 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Males 25+ years 1996-01</i>							
<i>Education By: Total NZ Mäori Age Standardised</i>							
No Qualifications	Complete Educ. and Eth.	333	.	264,470	164 (142 - 186)	1.53 (0.88 - 2.66)	57 (-4.7 - 118)
	Est. Imputed Only	75	18.4	42,038	175 (7.1% diff)	1.10 (-28.1% diff)	16 (-71.8% diff)
	Imputation 1	408	18.4	306,494	166 (146 - 186)	1.18 (0.86 - 1.64)	26 (-21 - 72)
	Imputation 2	411	19.0	306,532	166 (146 - 185)	1.36 (0.99 - 1.85)	44 (3.1 - 84)
	Imputation 3	405	17.8	306,498	164 (145 - 184)	1.38 (1.01 - 1.89)	45 (5.6 - 85)
	Imputation Summary	408	18.4	306,508	165 (146 - 185)	1.30 (0.90 - 1.89)	38 (-11 - 87)
	FWI Analysis	408	18.4	306,508	165 (146 - 184)	1.30 (0.87 - 1.95)	38 (-15 - 91)
School Qualifications	Complete Educ. and Eth.	54	.	120,683	102 (71 - 134)	0.95 (0.51 - 1.77)	-4.9 (-70 - 61)
	Est. Imputed Only	30	35.7	25,427	204 (100.2% diff)	1.28 (35.0% diff)	45 (-1018.2% diff)
	Imputation 1	81	33.3	145,989	109 (82 - 136)	0.78 (0.52 - 1.15)	-32 (-82 - 19)
	Imputation 2	84	35.7	145,956	121 (90 - 152)	0.99 (0.67 - 1.45)	-1.3 (-48 - 46)
	Imputation 3	90	40.0	146,386	130 (99 - 162)	1.09 (0.75 - 1.60)	11 (-36 - 58)
	Imputation Summary	84	35.7	146,110	120 (81 - 159)	0.94 (0.55 - 1.63)	-7.2 (-76 - 62)
	FWI Analysis	84	35.7	146,110	120 (93 - 147)	0.94 (0.60 - 1.48)	-7.1 (-64 - 49)
Post-School Qualifications	Complete Educ. and Eth.	24	.	68,910	107 (50 - 164)	1	0
	Est. Imputed Only	48	66.7	42,893	159 (49.0% diff)	1	0
	Imputation 1	78	69.2	111,938	140 (98 - 182)	1	0
	Imputation 2	69	65.2	111,934	122 (87 - 158)	1	0
	Imputation 3	69	65.2	111,537	119 (85 - 153)	1	0
	Imputation Summary	72	66.7	111,803	127 (82 - 173)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	FWI Analysis	72	66.7	111,803	127 (78 - 176)	1	0

Table 149 Imputation comparisons for Lung Cancer, Males, Education, NZ Maori 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>2001-04</i>			
<i>Education</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	249	.	167,062	180 (154 - 207)	2.50 (1.44 - 4.34)	108 (61 - 155)
	Est. Imputed Only	84	25.2	44,450	119 (-34.1% diff)	0.87 (-65.0% diff)	-17 (-115.9% diff)
	Imputation 1	333	25.2	211,727	167 (146 - 187)	1.63 (1.10 - 2.43)	65 (21 - 108)
	Imputation 2	333	25.2	211,455	167 (147 - 188)	2.30 (1.57 - 3.38)	95 (61 - 128)
	Imputation 3	333	25.2	211,356	168 (147 - 189)	2.17 (1.49 - 3.17)	91 (56 - 125)
	Imputation Summary	333	25.2	211,513	167 (147 - 188)	2.01 (1.14 - 3.55)	83 (31 - 136)
	FWI Analysis	333	25.2	211,513	167 (148 - 186)	2.01 (1.33 - 3.05)	84 (46 - 122)
School Qualifications	Complete Educ. and Eth.	42	.	77,400	139 (87 - 191)	1.92 (1.00 - 3.69)	67 (1.9 - 131)
	Est. Imputed Only	21	33.3	16,743	191 (37.7% diff)	1.41 (-26.8% diff)	55 (-17.2% diff)
	Imputation 1	60	30.0	93,931	132 (91 - 172)	1.29 (0.79 - 2.10)	29 (-27 - 85)
	Imputation 2	63	33.3	94,173	159 (109 - 209)	2.19 (1.35 - 3.54)	86 (30 - 143)
	Imputation 3	63	33.3	94,327	154 (105 - 202)	1.99 (1.23 - 3.20)	76 (21 - 132)
	Imputation Summary	63	33.3	94,144	148 (91 - 205)	1.78 (0.80 - 3.96)	64 (-25 - 153)
	FWI Analysis	63	33.3	94,144	148 (105 - 190)	1.78 (1.08 - 2.91)	64 (10 - 119)
Post-School Qualifications	Complete Educ. and Eth.	30	.	94,401	72.1 (33.7 - 111)	1	0
	Est. Imputed Only	18	37.5	21,676	136 (88.4% diff)	1	0
	Imputation 1	51	41.2	116,075	102 (64 - 141)	1	0
	Imputation 2	45	33.3	116,105	72.5 (46.2 - 98.8)	1	0
	Imputation 3	48	37.5	116,049	77.3 (49.6 - 105)	1	0
	Imputation Summary	48	37.5	116,076	84.0 (36.2 - 132)	1	0
	FWI Analysis	48	37.5	116,076	83.1 (50.0 - 116)	1	0

Table 150 Imputation comparisons for Lung Cancer, Males, Education, European/Other 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1981-86</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	2526	.	1,545,772	102 (98 - 107)	1.64 (1.45 - 1.86)	40 (31 - 49)
	Est. Imputed Only	714	22.0	395,112	99.4 (-2.9% diff)	1.10 (-32.9% diff)	9.1 (-77.4% diff)
	Imputation 1	3234	21.9	1,941,081	102 (98 - 106)	1.44 (1.30 - 1.60)	31 (24 - 39)
	Imputation 2	3249	22.3	1,941,089	102 (98 - 106)	1.50 (1.35 - 1.66)	34 (26 - 42)
	Imputation 3	3237	22.0	1,940,480	102 (97 - 106)	1.47 (1.33 - 1.63)	32 (25 - 40)
	Imputation Summary	3240	22.0	1,940,883	102 (98 - 106)	1.47 (1.31 - 1.64)	33 (24 - 41)
	FWI Analysis	3243	22.1	1,944,577	102 (98 - 106)	1.47 (1.33 - 1.63)	33 (25 - 40)
School Qualifications	Complete Educ. and Eth.	282	.	380,435	99.4 (84.8 - 114)	1.59 (1.32 - 1.92)	37 (21 - 53)
	Est. Imputed Only	84	23.0	109,272	78.3 (-21.2% diff)	0.87 (-45.4% diff)	-12 (-132.3% diff)
	Imputation 1	366	23.0	489,529	95.9 (83.8 - 108)	1.36 (1.16 - 1.59)	25 (12 - 39)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Post-School Qualifications	Imputation 2	363	22.3	488,818	93.1 (81.5 - 105)	1.37 (1.17 - 1.60)	25 (12 - 38)
	Imputation 3	369	23.6	490,777	95.0 (83.2 - 107)	1.37 (1.18 - 1.60)	26 (12 - 39)
	Imputation Summary	366	23.0	489,708	94.7 (82.4 - 107)	1.37 (1.17 - 1.60)	25 (12 - 39)
	FWI Analysis	366	23.0	490,252	94.6 (82.5 - 107)	1.37 (1.17 - 1.60)	25 (12 - 39)
	Complete Educ. and Eth.	441	.	1,025,336	62.4 (55.2 - 69.5)	1	0
	Est. Imputed Only	228	34.1	330,449	90.3 (44.7% diff)	1	0
	Imputation 1	678	35.0	1,355,544	70.4 (63.9 - 76.9)	1	0
	Imputation 2	660	33.2	1,356,584	68.0 (61.6 - 74.4)	1	0
	Imputation 3	666	33.8	1,355,224	69.2 (62.7 - 75.6)	1	0
	Imputation Summary	669	34.1	1,355,784	69.2 (62.2 - 76.2)	1	0
FWI Analysis	669	34.1	1,356,565	69.2 (62.7 - 75.7)	1	0	

Table 151 Imputation comparisons for Lung Cancer, Males, Education, European/Other 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	2058	.	1,411,391	94.4 (89.8 - 99.0)	1.33 (1.22 - 1.45)	23 (17 - 30)
	Est. Imputed Only	207	9.1	82,825	96.2 (1.9% diff)	0.75 (-43.3% diff)	-31 (-234.6% diff)
	Imputation 1	2280	9.7	1,494,512	95.0 (90.5 - 99.4)	1.31 (1.21 - 1.42)	22 (16 - 29)
	Imputation 2	2259	8.9	1,494,077	94.4 (90.0 - 98.8)	1.30 (1.20 - 1.41)	22 (15 - 29)
	Imputation 3	2253	8.7	1,494,059	94.1 (89.7 - 98.5)	1.29 (1.19 - 1.40)	21 (15 - 28)
	Imputation Summary	2265	9.1	1,494,216	94.5 (89.9 - 99.1)	1.30 (1.20 - 1.41)	22 (15 - 29)
	FWI Analysis	2265	9.1	1,499,783	94.4 (90.4 - 98.5)	1.30 (1.21 - 1.40)	22 (16 - 28)
School Qualifications	Complete Educ. and Eth.	750	.	796,916	84.3 (77.3 - 91.2)	1.19 (1.06 - 1.32)	13 (4.6 - 22)
	Est. Imputed Only	63	7.7	30,671	87.0 (3.2% diff)	0.68 (-42.7% diff)	-41 (-407.3% diff)
	Imputation 1	798	6.0	827,515	83.2 (76.6 - 89.9)	1.15 (1.03 - 1.27)	11 (2.4 - 19)
	Imputation 2	822	8.8	827,738	84.9 (78.2 - 91.6)	1.17 (1.06 - 1.30)	12 (4.1 - 21)
	Imputation 3	819	8.4	827,508	85.1 (78.3 - 91.8)	1.17 (1.05 - 1.29)	12 (3.8 - 20)
	Imputation Summary	813	7.7	827,587	84.4 (77.3 - 91.5)	1.16 (1.05 - 1.29)	12 (3.1 - 20)
	FWI Analysis	813	7.7	829,256	84.4 (78.3 - 90.4)	1.16 (1.06 - 1.28)	12 (4.1 - 19)
Post-School Qualifications	Complete Educ. and Eth.	1032	.	1,680,328	71.1 (66.1 - 76.1)	1	0
	Est. Imputed Only	93	8.3	49,008	128 (79.4% diff)	1	0
	Imputation 1	1125	8.3	1,729,275	72.6 (67.8 - 77.5)	1	0
	Imputation 2	1122	8.0	1,729,250	72.5 (67.7 - 77.4)	1	0
	Imputation 3	1128	8.5	1,729,481	72.9 (68.1 - 77.8)	1	0
	Imputation Summary	1125	8.3	1,729,335	72.7 (67.8 - 77.6)	1	0
	FWI Analysis	1125	8.3	1,729,973	72.7 (68.2 - 77.2)	1	0

Table 152 Imputation comparisons for Lung Cancer, Males, Education, European/Other 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
No Qualifications	Complete Educ. and Eth.	1812	.	1,237,677	95.6 (90.6 - 101)	1.46 (1.35 - 1.59)	30 (24 - 37)
	Est. Imputed Only	72	3.8	36,389	67.6 (-29.3% diff)	0.82 (-43.6% diff)	-15 (-147.9% diff)
	Imputation 1	1890	4.1	1,274,262	95.0 (90.1 - 99.8)	1.45 (1.34 - 1.57)	30 (23 - 36)
	Imputation 2	1884	3.8	1,274,197	94.9 (90.0 - 99.7)	1.45 (1.34 - 1.57)	30 (23 - 36)
	Imputation 3	1875	3.4	1,273,740	94.5 (89.7 - 99.3)	1.42 (1.32 - 1.54)	28 (22 - 34)
	Imputation Summary	1884	3.8	1,274,066	94.8 (89.9 - 99.7)	1.44 (1.33 - 1.56)	29 (23 - 36)
	FWI Analysis	1884	3.8	1,278,179	94.6 (90.3 - 99.0)	1.44 (1.34 - 1.55)	29 (23 - 35)
School Qualifications	Complete Educ. and Eth.	1029	.	879,858	81.2 (75.3 - 87.2)	1.25 (1.13 - 1.37)	16 (8.8 - 23)
	Est. Imputed Only	30	2.8	20,380	28.2 (-65.3% diff)	0.34 (-72.5% diff)	-54 (-437.0% diff)
	Imputation 1	1059	2.8	899,785	79.9 (74.1 - 85.7)	1.22 (1.11 - 1.34)	15 (7.5 - 21)
	Imputation 2	1062	3.1	900,106	80.4 (74.6 - 86.2)	1.23 (1.12 - 1.35)	15 (8.0 - 22)
	Imputation 3	1053	2.3	900,823	79.7 (73.9 - 85.5)	1.20 (1.09 - 1.32)	13 (6.3 - 20)
	Imputation Summary	1059	2.8	900,238	80.0 (74.1 - 85.9)	1.22 (1.10 - 1.34)	14 (7.1 - 22)
	FWI Analysis	1059	2.8	901,791	79.9 (74.7 - 85.1)	1.22 (1.12 - 1.32)	14 (8.0 - 21)
Post-School Qualifications	Complete Educ. and Eth.	1215	.	1,951,867	65.2 (61.2 - 69.3)	1	0
	Est. Imputed Only	93	7.1	59,447	82.1 (25.9% diff)	1	0
	Imputation 1	1302	6.7	2,011,408	65.4 (61.5 - 69.3)	1	0
	Imputation 2	1302	6.7	2,011,560	65.3 (61.4 - 69.3)	1	0
	Imputation 3	1317	7.7	2,010,974	66.3 (62.4 - 70.3)	1	0
	Imputation Summary	1308	7.1	2,011,314	65.7 (61.6 - 69.8)	1	0
	FWI Analysis	1308	7.1	2,013,464	65.7 (62.1 - 69.3)	1	0

Table 153 Imputation comparisons for Lung Cancer, Males, Education, European/Other 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	1869	.	1,247,739	84.1 (79.5 - 88.7)	1.73 (1.53 - 1.95)	35 (29 - 42)
	Est. Imputed Only	342	15.5	200,181	79.8 (-5.2% diff)	1.14 (-33.8% diff)	10 (-71.5% diff)
	Imputation 1	2226	16.0	1,448,434	84.1 (79.9 - 88.3)	1.55 (1.42 - 1.69)	30 (24 - 36)
	Imputation 2	2208	15.4	1,447,933	83.5 (79.3 - 87.7)	1.54 (1.40 - 1.68)	29 (23 - 35)
	Imputation 3	2199	15.0	1,447,393	83.0 (78.8 - 87.2)	1.51 (1.38 - 1.65)	28 (22 - 34)
	Imputation Summary	2211	15.5	1,447,920	83.5 (79.1 - 87.9)	1.53 (1.39 - 1.69)	29 (23 - 35)
	FWI Analysis	2211	15.5	1,454,570	83.5 (79.7 - 87.3)	1.53 (1.38 - 1.69)	29 (23 - 35)
School Qualifications	Complete Educ. and Eth.	645	.	1,048,629	60.0 (54.9 - 65.2)	1.23 (1.08 - 1.41)	11 (4.0 - 19)
	Est. Imputed Only	192	22.9	168,239	75.2 (25.3% diff)	1.08 (-12.3% diff)	5.5 (-51.6% diff)
	Imputation 1	828	22.1	1,216,472	61.5 (56.8 - 66.2)	1.13 (1.02 - 1.26)	7.2 (1.0 - 13)
	Imputation 2	843	23.5	1,217,580	62.4 (57.7 - 67.2)	1.15 (1.03 - 1.28)	8.1 (1.9 - 14)
	Imputation 3	840	23.2	1,216,551	62.4 (57.7 - 67.2)	1.13 (1.02 - 1.26)	7.3 (1.0 - 14)
	Imputation Summary	837	22.9	1,216,868	62.1 (57.2 - 67.0)	1.14 (1.02 - 1.27)	7.5 (1.2 - 14)
	FWI Analysis	840	23.2	1,220,367	62.2 (57.4 - 66.9)	1.14 (1.01 - 1.28)	7.6 (0.8 - 14)
Post-School Qualifications	Complete Educ. and Eth.	411	.	1,181,505	48.7 (43.5 - 53.9)	1	0
	Est. Imputed Only	429	51.1	462,625	69.7 (43.1% diff)	1	0
	Imputation 1	834	50.7	1,644,059	54.3 (50.3 - 58.3)	1	0
	Imputation 2	834	50.7	1,643,513	54.3 (50.3 - 58.4)	1	0
	Imputation 3	849	51.6	1,644,818	55.2 (51.1 - 59.2)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation Summary	840	51.1	1,644,130	54.6 (50.4 - 58.8)	1	0
	FWI Analysis	840	51.1	1,646,770	54.6 (49.7 - 59.5)	1	0

Table 154 Imputation comparisons for Lung Cancer, Males, Education, European/Other 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Males</i>	<i>25+ years</i>		<i>2001-04</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	1161	.	787,135	77.8 (72.7 - 82.9)	1.84 (1.64 - 2.07)	36 (29 - 42)
	Est. Imputed Only	393	25.3	188,353	70.0 (-10.0% diff)	0.83 (-54.6% diff)	-14 (-139.0% diff)
	Imputation 1	1578	26.4	974,928	77.4 (72.9 - 81.9)	1.68 (1.52 - 1.85)	31 (26 - 37)
	Imputation 2	1545	24.9	975,367	75.8 (71.4 - 80.2)	1.59 (1.44 - 1.75)	28 (22 - 34)
	Imputation 3	1539	24.6	976,170	75.6 (71.2 - 80.0)	1.56 (1.41 - 1.72)	27 (21 - 33)
	Imputation Summary	1554	25.3	975,488	76.3 (71.3 - 81.2)	1.61 (1.41 - 1.83)	29 (21 - 37)
	FWI Analysis	1557	25.4	979,931	76.2 (71.8 - 80.6)	1.60 (1.46 - 1.77)	29 (23 - 35)
School Qualifications	Complete Educ. and Eth.	540	.	746,277	63.9 (58.0 - 69.8)	1.51 (1.32 - 1.73)	22 (14 - 29)
	Est. Imputed Only	204	27.4	120,833	88.3 (38.2% diff)	1.05 (-30.3% diff)	4.4 (-79.6% diff)
	Imputation 1	744	27.4	867,038	67.3 (61.9 - 72.7)	1.46 (1.30 - 1.63)	21 (15 - 28)
	Imputation 2	750	28.0	867,861	67.8 (62.4 - 73.2)	1.42 (1.27 - 1.59)	20 (14 - 27)
	Imputation 3	738	26.8	866,429	66.7 (61.3 - 72.1)	1.37 (1.23 - 1.54)	18 (12 - 25)
	Imputation Summary	744	27.4	867,109	67.3 (61.7 - 72.8)	1.42 (1.24 - 1.62)	20 (12 - 27)
	FWI Analysis	744	27.4	870,182	67.2 (61.7 - 72.6)	1.41 (1.26 - 1.58)	20 (13 - 26)
Post-School Qualifications	Complete Educ. and Eth.	498	.	1,275,140	42.3 (38.2 - 46.3)	1	0
	Est. Imputed Only	243	32.8	178,170	83.9 (98.3% diff)	1	0
	Imputation 1	720	30.8	1,453,855	46.1 (42.5 - 49.8)	1	0
	Imputation 2	744	33.1	1,452,540	47.6 (43.9 - 51.4)	1	0
	Imputation 3	759	34.4	1,453,535	48.6 (44.8 - 52.3)	1	0
	Imputation Summary	741	32.8	1,453,310	47.4 (42.8 - 52.1)	1	0
	FWI Analysis	744	33.1	1,456,655	47.5 (43.8 - 51.3)	1	0

Table 155 Imputation comparisons for Lung Cancer, Females, Education, 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1981-86</i>			
<i>Education</i>	<i>By: All Ethnicities</i>			<i>Age and Ethnicity Standardised</i>			
No Qualifications	Complete Educ. and Eth.	975	.	2,182,155	33.8 (30.7 - 36.9)	1.83 (1.31 - 2.55)	15 (8.7 - 22)
	Est. Imputed Only	300	23.5	619,626	32.4 (-4.0% diff)	1.22 (-33.4% diff)	5.8 (-62.2% diff)
	Imputation 1	1269	23.2	2,801,988	33.5 (30.7 - 36.2)	1.74 (1.36 - 2.23)	14 (9.0 - 20)
	Imputation 2	1278	23.7	2,801,628	33.6 (30.8 - 36.3)	1.79 (1.38 - 2.33)	15 (9.4 - 20)
	Imputation 3	1275	23.5	2,801,727	33.5 (30.8 - 36.2)	1.40 (1.00 - 1.96)	9.6 (1.3 - 18)
	Imputation Summary	1275	23.5	2,801,781	33.5 (30.8 - 36.3)	1.63 (1.08 - 2.48)	13 (3.7 - 22)
	FWI Analysis	1275	23.5	2,801,781	33.5 (30.9 - 36.1)	1.63 (1.20 - 2.21)	13 (6.3 - 20)
School Qualifications	Complete Educ. and Eth.	75	.	524,614	24.7 (13.5 - 35.9)	1.34 (0.77 - 2.33)	6.2 (-6.4 - 19)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	36	32.4	198,764	23.6 (-4.4% diff)	0.89 (-33.8% diff)	-3.0 (-148.7% diff)
	Imputation 1	111	32.4	722,902	25.5 (16.3 - 34.6)	1.32 (0.86 - 2.04)	6.2 (-4.0 - 16)
	Imputation 2	111	32.4	724,020	24.3 (15.6 - 33.0)	1.29 (0.84 - 2.00)	5.5 (-4.3 - 15)
	Imputation 3	108	30.6	723,210	23.3 (14.8 - 31.8)	0.97 (0.60 - 1.59)	-0.6 (-12 - 11)
	Imputation Summary	111	32.4	723,377	24.4 (15.2 - 33.5)	1.18 (0.65 - 2.15)	3.7 (-9.8 - 17)
	FWI Analysis	111	32.4	723,377	24.3 (12.7 - 36.0)	1.18 (0.67 - 2.07)	3.7 (-9.4 - 17)
Post-School Qualifications	Complete Educ. and Eth.	99	.	765,268	18.5 (12.6 - 24.4)	1	0
	Est. Imputed Only	63	38.9	266,539	26.6 (43.9% diff)	1	0
	Imputation 1	165	40.0	1,032,075	19.2 (14.7 - 23.7)	1	0
	Imputation 2	156	36.5	1,031,318	18.7 (14.1 - 23.4)	1	0
	Imputation 3	162	38.9	1,032,028	23.9 (16.1 - 31.7)	1	0
	Imputation Summary	162	38.9	1,031,807	20.6 (11.9 - 29.3)	1	0
	FWI Analysis	162	38.9	1,031,807	20.6 (14.5 - 26.7)	1	0

Table 156 Imputation comparisons for Lung Cancer, Females, Education, 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1986-91</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	1254	.	2,270,373	44.4 (41.1 - 47.8)	1.21 (0.81 - 1.80)	7.6 (-7.2 - 23)
	Est. Imputed Only	129	9.3	154,012	46.0 (3.5% diff)	5.81 (380.4% diff)	38 (400.9% diff)
	Imputation 1	1377	8.9	2,424,095	44.3 (41.1 - 47.5)	1.23 (0.83 - 1.82)	8.3 (-5.9 - 22)
	Imputation 2	1392	9.9	2,424,421	44.7 (41.5 - 47.9)	1.25 (0.85 - 1.86)	9.1 (-5.1 - 23)
	Imputation 3	1380	9.1	2,424,641	44.4 (41.2 - 47.6)	1.25 (0.85 - 1.83)	8.8 (-5.0 - 23)
	Imputation Summary	1383	9.3	2,424,386	44.5 (41.2 - 47.7)	1.24 (0.84 - 1.84)	8.7 (-5.3 - 23)
	FWI Analysis	1383	9.3	2,424,386	44.5 (41.6 - 47.4)	1.24 (0.82 - 1.89)	8.7 (-6.3 - 24)
School Qualifications	Complete Educ. and Eth.	345	.	1,188,843	35.6 (29.3 - 41.8)	0.97 (0.63 - 1.49)	-1.2 (-17 - 15)
	Est. Imputed Only	51	12.9	65,535	49.0 (37.6% diff)	6.20 (538.7% diff)	41 (-3524.1% diff)
	Imputation 1	402	14.2	1,254,671	36.2 (30.4 - 42.0)	1.00 (0.66 - 1.52)	0.1 (-15 - 15)
	Imputation 2	390	11.5	1,254,270	36.2 (29.9 - 42.5)	1.02 (0.66 - 1.55)	0.5 (-15 - 16)
	Imputation 3	399	13.5	1,254,191	36.4 (30.3 - 42.5)	1.02 (0.68 - 1.54)	0.7 (-14 - 16)
	Imputation Summary	396	12.9	1,254,377	36.3 (30.2 - 42.3)	1.01 (0.67 - 1.54)	0.4 (-15 - 15)
	FWI Analysis	396	12.9	1,254,377	36.3 (30.9 - 41.6)	1.01 (0.65 - 1.57)	0.5 (-15 - 16)
Post-School Qualifications	Complete Educ. and Eth.	270	.	1,249,071	36.8 (22.3 - 51.2)	1	0
	Est. Imputed Only	24	8.2	44,784	7.9 (-78.5% diff)	1	0
	Imputation 1	294	8.2	1,293,853	36.1 (22.2 - 49.9)	1	0
	Imputation 2	291	7.2	1,293,928	35.7 (21.9 - 49.4)	1	0
	Imputation 3	294	8.2	1,293,787	35.6 (22.2 - 49.1)	1	0
	Imputation Summary	294	8.2	1,293,856	35.8 (22.1 - 49.5)	1	0
	FWI Analysis	294	8.2	1,293,856	35.8 (21.0 - 50.6)	1	0

Table 157 Imputation comparisons for Lung Cancer, Females, Education, 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1991-96</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	1425	.	1,974,056	55.7 (52.0 - 59.3)	1.59 (1.27 - 1.98)	21 (12 - 29)
	Est. Imputed Only	63	4.2	76,227	39.6 (-29.0% diff)	1.22 (-23.0% diff)	7.2 (-64.9% diff)
	Imputation 1	1488	4.2	2,049,982	55.1 (51.6 - 58.7)	1.60 (1.31 - 1.96)	21 (13 - 28)
	Imputation 2	1488	4.2	2,050,273	55.0 (51.4 - 58.5)	1.57 (1.29 - 1.93)	20 (13 - 28)
	Imputation 3	1491	4.4	2,050,594	55.1 (51.6 - 58.7)	1.54 (1.25 - 1.91)	19 (11 - 27)
	Imputation Summary	1488	4.2	2,050,283	55.1 (51.5 - 58.6)	1.57 (1.27 - 1.94)	20 (12 - 28)
	FWI Analysis	1488	4.2	2,050,283	55.1 (51.9 - 58.2)	1.57 (1.29 - 1.92)	20 (13 - 27)
School Qualifications	Complete Educ. and Eth.	678	.	1,473,837	41.8 (35.7 - 48.0)	1.19 (0.92 - 1.54)	6.7 (-2.8 - 16)
	Est. Imputed Only	36	5.0	48,055	35.5 (-15.2% diff)	1.10 (-7.8% diff)	3.1 (-53.2% diff)
	Imputation 1	714	5.0	1,521,891	41.2 (35.4 - 47.0)	1.20 (0.94 - 1.52)	6.8 (-2.0 - 16)
	Imputation 2	714	5.0	1,522,412	42.0 (36.0 - 48.0)	1.20 (0.95 - 1.53)	7.1 (-1.9 - 16)
	Imputation 3	714	5.0	1,521,370	41.6 (35.8 - 47.4)	1.17 (0.91 - 1.49)	5.9 (-3.3 - 15)
	Imputation Summary	714	5.0	1,521,891	41.6 (35.7 - 47.5)	1.19 (0.93 - 1.52)	6.6 (-2.5 - 16)
	FWI Analysis	714	5.0	1,521,891	41.6 (36.2 - 47.0)	1.19 (0.95 - 1.49)	6.6 (-1.9 - 15)
Post-School Qualifications	Complete Educ. and Eth.	378	.	1,706,390	35.1 (27.8 - 42.4)	1	0
	Est. Imputed Only	33	8.0	63,841	32.3 (-7.9% diff)	1	0
	Imputation 1	411	8.0	1,770,532	34.4 (27.8 - 41.0)	1	0
	Imputation 2	411	8.0	1,769,721	34.9 (28.2 - 41.6)	1	0
	Imputation 3	408	7.4	1,770,441	35.7 (28.5 - 42.8)	1	0
	Imputation Summary	411	8.0	1,770,231	35.0 (28.0 - 42.0)	1	0
	FWI Analysis	411	8.0	1,770,231	35.0 (28.4 - 41.6)	1	0

Table 158 Imputation comparisons for Lung Cancer, Females, Education, 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1996-01</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	1584	.	1,958,686	56.2 (52.7 - 59.6)	1.90 (1.53 - 2.34)	27 (20 - 34)
	Est. Imputed Only	282	15.1	306,856	46.6 (-17.1% diff)	0.80 (-58.0% diff)	-12 (-144.4% diff)
	Imputation 1	1863	15.0	2,264,954	54.7 (51.6 - 57.8)	1.59 (1.36 - 1.87)	20 (14 - 26)
	Imputation 2	1872	15.4	2,264,964	55.1 (52.0 - 58.2)	1.57 (1.31 - 1.87)	20 (13 - 27)
	Imputation 3	1860	14.8	2,266,708	54.8 (51.7 - 57.9)	1.44 (1.15 - 1.80)	17 (8.1 - 26)
	Imputation Summary	1866	15.1	2,265,542	54.9 (51.7 - 58.0)	1.53 (1.22 - 1.92)	19 (11 - 28)
	FWI Analysis	1866	15.1	2,265,542	54.9 (52.0 - 57.8)	1.54 (1.28 - 1.85)	19 (12 - 26)
School Qualifications	Complete Educ. and Eth.	528	.	1,660,037	43.7 (37.9 - 49.5)	1.48 (1.16 - 1.88)	14 (5.7 - 23)
	Est. Imputed Only	174	24.8	273,133	54.3 (24.3% diff)	0.93 (-37.1% diff)	-4.1 (-128.8% diff)
	Imputation 1	708	25.4	1,933,878	46.0 (41.1 - 51.0)	1.34 (1.12 - 1.61)	12 (4.6 - 19)
	Imputation 2	699	24.5	1,933,482	44.9 (40.1 - 49.7)	1.28 (1.05 - 1.56)	9.7 (2.1 - 17)
	Imputation 3	702	24.8	1,932,152	44.8 (40.0 - 49.6)	1.18 (0.93 - 1.50)	6.8 (-2.7 - 16)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Post-School Qualifications	Imputation Summary	702	24.8	1,933,170	45.2 (40.2 - 50.3)	1.26 (0.98 - 1.63)	9.4 (-0.4 - 19)
	FWI Analysis	702	24.8	1,933,170	45.2 (40.6 - 49.9)	1.27 (1.04 - 1.55)	9.6 (1.9 - 17)
	Complete Educ. and Eth.	219	.	1,263,381	29.6 (23.6 - 35.7)	1	0
	Est. Imputed Only	147	40.2	346,943	58.4 (97.2% diff)	1	0
	Imputation 1	363	39.7	1,610,206	34.3 (29.2 - 39.4)	1	0
	Imputation 2	366	40.2	1,610,591	35.1 (29.2 - 41.0)	1	0
	Imputation 3	372	41.1	1,610,177	38.0 (29.9 - 46.2)	1	0
	Imputation Summary	366	40.2	1,610,325	35.8 (27.9 - 43.7)	1	0
	FWI Analysis	366	40.2	1,610,325	35.6 (29.4 - 41.8)	1	0

Table 159 Imputation comparisons for Lung Cancer, Females, Education, 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 2001-04</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	1098	.	1,132,869	62.7 (58.2 - 67.1)	1.65 (1.26 - 2.16)	25 (14 - 36)
	Est. Imputed Only	501	31.3	349,961	66.5 (6.1% diff)	1.20 (-27.1% diff)	11 (-54.5% diff)
	Imputation 1	1593	31.1	1,482,822	63.3 (59.5 - 67.1)	1.62 (1.35 - 1.93)	24 (17 - 32)
	Imputation 2	1608	31.7	1,482,946	63.9 (60.1 - 67.7)	1.63 (1.38 - 1.93)	25 (17 - 32)
	Imputation 3	1599	31.3	1,482,719	63.5 (59.7 - 67.3)	1.49 (1.25 - 1.77)	21 (13 - 29)
	Imputation Summary	1599	31.3	1,482,829	63.6 (59.7 - 67.4)	1.58 (1.28 - 1.94)	23 (14 - 32)
	FWI Analysis	1599	31.3	1,482,829	63.6 (59.8 - 67.3)	1.57 (1.34 - 1.86)	23 (16 - 30)
School Qualifications	Complete Educ. and Eth.	444	.	1,192,846	43.6 (37.8 - 49.5)	1.15 (0.86 - 1.54)	5.7 (-5.8 - 17)
	Est. Imputed Only	192	30.2	242,262	46.0 (5.4% diff)	0.83 (-27.7% diff)	-9.3 (-263.4% diff)
	Imputation 1	648	31.5	1,434,616	44.6 (39.9 - 49.3)	1.14 (0.94 - 1.39)	5.4 (-2.6 - 13)
	Imputation 2	630	29.5	1,435,379	44.6 (39.6 - 49.6)	1.14 (0.94 - 1.38)	5.5 (-2.5 - 14)
	Imputation 3	633	29.9	1,435,326	42.8 (38.3 - 47.4)	1.00 (0.82 - 1.22)	0.1 (-8.3 - 8.5)
	Imputation Summary	636	30.2	1,435,107	44.0 (38.7 - 49.3)	1.09 (0.84 - 1.42)	3.7 (-7.1 - 14)
	FWI Analysis	636	30.2	1,435,107	44.0 (39.3 - 48.8)	1.09 (0.90 - 1.31)	3.7 (-4.1 - 11)
Post-School Qualifications	Complete Educ. and Eth.	327	.	1,445,028	37.9 (28.1 - 47.8)	1	0
	Est. Imputed Only	141	30.1	242,703	55.3 (45.9% diff)	1	0
	Imputation 1	465	29.7	1,688,230	39.2 (32.7 - 45.7)	1	0
	Imputation 2	468	30.1	1,687,342	39.2 (33.0 - 45.4)	1	0
	Imputation 3	474	31.0	1,687,622	42.7 (35.6 - 49.9)	1	0
	Imputation Summary	468	30.1	1,687,731	40.4 (32.3 - 48.4)	1	0
	FWI Analysis	468	30.1	1,687,731	40.4 (34.2 - 46.6)	1	0

Table 160 Imputation comparisons for Lung Cancer, Females, Education, NZ Maori 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 1981-86</i>							

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Education</i>		<i>By: Total NZ Māori</i>		<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	141	.	232,199	79.6 (62.3 - 96.9)	2.49 (0.84 - 7.38)	48 (9.6 - 86)
	Est. Imputed Only	30	17.5	52,836	71.5 (-10.2% diff)	2.65 (6.2% diff)	44 (-6.8% diff)
	Imputation 1	171	17.5	285,216	78.4 (63.0 - 93.8)	3.43 (1.17 - 10.01)	56 (27 - 84)
	Imputation 2	171	17.5	284,917	78.5 (63.0 - 93.9)	2.82 (1.08 - 7.34)	51 (20 - 81)
	Imputation 3	168	16.1	284,975	77.5 (62.1 - 92.8)	1.88 (0.85 - 4.19)	36 (1.0 - 72)
	Imputation Summary	171	17.5	285,036	78.1 (62.7 - 93.6)	2.63 (0.81 - 8.53)	48 (8.6 - 86)
	FWI Analysis	171	17.5	285,036	78.1 (64.1 - 92.1)	2.56 (1.10 - 5.94)	48 (19 - 76)
School Qualifications	Complete Educ. and Eth.	6	.	35,916	47.8 (10.8 - 211)	1.50 (0.24 - 9.29)	16 (-63 - 95)
	Est. Imputed Only	0	0.0	13,407	23.2 (-51.6% diff)	0.86 (-42.9% diff)	-3.9 (-124.4% diff)
	Imputation 1	9	33.3	49,040	44.3 (13.2 - 149)	1.93 (0.39 - 9.64)	21 (-38 - 80)
	Imputation 2	6	0.0	49,444	39.0 (9.9 - 154)	1.40 (0.27 - 7.38)	11 (-48 - 71)
	Imputation 3	6	0.0	49,487	39.9 (10.6 - 150)	0.97 (0.21 - 4.50)	-1.3 (-63 - 60)
	Imputation Summary	6	0.0	49,324	41.1 (-12.6 - 94.8)	1.38 (0.23 - 8.19)	10 (-55 - 76)
	FWI Analysis	6	0.0	49,324	41.1 (7.9 - 213)	1.34 (0.21 - 8.46)	11 (-62 - 83)
Post-School Qualifications	Complete Educ. and Eth.	6	.	24,815	31.9 (11.0 - 92.4)	1	0
	Est. Imputed Only	3	33.3	9,049	27.0 (-15.3% diff)	1	0
	Imputation 1	6	0.0	33,968	22.9 (8.0 - 65.7)	1	0
	Imputation 2	9	33.3	33,863	27.9 (1.7 - 54.0)	1	0
	Imputation 3	12	50.0	33,761	41.1 (9.3 - 73.0)	1	0
	Imputation Summary	9	33.3	33,864	30.6 (-4.2 - 65.5)	1	0
	FWI Analysis	9	33.3	33,864	30.6 (5.4 - 55.8)	1	0

Table 161 Imputation comparisons for Lung Cancer, Females, Education, NZ Maori 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>		<i>Females</i>		<i>25+ years</i>			
<i>Education</i>		<i>By: Total NZ Māori</i>		<i>1986-91</i>			
<i>Age Standardised</i>							
No Qualifications	Complete Educ. and Eth.	234	.	272,127	115 (98 - 133)	1.15 (0.42 - 3.10)	15 (-86 - 115)
	Est. Imputed Only	21	8.2	14,156	133 (15.8% diff)	-1.3 (-216.2% diff)	233 (1475.7% diff)
	Imputation 1	255	8.2	286,309	116 (100 - 133)	1.24 (0.45 - 3.45)	23 (-73 - 119)
	Imputation 2	255	8.2	286,347	116 (99 - 133)	1.24 (0.45 - 3.43)	22 (-74 - 118)
	Imputation 3	255	8.2	286,192	116 (99 - 133)	1.27 (0.46 - 3.48)	24 (-69 - 118)
	Imputation Summary	255	8.2	286,283	116 (99 - 133)	1.25 (0.45 - 3.46)	23 (-72 - 118)
	FWI Analysis	255	8.2	286,283	116 (102 - 130)	1.25 (0.46 - 3.39)	23 (-70 - 116)
School Qualifications	Complete Educ. and Eth.	30	.	80,496	87.2 (48.2 - 126)	0.87 (0.30 - 2.56)	-13 (-119 - 93)
	Est. Imputed Only	3	9.1	2,844	172 (97.5% diff)	-1.7 (-298.3% diff)	272 (-2160.5% diff)
	Imputation 1	33	9.1	83,297	86.9 (50.8 - 123)	0.93 (0.31 - 2.76)	-6.8 (-108 - 94)
	Imputation 2	33	9.1	83,317	93.4 (53.6 - 133)	1.00 (0.33 - 2.99)	-0.1 (-103 - 102)
	Imputation 3	33	9.1	83,406	90.0 (51.9 - 128)	0.98 (0.33 - 2.91)	-1.7 (-101 - 98)
	Imputation Summary	33	9.1	83,340	90.1 (51.4 - 129)	0.97 (0.32 - 2.90)	-2.9 (-104 - 99)
	FWI Analysis	36	16.7	83,340	90.3 (58.5 - 122)	0.97 (0.34 - 2.78)	-2.7 (-100 - 95)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Post-School Qualifications	Complete Educ. and Eth.	15	.	53,459	100 (2 - 199)	1	0
	Est. Imputed Only	.	.	2,052	-99.8 (-199.4% diff)	1	0
	Imputation 1	15	0.0	55,528	93.7 (34.1 - 257)	1	0
	Imputation 2	12	.	55,469	93.5 (34.1 - 257)	1	0
	Imputation 3	12	.	55,536	91.7 (33.7 - 250)	1	0
	Imputation Summary	12	.	55,511	93.0 (-0.7 - 187)	1	0
	FWI Analysis	12	.	55,511	93.0 (0.8 - 185)	1	0

Table 162 Imputation comparisons for Lung Cancer, Females, Education, NZ Maori 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Education</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	291	.	275,276	141 (121 - 160)	1.61 (0.95 - 2.71)	53 (4.9 - 101)
	Est. Imputed Only	12	4.0	7,732	63.6 (-54.7% diff)	1.50 (-7.1% diff)	21 (-60.3% diff)
	Imputation 1	306	4.9	283,106	139 (121 - 158)	1.66 (1.01 - 2.73)	56 (11 - 100)
	Imputation 2	300	3.0	283,104	138 (119 - 156)	1.56 (0.97 - 2.53)	50 (4.8 - 94)
	Imputation 3	300	3.0	282,816	138 (120 - 157)	1.63 (1.00 - 2.67)	53 (9.2 - 98)
	Imputation Summary	303	4.0	283,009	138 (120 - 157)	1.62 (0.98 - 2.65)	53 (7.9 - 98)
	FWI Analysis	303	4.0	283,009	138 (123 - 154)	1.62 (0.98 - 2.67)	53 (8.2 - 98)
School Qualifications	Complete Educ. and Eth.	39	.	98,014	90.8 (52.5 - 129)	1.04 (0.54 - 2.01)	3.4 (-55 - 62)
	Est. Imputed Only	0	0.0	2,032	21.9 (-75.9% diff)	0.51 (-50.6% diff)	-21 (-708.4% diff)
	Imputation 1	39	0.0	100,016	87.6 (51.6 - 124)	1.05 (0.56 - 1.97)	3.9 (-50 - 58)
	Imputation 2	39	0.0	100,059	89.1 (53.1 - 125)	1.01 (0.55 - 1.86)	0.8 (-54 - 55)
	Imputation 3	39	0.0	100,060	91.5 (55.5 - 128)	1.08 (0.58 - 2.00)	6.7 (-47 - 61)
	Imputation Summary	39	0.0	100,045	89.4 (53.1 - 126)	1.05 (0.56 - 1.95)	3.8 (-51 - 58)
	FWI Analysis	39	0.0	100,045	89.4 (56.1 - 123)	1.04 (0.57 - 1.93)	3.8 (-50 - 57)
Post-School Qualifications	Complete Educ. and Eth.	36	.	99,035	87.4 (43.2 - 132)	1	0
	Est. Imputed Only	6	14.3	4,140	42.5 (-51.3% diff)	1	0
	Imputation 1	42	14.3	103,107	83.8 (43.7 - 124)	1	0
	Imputation 2	42	14.3	103,066	88.3 (47.5 - 129)	1	0
	Imputation 3	39	7.7	103,353	84.8 (44.6 - 125)	1	0
	Imputation Summary	42	14.3	103,175	85.6 (44.9 - 126)	1	0
	FWI Analysis	42	14.3	103,175	85.6 (43.9 - 127)	1	0

Table 163 Imputation comparisons for Lung Cancer, Females, Education, NZ Maori 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1996-01</i>			
<i>Education</i>	<i>By: Total NZ Māori</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	327	.	291,454	135 (119 - 152)	2.63 (1.38 - 5.02)	84 (47 - 121)
	Est. Imputed Only	57	14.8	42,072	95.0 (-29.9% diff)	0.66 (-75.1% diff)	-50 (-159.4% diff)
	Imputation 1	378	13.5	333,617	129 (114 - 143)	1.44 (1.00 - 2.06)	39 (5.4 - 73)
	Imputation 2	387	15.5	333,633	131 (117 - 146)	1.63 (1.12 - 2.36)	51 (19 - 83)
	Imputation 3	384	14.8	333,329	131 (116 - 145)	1.62 (1.13 - 2.32)	50 (19 - 81)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
School Qualifications	Imputation Summary	384	14.8	333,526	130 (115 - 145)	1.56 (1.05 - 2.32)	47 (11 - 82)
	FWI Analysis	384	14.8	333,526	130 (118 - 143)	1.56 (0.98 - 2.48)	47 (7.2 - 86)
	Complete Educ. and Eth.	66	.	155,884	106 (73 - 139)	2.06 (1.01 - 4.17)	55 (8.1 - 101)
	Est. Imputed Only	27	29.0	32,195	118 (11.0% diff)	0.81 (-60.6% diff)	-27 (-149.8% diff)
	Imputation 1	96	31.3	187,865	112 (86 - 139)	1.25 (0.83 - 1.90)	23 (-18 - 63)
	Imputation 2	93	29.0	188,307	105 (80 - 131)	1.31 (0.85 - 2.01)	25 (-14 - 63)
	Imputation 3	90	26.7	188,063	107 (81 - 132)	1.32 (0.87 - 2.01)	26 (-12 - 64)
	Imputation Summary	93	29.0	188,078	108 (81 - 135)	1.29 (0.84 - 1.98)	25 (-15 - 64)
Post-School Qualifications	FWI Analysis	93	29.0	188,078	108 (83 - 133)	1.30 (0.78 - 2.15)	25 (-21 - 70)
	Complete Educ. and Eth.	15	.	70,658	51.6 (18.8 - 84.3)	1	0
	Est. Imputed Only	33	68.8	36,936	145 (180.6% diff)	1	0
	Imputation 1	51	70.6	107,717	89.5 (58.8 - 120)	1	0
	Imputation 2	48	68.8	107,259	80.6 (52.1 - 109)	1	0
	Imputation 3	48	68.8	107,807	80.6 (53.1 - 108)	1	0
	Imputation Summary	48	68.8	107,594	83.6 (52.4 - 115)	1	0
	FWI Analysis	48	68.8	107,594	83.4 (45.8 - 121)	1	0

Table 164 Imputation comparisons for Lung Cancer, Females, Education, NZ Maori 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Education</i>							
<i>Females 25+ years 2001-04</i>							
<i>By: Total NZ Māori Age Standardised</i>							
No Qualifications	Complete Educ. and Eth.	243	.	176,741	156 (133 - 178)	2.37 (1.49 - 3.76)	90 (54 - 127)
	Est. Imputed Only	129	34.7	47,736	176 (13.0% diff)	0.81 (-65.7% diff)	-41 (-145.3% diff)
	Imputation 1	372	34.7	224,654	161 (143 - 179)	1.84 (1.31 - 2.60)	74 (40 - 107)
	Imputation 2	375	35.2	224,393	161 (143 - 179)	1.89 (1.33 - 2.68)	76 (42 - 109)
	Imputation 3	366	33.6	224,383	158 (140 - 176)	1.52 (1.09 - 2.13)	54 (17 - 92)
	Imputation Summary	372	34.7	224,477	160 (142 - 178)	1.74 (1.13 - 2.69)	68 (24 - 112)
	FWI Analysis	372	34.7	224,477	160 (142 - 178)	1.73 (1.21 - 2.49)	68 (31 - 104)
School Qualifications	Complete Educ. and Eth.	33	.	103,993	71.4 (40.0 - 103)	1.09 (0.58 - 2.02)	5.7 (-37 - 48)
	Est. Imputed Only	15	31.3	21,439	67.3 (-5.7% diff)	0.31 (-71.5% diff)	-149 (-2721.1% diff)
	Imputation 1	48	31.3	125,181	68.9 (45.7 - 92.1)	0.79 (0.50 - 1.26)	-18 (-55 - 18)
	Imputation 2	48	31.3	125,420	76.0 (49.9 - 102)	0.89 (0.55 - 1.44)	-9.2 (-48 - 29)
	Imputation 3	48	31.3	125,697	67.3 (44.6 - 90.1)	0.65 (0.41 - 1.03)	-37 (-77 - 3.3)
	Imputation Summary	48	31.3	125,433	70.7 (44.5 - 97.0)	0.77 (0.43 - 1.39)	-21 (-71 - 28)
	FWI Analysis	48	31.3	125,433	71.0 (50.2 - 91.9)	0.77 (0.49 - 1.21)	-21 (-59 - 17)
Post-School Qualifications	Complete Educ. and Eth.	36	.	111,687	65.7 (36.9 - 94.5)	1	0
	Est. Imputed Only	30	45.5	23,663	217 (229.8% diff)	1	0
	Imputation 1	66	45.5	135,425	87.1 (58.9 - 115)	1	0
	Imputation 2	63	42.9	135,447	85.2 (56.8 - 114)	1	0
	Imputation 3	72	50.0	135,179	104 (71 - 137)	1	0
	Imputation Summary	66	45.5	135,351	92.1 (54.1 - 130)	1	0
	FWI Analysis	66	45.5	135,351	92.3 (60.5 - 124)	1	0

Table 165 Imputation comparisons for Lung Cancer, Females, Education, European/Other 1981-

86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1981-86</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	822	.	1,868,561	27.1 (24.9 - 29.3)	1.59 (1.23 - 2.08)	10 (5.3 - 15)
	Est. Imputed Only	264	24.3	536,559	25.8 (-5.0% diff)	1.09 (-31.5% diff)	2.1 (-79.2% diff)
	Imputation 1	1083	24.1	2,405,161	26.7 (24.8 - 28.6)	1.37 (1.12 - 1.67)	7.2 (3.1 - 11)
	Imputation 2	1089	24.5	2,405,056	26.8 (24.9 - 28.8)	1.49 (1.21 - 1.83)	8.8 (4.8 - 13)
	Imputation 3	1089	24.5	2,405,142	27.0 (25.1 - 28.9)	1.44 (1.18 - 1.77)	8.3 (4.2 - 12)
	Imputation Summary	1086	24.3	2,405,120	26.8 (24.9 - 28.8)	1.43 (1.14 - 1.79)	8.1 (3.6 - 13)
	FWI Analysis	1089	24.5	2,409,782	26.8 (25.0 - 28.6)	1.43 (1.14 - 1.78)	8.0 (3.7 - 12)
School Qualifications	Complete Educ. and Eth.	69	.	474,673	22.3 (16.1 - 28.6)	1.31 (0.90 - 1.91)	5.3 (-2.3 - 13)
	Est. Imputed Only	33	32.4	176,556	21.6 (-3.3% diff)	0.91 (-30.4% diff)	-2.1 (-139.5% diff)
	Imputation 1	102	32.4	651,002	21.9 (16.9 - 26.9)	1.12 (0.84 - 1.51)	2.4 (-3.8 - 8.6)
	Imputation 2	105	34.3	651,842	22.4 (17.3 - 27.4)	1.24 (0.92 - 1.67)	4.3 (-1.8 - 10)
	Imputation 3	99	30.3	650,842	22.0 (17.0 - 27.1)	1.18 (0.87 - 1.59)	3.4 (-2.8 - 9.6)
	Imputation Summary	102	32.4	651,229	22.1 (17.0 - 27.2)	1.18 (0.86 - 1.62)	3.4 (-3.2 - 9.9)
	FWI Analysis	102	32.4	651,945	22.1 (16.6 - 27.5)	1.18 (0.85 - 1.63)	3.3 (-3.4 - 10)
Post-School Qualifications	Complete Educ. and Eth.	93	.	726,188	17.0 (12.7 - 21.3)	1	0
	Est. Imputed Only	57	38.0	248,986	23.7 (39.2% diff)	1	0
	Imputation 1	156	40.4	975,306	19.5 (15.9 - 23.1)	1	0
	Imputation 2	144	35.4	974,669	18.0 (14.5 - 21.6)	1	0
	Imputation 3	147	36.7	975,546	18.7 (15.1 - 22.3)	1	0
	Imputation Summary	150	38.0	975,174	18.7 (14.8 - 22.7)	1	0
	FWI Analysis	150	38.0	975,658	18.8 (14.8 - 22.8)	1	0

Table 166 Imputation comparisons for Lung Cancer, Females, Education, European/Other 1986-

91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung</i>	<i>Females</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Education</i>	<i>By: European/Other</i>			<i>Age Standardised</i>			
No Qualifications	Complete Educ. and Eth.	990	.	1,894,901	32.0 (29.7 - 34.4)	1.21 (1.03 - 1.42)	5.6 (1.2 - 10)
	Est. Imputed Only	105	9.6	127,978	33.6 (4.9% diff)	1.03 (-14.8% diff)	1.0 (-82.2% diff)
	Imputation 1	1089	9.1	2,022,418	31.9 (29.7 - 34.2)	1.19 (1.02 - 1.38)	5.1 (0.8 - 9.3)
	Imputation 2	1104	10.3	2,022,767	32.4 (30.2 - 34.7)	1.22 (1.05 - 1.42)	5.9 (1.7 - 10)
	Imputation 3	1092	9.3	2,023,449	32.0 (29.8 - 34.3)	1.19 (1.03 - 1.39)	5.2 (1.0 - 9.5)
	Imputation Summary	1095	9.6	2,022,878	32.1 (29.8 - 34.4)	1.20 (1.03 - 1.40)	5.4 (1.0 - 9.8)
	FWI Analysis	1095	9.6	2,028,289	32.1 (29.9 - 34.2)	1.20 (1.04 - 1.39)	5.4 (1.3 - 9.4)
School Qualifications	Complete Educ. and Eth.	315	.	1,060,475	28.9 (25.2 - 32.6)	1.09 (0.90 - 1.32)	2.4 (-2.8 - 7.7)
	Est. Imputed Only	45	12.5	57,674	36.7 (26.8% diff)	1.12 (3.2% diff)	4.1 (69.6% diff)
	Imputation 1	366	13.9	1,118,296	29.7 (26.2 - 33.2)	1.10 (0.92 - 1.32)	2.8 (-2.3 - 7.9)
	Imputation 2	354	11.0	1,118,200	28.6 (25.2 - 32.1)	1.08 (0.90 - 1.30)	2.1 (-2.9 - 7.1)
	Imputation 3	363	13.2	1,117,952	29.5 (25.9 - 33.0)	1.10 (0.92 - 1.32)	2.7 (-2.4 - 7.7)
	Imputation Summary	360	12.5	1,118,150	29.3 (25.5 - 33.0)	1.09 (0.91 - 1.31)	2.5 (-2.6 - 7.7)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	FWI Analysis	360	12.5	1,120,207	29.3 (25.9 - 32.7)	1.09 (0.92 - 1.30)	2.5 (-2.3 - 7.4)
Post-School Qualifications	Complete Educ. and Eth.	252	.	1,157,640	26.5 (22.7 - 30.2)	1	0
	Est. Imputed Only	21	7.7	39,339	32.6 (23.0% diff)	1	0
	Imputation 1	273	7.7	1,196,941	26.9 (23.2 - 30.5)	1	0
	Imputation 2	273	7.7	1,197,115	26.5 (22.9 - 30.1)	1	0
	Imputation 3	273	7.7	1,196,881	26.8 (23.2 - 30.4)	1	0
	Imputation Summary	273	7.7	1,196,979	26.7 (23.1 - 30.4)	1	0
	FWI Analysis	273	7.7	1,197,454	26.7 (23.3 - 30.2)	1	0

Table 167 Imputation comparisons for Lung Cancer, Females, Education, European/Other 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Education</i>	<i>Females 25+ years 1991-96</i>						
	<i>By: European/Other Age Standardised</i>						
No Qualifications	Complete Educ. and Eth.	1092	.	1,567,905	42.4 (39.5 - 45.3)	1.62 (1.41 - 1.87)	16 (12 - 21)
	Est. Imputed Only	54	4.7	58,885	34.1 (-19.5% diff)	1.31 (-19.3% diff)	8.0 (-50.8% diff)
	Imputation 1	1143	4.5	1,626,493	42.0 (39.2 - 44.9)	1.60 (1.40 - 1.83)	16 (12 - 20)
	Imputation 2	1143	4.5	1,626,730	42.1 (39.3 - 45.0)	1.62 (1.42 - 1.86)	16 (12 - 20)
	Imputation 3	1149	5.0	1,627,146	42.3 (39.5 - 45.2)	1.63 (1.43 - 1.87)	16 (12 - 21)
	Imputation Summary	1146	4.7	1,626,790	42.1 (39.3 - 45.0)	1.62 (1.41 - 1.85)	16 (12 - 20)
	FWI Analysis	1146	4.7	1,630,529	42.1 (39.5 - 44.7)	1.62 (1.42 - 1.84)	16 (12 - 20)
School Qualifications	Complete Educ. and Eth.	630	.	1,291,273	35.0 (31.6 - 38.3)	1.34 (1.14 - 1.56)	8.8 (4.2 - 14)
	Est. Imputed Only	36	5.4	40,039	25.0 (-28.5% diff)	0.96 (-28.4% diff)	-1.1 (-112.2% diff)
	Imputation 1	666	5.4	1,331,214	34.8 (31.5 - 38.1)	1.33 (1.14 - 1.54)	8.6 (4.0 - 13)
	Imputation 2	666	5.4	1,331,913	34.7 (31.3 - 38.0)	1.33 (1.14 - 1.55)	8.6 (4.1 - 13)
	Imputation 3	663	5.0	1,330,810	34.7 (31.4 - 38.0)	1.34 (1.15 - 1.56)	8.8 (4.3 - 13)
	Imputation Summary	666	5.4	1,331,312	34.7 (31.4 - 38.1)	1.33 (1.15 - 1.55)	8.7 (4.1 - 13)
	FWI Analysis	663	5.0	1,333,161	34.7 (31.6 - 37.7)	1.33 (1.16 - 1.54)	8.6 (4.4 - 13)
Post-School Qualifications	Complete Educ. and Eth.	336	.	1,514,549	26.1 (22.9 - 29.3)	1	0
	Est. Imputed Only	27	7.4	51,580	26.1 (-0.0% diff)	1	0
	Imputation 1	366	8.2	1,566,515	26.3 (23.2 - 29.3)	1	0
	Imputation 2	363	7.4	1,565,667	26.0 (22.9 - 29.1)	1	0
	Imputation 3	360	6.7	1,566,205	25.9 (22.8 - 29.0)	1	0
	Imputation Summary	363	7.4	1,566,129	26.1 (23.0 - 29.2)	1	0
	FWI Analysis	363	7.4	1,567,899	26.0 (23.1 - 29.0)	1	0

Table 168 Imputation comparisons for Lung Cancer, Females, Education, European/Other 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Education</i>	<i>Females 25+ years 1996-01</i>						
	<i>By: European/Other Age Standardised</i>						
No Qualifications	Complete Educ. and Eth.	1197	.	1,504,952	43.7 (40.6 - 46.8)	1.66 (1.40 - 1.97)	17 (12 - 23)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	216	15.3	233,878	38.5 (-11.9% diff)	1.38 (-16.6% diff)	11 (-38.6% diff)
	Imputation 1	1416	15.5	1,738,374	43.1 (40.3 - 46.0)	1.65 (1.44 - 1.90)	17 (13 - 21)
	Imputation 2	1419	15.6	1,738,348	43.2 (40.3 - 46.0)	1.61 (1.40 - 1.85)	16 (12 - 21)
	Imputation 3	1407	14.9	1,739,766	42.8 (40.0 - 45.7)	1.59 (1.38 - 1.82)	16 (11 - 20)
	Imputation Summary	1413	15.3	1,738,829	43.0 (40.2 - 45.9)	1.62 (1.40 - 1.87)	16 (12 - 21)
	FWI Analysis	1413	15.3	1,744,709	43.0 (40.2 - 45.8)	1.61 (1.38 - 1.88)	16 (12 - 21)
School Qualifications	Complete Educ. and Eth.	444	.	1,367,956	32.7 (29.1 - 36.2)	1.24 (1.03 - 1.50)	6.3 (0.9 - 12)
	Est. Imputed Only	138	23.7	207,554	39.5 (20.9% diff)	1.42 (14.7% diff)	12 (86.2% diff)
	Imputation 1	588	24.5	1,576,409	33.4 (30.2 - 36.6)	1.28 (1.09 - 1.50)	7.3 (2.8 - 12)
	Imputation 2	576	22.9	1,575,285	33.7 (30.4 - 36.9)	1.25 (1.07 - 1.47)	6.8 (2.2 - 11)
	Imputation 3	585	24.1	1,574,835	33.6 (30.4 - 36.8)	1.24 (1.07 - 1.45)	6.6 (2.0 - 11)
	Imputation Summary	582	23.7	1,575,510	33.6 (30.4 - 36.8)	1.26 (1.07 - 1.48)	6.9 (2.2 - 12)
	FWI Analysis	585	24.1	1,579,373	33.5 (30.3 - 36.8)	1.26 (1.06 - 1.49)	6.9 (2.0 - 12)
Post-School Qualifications	Complete Educ. and Eth.	201	.	1,105,114	26.3 (22.2 - 30.5)	1	0
	Est. Imputed Only	108	35.0	275,458	27.8 (5.7% diff)	1	0
	Imputation 1	306	34.3	1,380,246	26.1 (22.8 - 29.3)	1	0
	Imputation 2	309	35.0	1,381,315	26.8 (23.5 - 30.1)	1	0
	Imputation 3	312	35.6	1,380,154	27.0 (23.7 - 30.3)	1	0
	Imputation Summary	309	35.0	1,380,571	26.6 (23.2 - 30.1)	1	0
	FWI Analysis	309	35.0	1,382,847	26.7 (23.0 - 30.3)	1	0

Table 169 Imputation comparisons for Lung Cancer, Females, Education, European/Other 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Lung Females 25+ years 2001-04 Education By: European/Other Age Standardised</i>							
No Qualifications	Complete Educ. and Eth.	801	.	861,013	47.8 (44.0 - 51.6)	1.87 (1.61 - 2.18)	22 (17 - 27)
	Est. Imputed Only	345	30.1	264,506	48.2 (0.9% diff)	1.42 (-24.1% diff)	14 (-36.1% diff)
	Imputation 1	1143	29.9	1,125,779	47.5 (44.2 - 50.9)	1.82 (1.60 - 2.08)	22 (17 - 26)
	Imputation 2	1152	30.5	1,125,759	48.2 (44.8 - 51.6)	1.79 (1.57 - 2.04)	21 (17 - 26)
	Imputation 3	1143	29.9	1,125,019	47.9 (44.4 - 51.3)	1.79 (1.57 - 2.05)	21 (17 - 26)
	Imputation Summary	1146	30.1	1,125,519	47.9 (44.4 - 51.4)	1.80 (1.58 - 2.06)	21 (17 - 26)
	FWI Analysis	1152	30.5	1,129,195	48.1 (44.6 - 51.5)	1.81 (1.59 - 2.06)	22 (17 - 26)
School Qualifications	Complete Educ. and Eth.	384	.	953,794	39.5 (35.2 - 43.9)	1.55 (1.31 - 1.84)	14 (8.5 - 20)
	Est. Imputed Only	162	29.7	181,003	37.0 (-6.3% diff)	1.09 (-29.8% diff)	3.0 (-78.5% diff)
	Imputation 1	555	30.8	1,134,380	39.9 (36.2 - 43.7)	1.53 (1.32 - 1.77)	14 (9.1 - 19)
	Imputation 2	534	28.1	1,134,782	38.2 (34.5 - 41.9)	1.42 (1.23 - 1.64)	11 (6.6 - 16)
	Imputation 3	546	29.7	1,135,227	39.1 (35.4 - 42.8)	1.47 (1.27 - 1.70)	13 (7.7 - 17)
	Imputation Summary	546	29.7	1,134,796	39.1 (34.9 - 43.3)	1.47 (1.24 - 1.74)	13 (7.0 - 18)
	FWI Analysis	546	29.7	1,137,677	39.2 (35.1 - 43.2)	1.48 (1.27 - 1.72)	13 (7.6 - 18)
Post-School Qualifications	Complete Educ. and Eth.	273	.	1,202,040	25.5 (22.2 - 28.9)	1	0
	Est. Imputed Only	102	27.2	179,232	34.0 (33.2% diff)	1	0
	Imputation 1	369	26.0	1,381,532	26.1 (23.1 - 29.0)	1	0
	Imputation 2	381	28.3	1,380,974	26.9 (24.0 - 29.9)	1	0
	Imputation 3	375	27.2	1,381,310	26.7 (23.7 - 29.6)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation Summary	375	27.2	1,381,272	26.6 (23.5 - 29.7)	1	0
	FWI Analysis	375	27.2	1,384,067	26.5 (23.6 - 29.4)	1	0

Table 170 Imputation comparisons for Breast Cancer, Females, Income, 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1981-86</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	1848	.	1,356,213	115 (109 - 122)	0.99 (0.91 - 1.08)	-1.1 (-12 - 9.2)
	Est. Imputed Only	351	16.0	341,419	91.0 (-21.1% diff)	0.71 (-28.5% diff)	-38 (3322.5% diff)
	Imputation 1	2208	16.3	1,696,771	111 (105 - 117)	0.93 (0.86 - 1.00)	-8.6 (-18 - 0.3)
	Imputation 2	2196	15.8	1,698,063	111 (105 - 116)	0.92 (0.85 - 0.99)	-9.7 (-19 - -0.8)
	Imputation 3	2193	15.7	1,698,060	110 (104 - 116)	0.92 (0.85 - 1.00)	-9.5 (-18 - -0.5)
	Imputation Summary	2199	16.0	1,697,631	111 (105 - 116)	0.92 (0.85 - 1.00)	-9.3 (-18 - -0.2)
	FWI Analysis	2199	16.0	1,697,631	110 (105 - 116)	0.92 (0.86 - 0.99)	-9.3 (-18 - -0.8)
Medium Income	Complete Income and Eth.	1389	.	1,102,842	121 (114 - 129)	1.04 (0.95 - 1.14)	4.6 (-6.3 - 15)
	Est. Imputed Only	432	23.7	379,549	114 (-6.1% diff)	0.88 (-15.1% diff)	-15 (-426.2% diff)
	Imputation 1	1815	23.5	1,482,572	119 (113 - 125)	1.00 (0.92 - 1.08)	-0.4 (-9.8 - 9.0)
	Imputation 2	1815	23.5	1,482,359	119 (112 - 125)	0.99 (0.91 - 1.07)	-1.5 (-11 - 8.0)
	Imputation 3	1827	24.0	1,482,241	120 (113 - 126)	1.00 (0.93 - 1.08)	0.3 (-9.2 - 9.7)
	Imputation Summary	1821	23.7	1,482,391	119 (113 - 126)	1.00 (0.92 - 1.08)	-0.5 (-10 - 9.1)
	FWI Analysis	1821	23.7	1,482,391	119 (113 - 125)	1.00 (0.92 - 1.07)	-0.5 (-9.6 - 8.5)
High Income	Complete Income and Eth.	1209	.	934,974	117 (109 - 124)	1	0
	Est. Imputed Only	468	27.9	322,650	129 (10.4% diff)	1	0
	Imputation 1	1671	27.6	1,258,303	119 (113 - 126)	1	0
	Imputation 2	1686	28.3	1,257,224	120 (113 - 127)	1	0
	Imputation 3	1674	27.8	1,257,345	120 (113 - 126)	1	0
	Imputation Summary	1677	27.9	1,257,624	120 (113 - 127)	1	0
	FWI Analysis	1677	27.9	1,257,624	120 (113 - 127)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	1848	.	1,356,213	114 (107 - 122)	0.96 (0.85 - 1.08)	-5.3 (-19 - 8.7)
	Est. Imputed Only	351	16.0	341,419	87.5 (-23.5% diff)	0.65 (-32.4% diff)	-47 (793.4% diff)
	Imputation 1	2205	16.2	1,696,771	110 (103 - 116)	0.87 (0.79 - 0.97)	-16 (-28 - -3.7)
	Imputation 2	2199	16.0	1,698,063	109 (103 - 115)	0.88 (0.80 - 0.97)	-15 (-27 - -3.1)
	Imputation 3	2193	15.7	1,698,060	108 (102 - 115)	0.89 (0.81 - 0.98)	-13 (-24 - -1.6)
	Imputation Summary	2199	16.0	1,697,631	109 (103 - 115)	0.88 (0.79 - 0.97)	-15 (-27 - -2.3)
	FWI Analysis	2199	16.0	1,697,631	109 (103 - 115)	0.88 (0.80 - 0.97)	-15 (-26 - -2.8)
Medium Income	Complete Income and Eth.	1389	.	1,102,842	122 (112 - 132)	1.02 (0.89 - 1.16)	2.2 (-14 - 18)
	Est. Imputed Only	429	23.6	379,549	112 (-8.0% diff)	0.83 (-18.5% diff)	-23 (-1134.8% diff)
	Imputation 1	1818	23.6	1,482,572	118 (110 - 126)	0.94 (0.84 - 1.04)	-7.7 (-21 - 5.4)
	Imputation 2	1812	23.3	1,482,359	119 (111 - 127)	0.96 (0.86 - 1.07)	-5.1 (-18 - 7.9)
	Imputation 3	1827	24.0	1,482,241	122 (113 - 130)	1.00 (0.91 - 1.11)	0.5 (-12 - 13)
	Imputation Summary	1818	23.6	1,482,391	119 (110 - 129)	0.97 (0.85 - 1.10)	-4.1 (-20 - 12)
	FWI Analysis	1818	23.6	1,482,391	120 (111 - 128)	0.97 (0.87 - 1.08)	-4.1 (-17 - 9.1)
High Income	Complete Income and Eth.	1209	.	934,974	120 (108 - 132)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	468	27.9	322,650	135 (12.7% diff)	1	0
	Imputation 1	1671	27.6	1,258,303	125 (115 - 136)	1	0
	Imputation 2	1686	28.3	1,257,224	124 (114 - 134)	1	0
	Imputation 3	1674	27.8	1,257,345	121 (112 - 131)	1	0
	Imputation Summary	1677	27.9	1,257,624	124 (113 - 135)	1	0
	FWI Analysis	1677	27.9	1,257,624	124 (113 - 134)	1	0

Table 171 Imputation comparisons for Breast Cancer, Females, Income, 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1986-91</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	2241	.	1,538,174	129 (123 - 136)	0.82 (0.76 - 0.88)	-29 (-40 - -18)
	Est. Imputed Only	246	9.9	249,274	121 (-6.7% diff)	0.87 (6.5% diff)	-18 (-39.1% diff)
	Imputation 1	2484	9.8	1,787,425	128 (122 - 134)	0.82 (0.77 - 0.88)	-28 (-38 - -18)
	Imputation 2	2487	9.9	1,786,935	128 (122 - 134)	0.83 (0.77 - 0.89)	-27 (-37 - -17)
	Imputation 3	2493	10.1	1,787,984	128 (122 - 134)	0.83 (0.77 - 0.89)	-26 (-36 - -16)
	Imputation Summary	2487	9.9	1,787,448	128 (122 - 134)	0.83 (0.77 - 0.89)	-27 (-37 - -17)
	FWI Analysis	2490	10.0	1,787,469	128 (122 - 134)	0.83 (0.77 - 0.89)	-27 (-37 - -17)
Medium Income	Complete Income and Eth.	2391	.	1,429,151	146 (139 - 153)	0.92 (0.86 - 0.99)	-12 (-23 - -0.7)
	Est. Imputed Only	348	12.7	281,707	138 (-5.4% diff)	1.00 (8.6% diff)	-0.1 (-98.8% diff)
	Imputation 1	2733	12.5	1,710,951	145 (138 - 151)	0.93 (0.87 - 1.00)	-11 (-21 - -0.6)
	Imputation 2	2748	13.0	1,711,067	145 (139 - 152)	0.94 (0.88 - 1.01)	-9.4 (-20 - 1.0)
	Imputation 3	2736	12.6	1,710,558	145 (138 - 151)	0.93 (0.87 - 1.00)	-10 (-20 - 0.2)
	Imputation Summary	2739	12.7	1,710,859	145 (138 - 151)	0.93 (0.87 - 1.00)	-10 (-21 - 0.3)
	FWI Analysis	2739	12.7	1,710,884	145 (138 - 151)	0.93 (0.87 - 1.00)	-10 (-21 - 0.4)
High Income	Complete Income and Eth.	1716	.	977,964	158 (149 - 167)	1	0
	Est. Imputed Only	252	12.8	187,930	138 (-12.6% diff)	1	0
	Imputation 1	1977	13.2	1,165,825	156 (147 - 164)	1	0
	Imputation 2	1962	12.5	1,166,199	155 (146 - 163)	1	0
	Imputation 3	1968	12.8	1,165,659	155 (147 - 163)	1	0
	Imputation Summary	1968	12.8	1,165,894	155 (147 - 163)	1	0
	FWI Analysis	1968	12.8	1,165,847	155 (147 - 163)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	2238	.	1,538,174	127 (120 - 134)	0.79 (0.72 - 0.87)	-34 (-48 - -20)
	Est. Imputed Only	252	10.1	249,274	118 (-6.8% diff)	0.92 (16.4% diff)	-10 (-69.5% diff)
	Imputation 1	2487	10.0	1,787,425	126 (120 - 132)	0.80 (0.74 - 0.87)	-31 (-43 - -19)
	Imputation 2	2487	10.0	1,786,935	126 (119 - 132)	0.81 (0.74 - 0.88)	-30 (-42 - -18)
	Imputation 3	2493	10.2	1,787,984	126 (120 - 133)	0.81 (0.75 - 0.88)	-29 (-41 - -17)
	Imputation Summary	2490	10.1	1,787,448	126 (120 - 132)	0.81 (0.74 - 0.88)	-30 (-42 - -18)
	FWI Analysis	2487	10.0	1,787,469	126 (120 - 132)	0.81 (0.74 - 0.88)	-30 (-42 - -18)
Medium Income	Complete Income and Eth.	2391	.	1,429,151	149 (141 - 157)	0.92 (0.84 - 1.02)	-12 (-27 - 2.7)
	Est. Imputed Only	348	12.7	281,707	131 (-12.2% diff)	1.02 (10.3% diff)	1.9 (-116.0% diff)
	Imputation 1	2733	12.5	1,710,951	145 (138 - 153)	0.93 (0.85 - 1.01)	-12 (-24 - 1.1)
	Imputation 2	2745	12.9	1,711,067	147 (139 - 154)	0.94 (0.87 - 1.03)	-8.6 (-21 - 4.1)
	Imputation 3	2736	12.6	1,710,558	146 (139 - 153)	0.94 (0.87 - 1.02)	-9.3 (-22 - 3.4)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
High Income	Imputation Summary	2739	12.7	1,710,859	146 (139 - 154)	0.94 (0.86 - 1.02)	-9.9 (-23 - 3.4)
	FWI Analysis	2739	12.7	1,710,884	146 (139 - 153)	0.94 (0.86 - 1.02)	-9.9 (-23 - 2.9)
	Complete Income and Eth.	1719	.	977,964	161 (149 - 173)	1	0
	Est. Imputed Only	249	12.7	187,930	129 (-20.0% diff)	1	0
	Imputation 1	1974	12.9	1,165,825	157 (147 - 168)	1	0
	Imputation 2	1962	12.4	1,166,199	155 (145 - 166)	1	0
	Imputation 3	1965	12.5	1,165,659	155 (145 - 166)	1	0
	Imputation Summary	1968	12.7	1,165,894	156 (145 - 167)	1	0
FWI Analysis	1971	12.8	1,165,847	156 (145 - 167)	1	0	

Table 172 Imputation comparisons for Breast Cancer, Females, Income, 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1991-96</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	2253	.	1,509,453	140 (133 - 147)	0.96 (0.89 - 1.03)	-5.6 (-16 - 4.6)
	Est. Imputed Only	252	10.1	215,651	139 (-0.6% diff)	1.02 (6.6% diff)	3.1 (-156.1% diff)
	Imputation 1	2502	10.0	1,725,315	140 (133 - 146)	0.97 (0.91 - 1.04)	-4.0 (-13 - 5.5)
	Imputation 2	2508	10.2	1,724,627	140 (134 - 146)	0.97 (0.91 - 1.04)	-3.6 (-13 - 5.8)
	Imputation 3	2508	10.2	1,725,369	140 (134 - 146)	0.97 (0.91 - 1.04)	-3.7 (-13 - 5.7)
	Imputation Summary	2505	10.1	1,725,104	140 (134 - 146)	0.97 (0.91 - 1.04)	-3.8 (-13 - 5.7)
	FWI Analysis	2505	10.1	1,725,072	140 (134 - 146)	0.97 (0.91 - 1.04)	-3.7 (-14 - 6.2)
Medium Income	Complete Income and Eth.	2937	.	1,547,902	148 (141 - 155)	1.01 (0.94 - 1.09)	2.0 (-8.5 - 13)
	Est. Imputed Only	318	9.8	271,055	143 (-3.2% diff)	1.05 (4.1% diff)	6.9 (247.3% diff)
	Imputation 1	3261	9.9	1,818,728	147 (141 - 154)	1.03 (0.96 - 1.09)	3.6 (-5.9 - 13)
	Imputation 2	3249	9.6	1,819,431	147 (141 - 153)	1.02 (0.96 - 1.09)	3.2 (-6.3 - 13)
	Imputation 3	3252	9.7	1,818,712	147 (141 - 153)	1.02 (0.96 - 1.09)	3.3 (-6.2 - 13)
	Imputation Summary	3255	9.8	1,818,957	147 (141 - 153)	1.02 (0.96 - 1.09)	3.4 (-6.1 - 13)
	FWI Analysis	3255	9.8	1,818,935	147 (141 - 153)	1.02 (0.96 - 1.10)	3.4 (-6.3 - 13)
High Income	Complete Income and Eth.	1842	.	1,151,135	146 (138 - 154)	1	0
	Est. Imputed Only	363	16.5	301,194	136 (-6.6% diff)	1	0
	Imputation 1	2205	16.5	1,452,347	144 (137 - 151)	1	0
	Imputation 2	2208	16.6	1,452,332	144 (137 - 151)	1	0
	Imputation 3	2205	16.5	1,452,309	144 (137 - 151)	1	0
	Imputation Summary	2205	16.5	1,452,329	144 (137 - 151)	1	0
	FWI Analysis	2205	16.5	1,452,319	144 (136 - 151)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	2253	.	1,509,453	140 (133 - 147)	0.98 (0.90 - 1.06)	-3.0 (-15 - 8.6)
	Est. Imputed Only	252	10.1	215,651	137 (-1.7% diff)	1.03 (4.9% diff)	3.8 (-225.4% diff)
	Imputation 1	2502	10.0	1,725,315	139 (133 - 146)	0.98 (0.91 - 1.06)	-2.3 (-13 - 8.3)
	Imputation 2	2508	10.2	1,724,627	140 (133 - 146)	0.99 (0.92 - 1.07)	-1.0 (-12 - 9.5)
	Imputation 3	2505	10.1	1,725,369	140 (133 - 146)	0.99 (0.92 - 1.07)	-0.9 (-11 - 9.6)
	Imputation Summary	2505	10.1	1,725,104	140 (133 - 146)	0.99 (0.91 - 1.06)	-1.4 (-12 - 9.3)
	FWI Analysis	2505	10.1	1,725,072	140 (133 - 146)	0.99 (0.92 - 1.07)	-1.3 (-12 - 9.6)
Medium Income	Complete Income and Eth.	2940	.	1,547,902	151 (143 - 159)	1.06 (0.97 - 1.15)	8.3 (-4.0 - 21)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
High Income	Est. Imputed Only	315	9.7	271,055	145 (-4.0% diff)	1.09 (2.5% diff)	12 (38.8% diff)
	Imputation 1	3261	9.8	1,818,728	150 (143 - 158)	1.06 (0.98 - 1.15)	8.7 (-2.3 - 20)
	Imputation 2	3249	9.5	1,819,431	150 (143 - 158)	1.07 (0.99 - 1.15)	9.5 (-1.5 - 21)
	Imputation 3	3255	9.7	1,818,712	150 (143 - 158)	1.07 (0.99 - 1.15)	9.9 (-1.1 - 21)
	Imputation Summary	3255	9.7	1,818,957	150 (143 - 158)	1.07 (0.99 - 1.15)	9.4 (-1.7 - 20)
	FWI Analysis	3255	9.7	1,818,935	150 (143 - 158)	1.07 (0.99 - 1.15)	9.4 (-1.8 - 21)
	Complete Income and Eth.	1842	.	1,151,135	143 (134 - 152)	1	0
	Est. Imputed Only	366	16.6	301,194	134 (-6.4% diff)	1	0
	Imputation 1	2205	16.5	1,452,347	142 (133 - 150)	1	0
	Imputation 2	2208	16.6	1,452,332	141 (133 - 149)	1	0
	Imputation 3	2208	16.6	1,452,309	141 (132 - 149)	1	0
	Imputation Summary	2208	16.6	1,452,329	141 (133 - 149)	1	0
	FWI Analysis	2205	16.5	1,452,319	141 (132 - 150)	1	0

Table 173 Imputation comparisons for Breast Cancer, Females, Income, 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1996-01</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	2775	.	1,561,603	162 (155 - 168)	0.95 (0.89 - 1.01)	-9.1 (-20 - 1.5)
	Est. Imputed Only	360	11.5	274,065	137 (-14.9% diff)	0.82 (-14.0% diff)	-31 (238.3% diff)
	Imputation 1	3141	11.7	1,836,064	158 (152 - 164)	0.93 (0.88 - 0.98)	-12 (-22 - -2.8)
	Imputation 2	3141	11.7	1,836,353	158 (152 - 165)	0.93 (0.88 - 0.99)	-11 (-21 - -1.9)
	Imputation 3	3123	11.1	1,834,586	158 (151 - 164)	0.93 (0.88 - 0.98)	-12 (-22 - -2.9)
	Imputation Summary	3135	11.5	1,835,667	158 (152 - 164)	0.93 (0.88 - 0.98)	-12 (-21 - -2.4)
	FWI Analysis	3132	11.4	1,835,662	158 (152 - 164)	0.93 (0.88 - 0.98)	-12 (-21 - -2.8)
Medium Income	Complete Income and Eth.	3009	.	1,543,536	160 (153 - 168)	0.94 (0.88 - 1.00)	-10 (-21 - 0.6)
	Est. Imputed Only	528	14.9	289,905	171 (6.7% diff)	1.02 (8.2% diff)	2.9 (-128.0% diff)
	Imputation 1	3528	14.7	1,833,085	162 (155 - 168)	0.95 (0.90 - 1.01)	-8.7 (-18 - 0.8)
	Imputation 2	3543	15.1	1,833,229	162 (156 - 169)	0.96 (0.90 - 1.01)	-7.4 (-17 - 2.1)
	Imputation 3	3546	15.1	1,834,009	163 (156 - 169)	0.96 (0.90 - 1.01)	-7.4 (-17 - 2.1)
	Imputation Summary	3537	14.9	1,833,441	162 (155 - 169)	0.96 (0.90 - 1.02)	-7.8 (-18 - 1.9)
	FWI Analysis	3540	15.0	1,833,431	162 (156 - 168)	0.95 (0.90 - 1.01)	-7.9 (-17 - 1.4)
High Income	Complete Income and Eth.	2253	.	1,210,141	171 (163 - 179)	1	0
	Est. Imputed Only	780	25.7	490,083	168 (-1.4% diff)	1	0
	Imputation 1	3039	25.9	1,700,183	170 (163 - 177)	1	0
	Imputation 2	3024	25.5	1,699,750	170 (163 - 177)	1	0
	Imputation 3	3033	25.7	1,700,737	170 (163 - 177)	1	0
	Imputation Summary	3033	25.7	1,700,224	170 (163 - 177)	1	0
	FWI Analysis	3033	25.7	1,700,231	170 (163 - 177)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	2775	.	1,561,603	163 (156 - 170)	0.92 (0.86 - 0.99)	-14 (-27 - -2.0)
	Est. Imputed Only	360	11.5	274,065	140 (-14.0% diff)	0.82 (-10.5% diff)	-30 (110.7% diff)
	Imputation 1	3138	11.6	1,836,064	160 (153 - 167)	0.91 (0.86 - 0.97)	-16 (-26 - -5.1)
	Imputation 2	3141	11.7	1,836,353	160 (153 - 166)	0.91 (0.86 - 0.97)	-15 (-26 - -4.5)
	Imputation 3	3126	11.2	1,834,586	159 (152 - 166)	0.91 (0.85 - 0.96)	-17 (-27 - -5.9)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
Medium Income	Imputation Summary	3135	11.5	1,835,667	160 (153 - 166)	0.91 (0.85 - 0.96)	-16 (-26 - -5.1)
	FWI Analysis	3135	11.5	1,835,662	160 (154 - 166)	0.91 (0.86 - 0.97)	-16 (-26 - -5.6)
	Complete Income and Eth.	3009	.	1,543,536	162 (154 - 169)	0.91 (0.85 - 0.98)	-16 (-28 - -3.1)
	Est. Imputed Only	528	14.9	289,905	168 (3.9% diff)	0.99 (8.3% diff)	-2.4 (-84.5% diff)
	Imputation 1	3528	14.7	1,833,085	162 (155 - 169)	0.92 (0.86 - 0.98)	-14 (-25 - -3.3)
	Imputation 2	3540	15.0	1,833,229	163 (156 - 170)	0.93 (0.88 - 0.99)	-12 (-23 - -1.1)
	Imputation 3	3546	15.1	1,834,009	163 (156 - 170)	0.93 (0.87 - 0.99)	-12 (-23 - -1.5)
	Imputation Summary	3537	14.9	1,833,441	163 (155 - 170)	0.93 (0.87 - 0.99)	-13 (-24 - -1.6)
High Income	FWI Analysis	3540	15.0	1,833,431	163 (156 - 169)	0.93 (0.87 - 0.99)	-13 (-23 - -2.4)
	Complete Income and Eth.	2253	.	1,210,141	177 (167 - 187)	1	0
	Est. Imputed Only	777	25.6	490,083	170 (-3.9% diff)	1	0
	Imputation 1	3039	25.9	1,700,183	176 (168 - 184)	1	0
	Imputation 2	3021	25.4	1,699,750	175 (167 - 183)	1	0
	Imputation 3	3033	25.7	1,700,737	175 (167 - 184)	1	0
	Imputation Summary	3030	25.6	1,700,224	175 (167 - 184)	1	0
	FWI Analysis	3030	25.6	1,700,231	175 (167 - 183)	1	0

Table 174 Imputation comparisons for Breast Cancer, Females, Income, 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 2001-04</i>							
<i>Income By: All Ethnicities Age Standardised</i>							
Low Income	Complete Income and Eth.	2484	.	1,220,992	165 (158 - 173)	0.89 (0.83 - 0.95)	-21 (-32 - -9.2)
	Est. Imputed Only	438	15.0	279,145	147 (-11.1% diff)	0.84 (-6.1% diff)	-29 (41.0% diff)
	Imputation 1	2925	15.1	1,500,170	162 (155 - 169)	0.89 (0.84 - 0.94)	-20 (-30 - -10)
	Imputation 2	2919	14.9	1,500,580	162 (155 - 168)	0.88 (0.83 - 0.93)	-22 (-32 - -12)
	Imputation 3	2922	15.0	1,499,662	162 (156 - 169)	0.89 (0.84 - 0.94)	-21 (-31 - -11)
	Imputation Summary	2922	15.0	1,500,138	162 (155 - 169)	0.89 (0.84 - 0.94)	-21 (-31 - -11)
	FWI Analysis	2922	15.0	1,500,132	162 (156 - 168)	0.89 (0.84 - 0.94)	-21 (-31 - -11)
Medium Income	Complete Income and Eth.	2226	.	988,786	177 (168 - 185)	0.95 (0.89 - 1.02)	-9.0 (-21 - 3.1)
	Est. Imputed Only	513	18.7	289,894	162 (-8.2% diff)	0.92 (-2.9% diff)	-14 (52.1% diff)
	Imputation 1	2748	19.0	1,278,557	174 (166 - 181)	0.96 (0.90 - 1.01)	-8.2 (-19 - 2.2)
	Imputation 2	2736	18.6	1,278,538	173 (166 - 181)	0.95 (0.89 - 1.00)	-9.8 (-20 - 0.6)
	Imputation 3	2733	18.6	1,278,944	173 (166 - 180)	0.95 (0.89 - 1.00)	-10 (-20 - 0.3)
	Imputation Summary	2739	18.7	1,278,680	173 (166 - 181)	0.95 (0.90 - 1.01)	-9.4 (-20 - 1.2)
	FWI Analysis	2739	18.7	1,278,657	173 (167 - 180)	0.95 (0.90 - 1.00)	-9.3 (-19 - 0.8)
High Income	Complete Income and Eth.	2229	.	1,055,611	186 (177 - 194)	1	0
	Est. Imputed Only	798	26.4	439,442	176 (-5.3% diff)	1	0
	Imputation 1	3015	26.1	1,495,143	182 (175 - 189)	1	0
	Imputation 2	3033	26.5	1,494,751	183 (176 - 190)	1	0
	Imputation 3	3033	26.5	1,495,263	183 (176 - 190)	1	0
	Imputation Summary	3027	26.4	1,495,052	183 (175 - 190)	1	0
	FWI Analysis	3027	26.4	1,495,075	183 (175 - 190)	1	0
<i>Income By: All Ethnicities Age and Ethnicity Standardised</i>							
Low Income	Complete Income and Eth.	2484	.	1,220,992	167 (159 - 175)	0.89 (0.83 - 0.96)	-20 (-33 - -7.5)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Est. Imputed Only	438	15.0	279,145	147 (-11.9% diff)	0.82 (-8.0% diff)	-33 (61.4% diff)
	Imputation 1	2925	15.1	1,500,170	163 (156 - 170)	0.89 (0.83 - 0.94)	-21 (-32 - -10)
	Imputation 2	2919	14.9	1,500,580	163 (156 - 170)	0.87 (0.82 - 0.93)	-24 (-34 - -13)
	Imputation 3	2922	15.0	1,499,662	164 (157 - 171)	0.89 (0.83 - 0.94)	-21 (-32 - -10)
	Imputation Summary	2922	15.0	1,500,138	163 (156 - 170)	0.88 (0.82 - 0.95)	-22 (-33 - -10)
	FWI Analysis	2922	15.0	1,500,132	163 (157 - 170)	0.88 (0.83 - 0.94)	-22 (-32 - -11)
	Medium Income	Complete Income and Eth.	2226	.	988,786	182 (172 - 192)	0.97 (0.90 - 1.05)	-5.1 (-19 - 8.7)
Est. Imputed Only		513	18.7	289,894	158 (-13.1% diff)	0.88 (-9.2% diff)	-21 (320.3% diff)
Imputation 1		2748	19.0	1,278,557	177 (169 - 185)	0.96 (0.90 - 1.03)	-7.0 (-19 - 4.4)
Imputation 2		2736	18.6	1,278,538	176 (168 - 184)	0.94 (0.89 - 1.01)	-10 (-22 - 1.1)
Imputation 3		2730	18.5	1,278,944	177 (169 - 185)	0.96 (0.90 - 1.02)	-7.6 (-19 - 3.9)
Imputation Summary		2739	18.7	1,278,680	177 (169 - 185)	0.95 (0.89 - 1.02)	-8.3 (-21 - 3.9)
FWI Analysis		2739	18.7	1,278,657	177 (169 - 184)	0.95 (0.90 - 1.02)	-8.3 (-20 - 2.8)
High Income	Complete Income and Eth.	2229	.	1,055,611	187 (177 - 197)	1	0
	Est. Imputed Only	798	26.4	439,442	180 (-4.0% diff)	1	0
	Imputation 1	3012	26.0	1,495,143	184 (176 - 192)	1	0
	Imputation 2	3033	26.5	1,494,751	186 (178 - 195)	1	0
	Imputation 3	3033	26.5	1,495,263	184 (176 - 193)	1	0
	Imputation Summary	3027	26.4	1,495,052	185 (176 - 194)	1	0
	FWI Analysis	3027	26.4	1,495,075	185 (177 - 193)	1	0

Table 175 Imputation comparisons for Breast Cancer, Females, Education 1981-86

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1981-86</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	3111	.	2,176,844	113 (107 - 118)	0.84 (0.73 - 0.98)	-21 (-40 - -1.5)
	Est. Imputed Only	999	24.3	617,916	109 (-3.2% diff)	0.99 (18.2% diff)	-0.8 (-96.1% diff)
	Imputation 1	4128	24.6	2,794,914	112 (107 - 117)	0.90 (0.80 - 1.01)	-13 (-27 - 2.1)
	Imputation 2	4095	24.0	2,794,636	111 (107 - 116)	0.88 (0.78 - 1.00)	-15 (-31 - 0.3)
	Imputation 3	4110	24.3	2,794,731	112 (107 - 117)	0.86 (0.76 - 0.97)	-19 (-35 - -2.3)
	Imputation Summary	4110	24.3	2,794,760	112 (107 - 117)	0.88 (0.77 - 1.01)	-15 (-32 - 1.4)
	FWI Analysis	4110	24.3	2,794,760	112 (107 - 116)	0.88 (0.77 - 1.01)	-15 (-33 - 2.2)
School Qualifications	Complete Educ. and Eth.	423	.	523,803	139 (93 - 185)	1.04 (0.73 - 1.49)	6.0 (-44 - 56)
	Est. Imputed Only	183	30.2	198,431	87.6 (-37.1% diff)	0.80 (-23.2% diff)	-22 (-467.9% diff)
	Imputation 1	597	29.1	721,787	124 (97 - 151)	0.99 (0.78 - 1.27)	-0.6 (-31 - 30)
	Imputation 2	621	31.9	722,868	130 (100 - 161)	1.03 (0.79 - 1.34)	3.5 (-30 - 37)
	Imputation 3	603	29.9	722,047	121 (95 - 147)	0.93 (0.73 - 1.19)	-9.0 (-40 - 22)
	Imputation Summary	606	30.2	722,234	125 (95 - 155)	0.98 (0.74 - 1.30)	-2.0 (-37 - 33)
	FWI Analysis	609	30.5	722,234	125 (89 - 161)	0.98 (0.72 - 1.35)	-2.0 (-42 - 38)
Post-School Qualifications	Complete Educ. and Eth.	801	.	763,572	133 (115 - 152)	1	0
	Est. Imputed Only	303	27.4	265,961	110 (-17.7% diff)	1	0
	Imputation 1	1095	26.8	1,029,827	125 (111 - 139)	1	0
	Imputation 2	1107	27.6	1,029,023	127 (112 - 141)	1	0
	Imputation 3	1107	27.6	1,029,750	130 (115 - 146)	1	0

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
	Imputation Summary	1104	27.4	1,029,533	127 (111 - 143)	1	0
	FWI Analysis	1104	27.4	1,029,533	127 (110 - 144)	1	0

Table 176 Imputation comparisons for Breast Cancer, Females, Education 1986-91

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast</i>	<i>Females</i>	<i>25+ years</i>		<i>1986-91</i>			
<i>Education</i>	<i>By: All Ethnicities Age and Ethnicity Standardised</i>						
No Qualifications	Complete Educ. and Eth.	3888	.	2,263,847	134 (129 - 140)	0.87 (0.80 - 0.96)	-19 (-33 - -5.3)
	Est. Imputed Only	288	6.9	153,631	110 (-17.6% diff)	0.73 (-15.7% diff)	-40 (107.8% diff)
	Imputation 1	4164	6.6	2,417,189	132 (127 - 138)	0.86 (0.79 - 0.94)	-21 (-35 - -7.8)
	Imputation 2	4170	6.8	2,417,544	132 (127 - 138)	0.86 (0.79 - 0.94)	-21 (-35 - -7.6)
	Imputation 3	4197	7.4	2,417,699	133 (128 - 139)	0.87 (0.80 - 0.96)	-20 (-33 - -5.9)
	Imputation Summary	4176	6.9	2,417,477	133 (127 - 138)	0.86 (0.79 - 0.95)	-21 (-35 - -6.9)
	FWI Analysis	4176	6.9	2,417,477	133 (128 - 137)	0.86 (0.80 - 0.94)	-21 (-33 - -8.4)
School Qualifications	Complete Educ. and Eth.	1503	.	1,186,168	142 (131 - 152)	0.92 (0.82 - 1.03)	-12 (-29 - 4.9)
	Est. Imputed Only	117	7.2	65,384	145 (2.7% diff)	0.96 (4.9% diff)	-5.3 (-56.0% diff)
	Imputation 1	1632	7.9	1,251,835	142 (131 - 152)	0.92 (0.83 - 1.03)	-12 (-29 - 4.2)
	Imputation 2	1623	7.4	1,251,429	144 (132 - 155)	0.94 (0.84 - 1.05)	-9.9 (-27 - 7.0)
	Imputation 3	1605	6.4	1,251,390	140 (129 - 150)	0.92 (0.82 - 1.02)	-13 (-29 - 3.3)
	Imputation Summary	1620	7.2	1,251,552	142 (130 - 153)	0.93 (0.83 - 1.04)	-12 (-29 - 5.2)
	FWI Analysis	1620	7.2	1,251,552	142 (132 - 151)	0.92 (0.83 - 1.02)	-12 (-27 - 3.2)
Post-School Qualifications	Complete Educ. and Eth.	1698	.	1,245,813	154 (141 - 166)	1	0
	Est. Imputed Only	84	4.7	44,654	151 (-1.9% diff)	1	0
	Imputation 1	1782	4.7	1,290,471	154 (141 - 166)	1	0
	Imputation 2	1788	5.0	1,290,522	154 (141 - 166)	1	0
	Imputation 3	1776	4.4	1,290,407	153 (140 - 165)	1	0
	Imputation Summary	1782	4.7	1,290,467	153 (141 - 166)	1	0
	FWI Analysis	1782	4.7	1,290,467	153 (142 - 165)	1	0

Table 177 Imputation comparisons for Breast Cancer, Females, Education 1991-96

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast</i>	<i>Females</i>	<i>25+ years</i>		<i>1991-96</i>			
<i>Education</i>	<i>By: All Ethnicities Age and Ethnicity Standardised</i>						
No Qualifications	Complete Educ. and Eth.	3531	.	1,968,696	138 (132 - 144)	0.88 (0.82 - 0.96)	-18 (-30 - -6.2)
	Est. Imputed Only	138	3.8	76,040	111 (-19.5% diff)	0.77 (-13.0% diff)	-34 (86.8% diff)
	Imputation 1	3669	3.8	2,044,418	137 (131 - 142)	0.87 (0.80 - 0.94)	-21 (-33 - -8.1)
	Imputation 2	3654	3.4	2,044,769	136 (131 - 142)	0.88 (0.81 - 0.95)	-19 (-31 - -7.1)
	Imputation 3	3684	4.2	2,045,022	137 (132 - 143)	0.89 (0.82 - 0.96)	-17 (-29 - -5.6)
	Imputation Summary	3669	3.8	2,044,736	137 (131 - 143)	0.88 (0.81 - 0.96)	-19 (-31 - -6.3)

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
School Qualifications	FWI Analysis	3669	3.8	2,044,736	137 (132 - 142)	0.88 (0.82 - 0.94)	-19 (-29 - -8.5)
	Complete Educ. and Eth.	2301	.	1,470,012	154 (143 - 164)	0.99 (0.90 - 1.09)	-2.2 (-17 - 13)
	Est. Imputed Only	87	3.6	47,931	74.6 (-51.5% diff)	0.51 (-48.0% diff)	-70 (3094.6% diff)
	Imputation 1	2397	4.0	1,517,937	152 (142 - 162)	0.97 (0.88 - 1.06)	-5.4 (-20 - 9.4)
	Imputation 2	2397	4.0	1,518,432	152 (142 - 162)	0.98 (0.89 - 1.08)	-3.1 (-17 - 11)
	Imputation 3	2367	2.8	1,517,459	150 (140 - 160)	0.97 (0.89 - 1.06)	-4.6 (-19 - 9.4)
	Imputation Summary	2388	3.6	1,517,943	151 (141 - 161)	0.97 (0.89 - 1.07)	-4.4 (-19 - 10)
Post-School Qualifications	FWI Analysis	2388	3.6	1,517,943	151 (143 - 160)	0.97 (0.90 - 1.06)	-4.4 (-17 - 8.3)
	Complete Educ. and Eth.	2334	.	1,701,905	156 (145 - 167)	1	0
	Est. Imputed Only	102	4.2	63,665	145 (-7.1% diff)	1	0
	Imputation 1	2424	3.7	1,765,894	157 (146 - 168)	1	0
	Imputation 2	2442	4.4	1,765,047	155 (145 - 165)	1	0
	Imputation 3	2439	4.3	1,765,768	155 (144 - 165)	1	0
	Imputation Summary	2436	4.2	1,765,570	156 (145 - 167)	1	0
FWI Analysis	2436	4.2	1,765,570	156 (147 - 165)	1	0	

Table 178 Imputation comparisons for Breast Cancer, Females, Education 1996-01

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 1996-01</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	4146	.	1,952,487	157 (151 - 163)	0.87 (0.80 - 0.94)	-24 (-38 - -9.1)
	Est. Imputed Only	690	14.3	305,863	147 (-6.1% diff)	1.03 (18.1% diff)	3.9 (-116.7% diff)
	Imputation 1	4836	14.3	2,257,737	155 (150 - 161)	0.90 (0.84 - 0.96)	-18 (-29 - -7.2)
	Imputation 2	4827	14.1	2,257,847	155 (150 - 161)	0.91 (0.86 - 0.97)	-15 (-25 - -4.1)
	Imputation 3	4842	14.4	2,259,468	156 (150 - 161)	0.90 (0.84 - 0.96)	-18 (-29 - -6.9)
	Imputation Summary	4836	14.3	2,258,351	155 (150 - 161)	0.90 (0.84 - 0.97)	-17 (-29 - -5.2)
	FWI Analysis	4836	14.3	2,258,351	155 (150 - 161)	0.90 (0.85 - 0.96)	-17 (-27 - -6.8)
School Qualifications	Complete Educ. and Eth.	2484	.	1,655,553	167 (158 - 176)	0.92 (0.84 - 1.01)	-14 (-29 - 2.2)
	Est. Imputed Only	486	16.4	272,413	134 (-19.5% diff)	0.94 (1.8% diff)	-9.0 (-33.7% diff)
	Imputation 1	2958	16.0	1,928,755	161 (154 - 169)	0.93 (0.87 - 1.00)	-12 (-24 - 0.1)
	Imputation 2	2988	16.9	1,928,171	164 (156 - 171)	0.96 (0.90 - 1.03)	-6.5 (-18 - 5.4)
	Imputation 3	2961	16.1	1,926,971	162 (154 - 169)	0.93 (0.86 - 1.00)	-12 (-25 - 0.1)
	Imputation Summary	2970	16.4	1,927,966	162 (154 - 170)	0.94 (0.87 - 1.02)	-10 (-24 - 3.9)
	FWI Analysis	2970	16.4	1,927,966	162 (155 - 169)	0.94 (0.88 - 1.00)	-10 (-21 - 0.9)
Post-School Qualifications	Complete Educ. and Eth.	1977	.	1,259,490	180 (167 - 193)	1	0
	Est. Imputed Only	618	23.8	345,844	143 (-20.6% diff)	1	0
	Imputation 1	2604	24.1	1,605,158	173 (164 - 183)	1	0
	Imputation 2	2583	23.5	1,605,632	170 (161 - 179)	1	0
	Imputation 3	2598	23.9	1,605,210	174 (164 - 183)	1	0
	Imputation Summary	2595	23.8	1,605,334	172 (162 - 183)	1	0
	FWI Analysis	2595	23.8	1,605,334	172 (164 - 181)	1	0

Table 179 Imputation comparisons for Breast Cancer, Females, Education 2001-04

Variable	Imputation Method	Number Cancers	%Imp	Person Time (yrs)	SR (95% CI)	SRR (95% CI)	SRD (95% CI)
<i>Breast Females 25+ years 2001-04</i>							
<i>Education By: All Ethnicities Age and Ethnicity Standardised</i>							
No Qualifications	Complete Educ. and Eth.	2679	.	1,129,787	167 (159 - 174)	0.93 (0.87 - 1.00)	-13 (-25 - -0.6)
	Est. Imputed Only	903	25.2	349,120	159 (-4.6% diff)	0.99 (6.5% diff)	-1.6 (-87.7% diff)
	Imputation 1	3588	25.3	1,478,883	165 (158 - 171)	0.94 (0.88 - 1.00)	-11 (-22 - -0.8)
	Imputation 2	3558	24.7	1,479,068	164 (157 - 170)	0.93 (0.87 - 0.99)	-12 (-23 - -1.7)
	Imputation 3	3600	25.6	1,478,770	166 (159 - 173)	0.93 (0.88 - 0.99)	-12 (-23 - -1.0)
	Imputation Summary	3582	25.2	1,478,907	165 (157 - 172)	0.93 (0.88 - 0.99)	-12 (-22 - -1.1)
	FWI Analysis	3582	25.2	1,478,907	165 (158 - 172)	0.93 (0.88 - 0.99)	-12 (-22 - -1.9)
School Qualifications	Complete Educ. and Eth.	2034	.	1,189,727	185 (172 - 199)	1.03 (0.95 - 1.13)	6.1 (-10 - 22)
	Est. Imputed Only	555	21.4	241,533	139 (-24.9% diff)	0.87 (-15.8% diff)	-21 (-449.9% diff)
	Imputation 1	2595	21.6	1,430,734	178 (168 - 187)	1.01 (0.94 - 1.08)	1.6 (-11 - 14)
	Imputation 2	2631	22.7	1,431,453	180 (171 - 190)	1.03 (0.96 - 1.10)	4.6 (-7.8 - 17)
	Imputation 3	2544	20.0	1,431,594	175 (166 - 184)	0.98 (0.92 - 1.05)	-3.2 (-16 - 9.2)
	Imputation Summary	2589	21.4	1,431,260	178 (166 - 189)	1.01 (0.92 - 1.10)	1.0 (-14 - 16)
	FWI Analysis	2589	21.4	1,431,260	178 (169 - 186)	1.01 (0.94 - 1.07)	1.0 (-10 - 12)
Post-School Qualifications	Complete Educ. and Eth.	2541	.	1,440,853	179 (170 - 188)	1	0
	Est. Imputed Only	501	16.5	242,018	160 (-10.5% diff)	1	0
	Imputation 1	3033	16.2	1,683,422	176 (168 - 184)	1	0
	Imputation 2	3027	16.1	1,682,518	176 (168 - 184)	1	0
	Imputation 3	3069	17.2	1,682,675	178 (170 - 186)	1	0
	Imputation Summary	3042	16.5	1,682,871	177 (168 - 185)	1	0
	FWI Analysis	3042	16.5	1,682,871	177 (169 - 184)	1	0

Appendix 8. SAS Linkage Weight Programme

The following is the SAS programme in the Datalab used to produce the Linkage weights. Programme called CreateBiasWgtforCohortFinal.sas 22.12.2008

```
/*Create Unlock weights on Bias datasets for CancerTrends
   CreateUnlockWgtonBias.sas June Atkinson 22.4.2008*/
/*Updated 24.4.2008*/
/*Finalised 1.5.2008*/
/*Now converted to creating Bias weight (i.e. linkage weight) to go onto the cohort
   file*/
/*File CreateBiasWgtforCohortFinal.sas 4.12.2008*/

%include "p:\sasprogs\general\CTmacros.sas";
%persess(action=ABR,censusyr=AllYears);

libname fortrans 'P:\Checking\June\Transfer';

options nocenter linesize=105 pageno=1;

%include 'P:\sasprogs\june\UnlkRatioFmts.sas';

/*Have done some regressions looking at the relationship between timesincecen
   where it is not the same between unlock and bias.
   We assume Unlock is correct therefore we will create a pseudoUnlocktime where
   necessary*/

%let year=1981;
data bias&year;
set ctbias.bias&year;
if unlockflag eq 1 then pseudounlockTime=unlocktimesincecen;
else if unlockflag eq 0 then pseudounlockTime=(biastimesincecen+5.8280)/0.9767;
run;
%let year=1986;
data bias&year;
set ctbias.bias&year;
if unlockflag eq 1 then pseudounlockTime=unlocktimesincecen;
else if unlockflag eq 0 then pseudounlockTime=(biastimesincecen+2.6478)/0.9888;
run;
%let year=1991;
data bias&year;
set ctbias.bias&year;
if unlockflag eq 1 then pseudounlockTime=unlocktimesincecen;
else if unlockflag eq 0 then pseudounlockTime=(biastimesincecen+0.9042)/0.9814;
run;
%let year=1996;
data bias&year;
set ctbias.bias&year;
if unlockflag eq 1 then pseudounlockTime=unlocktimesincecen;
else if unlockflag eq 0 then pseudounlockTime=(biastimesincecen+6.1442)/1.0534;
run;
%let year=2001;
data bias&year;
set ctbias.bias&year;
if unlockflag eq 1 then pseudounlockTime=unlocktimesincecen;
```



```

else if unlockflag eq 0 then pseudounlockTime=(biastimesincecen+5.9278)/1.1321;
run;

%macro Option1(year=,action=ABC);

%let action=%upcase(&action);
%let yr=%substr(&year,3,2);

%if %index(&action,A) ne 0 %then %do;

data bias&year;
set bias&year%if "&year" eq "2001" %then %do;
(rename=(g_rurality=G_Rurality01))
%end;
;
length Age5Yrs 3 ;
format Age5Yrs fagei5y.;
label age5yrs='Age at Census in 5 yearly groups';
age5yrs=input(agec_mths,iagem5y.);
timeSinceCenGp=input(pseudounlockTime,itsing.);
if link eq . then link=-9;
if trim(left(linkstat)) in ('',' ') then linkstat='-';
if trim(left(icd1group)) in ('',' ') then icd1group='-';
if trim(left(icd2group)) in ('',' ') then icd2group='-';
if trim(left(icd3group)) in ('',' ') then icd3group='-';
if trim(left(icd4group)) in ('',' ') then icd4group='-';
if g_rha in (.,9) or g_rha gt 10 then g_rha=-9;
if aumobilitygrp10 eq . then aumobilitygrp10=-9;
if g_rurality01 eq . then g_rurality01=-9;
if nzdep2001 eq . then nzdep2001=-9;
NZDep2001Grp=input(nzdep2001,idecgp.);
if NZDep2001Grp in (-9,-99) then NZDep2001Grp=-99; else NZDep2001Grp=NZDep2001Grp*-1;
G_Rur01Grp=input(g_rurality01,irurgpx.);
if G_Rur01Grp in (4,-4,9,-9) then G_Rur01Grp=-7; else G_Rur01Grp=G_Rur01Grp*-1;
G_RurGrp=input(g_rurality&yr,irurgpx.);
if G_RurGrp in (4,-4,9,-9) then G_RurGrp=-7; else G_RurGrp=G_RurGrp*-1;
AuMob01Grp=input(aumobilitygrp10,idecqu.);
if AuMob01Grp in (-9,-99) then AuMob01Grp=-99; else AuMob01Grp=AuMob01Grp*-1;
MBAU=substr(linkstat||' ',1,2);
AsianC1=AsianC1*-1; MaoriC1=MaoriC1*-1; PacificC1=PacificC1*-1; nonMPAC1=nonMPAC1*-1;
if age5yrs ge 80 then age5yrs=98;
Age10yrs=input(age5yrs,iageity.);
if g_rur01grp in (-3,-2,-1) then g_rur2=-10;
else if g_rur01grp in (-4) then g_rur2=-40;
else g_rur2=-99;
if g_rur2 eq -10 then g_rur1=-10; else g_rur1=-99;
if g_ta in (612864,613888) then g_ta=999;
if g_rc in (612864,613888) then g_rc=99;
if g_dhb in (612864,613888) then g_dhb=99;
if g_ahd in (612864,613888) then g_ahd=99;
if g_ahb in (612864,613888) then g_ahb=99;
if g_ta eq 999 then g_ta=-999;
if g_rc eq 99 then g_rc=-99;
if g_dhb eq 99 then g_dhb=-99;
if g_ahb eq 99 then g_ahb=-99;
if g_ahd eq 99 then g_ahd=-99;
if nzdep2001grp in (-1,-2,-3,-4,-5,-6) then NZDep3=-6; else NZDep3=nzdep2001grp;

```

```

if aumob01grp in (-1,-3) then AuMobGrp4=-2; else AuMobGrp4=aumob01grp;
format link linkstat ICD1Group ICD2Group ICD3Group ICD4Group;
format timesincecengp ftsing. NZDep2001Grp NZDep3 fdecgp.
G_RurGrp G_Rur01Grp g_rur1 g_rur2 frungpx.
AuMob01Grp aumobgrp4 fdecqu. age10yrs fageity. ;
run;

%end;

%if %index(&action,B) ne 0 %then %do;

title "Bias Freqs for &year";

proc freq data=bias&year;
tables (CenYear Link MBAU Sex age5yrs age10yrs TimeSinceCengp
AsianC1 MaoriC1 PacificC1 nonMPAC1
/*CtryPresFlag ICD1Group ICD2Group ICD3Group ICD4Group */
G_RHA AUMob01Grp G_Rur01Grp G_RurGrp G_Rur2 G_rur1 NZDep2001Grp g_ta
g_dhb)*linkstat/missing;
run;
title ' ';
%end;

%if %index(&action,C) ne 0 %then %do;

options nocenter linesize=135 pageno=1;
proc printto new file="LogRegBiasWithMiss&year..out";run;

title "Using Bias dataset with Linked Regressions with missings for &year";

ods output modelinfo =miAM&year;
ods output convergencestatus =csAM&year;
ods output parameterestimates=peAM&year;
ods output modelfit =mfAM&year;
ods output type1 =t1AM&year;
ods output type3 =t3AM&year;

proc genmod data=bias&year order=internal descending;
class CenYear Sex age10yrs MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp
g_ta nzdep3 G_Rur01Grp ;
model link=CenYear Sex age10yrs MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp
g_ta nzdep3 G_Rur01Grp
/dist=b link=logit type1 type3 wald;
run;

proc printto;run;

options nocenter linesize=105 pageno=1;

title ' ';

%end;

%if %index(&action,D) ne 0 %then %do;

options nocenter linesize=135 pageno=1;
proc printto new file="LogRegBiasNoMiss&year..out";run;

```

```

title "Using Bias dataset with Linked Regressions no Missings for &year";

ods output modelinfo          =miA&year;
ods output convergencestatus =csA&year;
ods output parameterestimates=peA&year;
ods output modelfit          =mfA&year;
ods output type1             =t1A&year;
ods output type3             =t3A&year;

proc genmod data=bias&year order=internal descending;
where g_ta ne -999 and nzdep3 ne -99 and maoric1 ne -9;
class CenYear Sex age10yrs MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp
      g_ta nzdep3 G_Rur01Grp;
model link=CenYear Sex age10yrs MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp
      g_ta nzdep3 G_Rur01Grp
/dist=b link=logit type1 type3 wald;
run;

proc printto;run;

options nocenter linesize=105 pageno=1;

title ' ';

%end;

%mend;

%Option1(year=1981,action=AB);
%Option1(year=1986,action=AB);
%Option1(year=1991,action=AB);
%Option1(year=1996,action=AB);
%Option1(year=2001,action=AB);

%Option1(year=1981,action=D);
%Option1(year=1986,action=D);
%Option1(year=1991,action=D);
%Option1(year=1996,action=D);
%Option1(year=2001,action=D);

%Option1(year=1981,action=C);
%Option1(year=1986,action=C);
%Option1(year=1991,action=C);
%Option1(year=1996,action=C);
%Option1(year=2001,action=C);

data Type1All;
set t1a1981(in=a) t1a1986(in=b) t1a1991(in=c) t1a1996(in=d) t1a2001(in=e)
    t1am1981(in=f) t1am1986(in=g) t1am1991(in=h) t1am1996(in=i) t1am2001(in=j);
length Cenyear 4 Mod 3;
if a or f then cenyear=1981;
else if b or g then cenyear=1986;
else if c or h then cenyear=1991;
else if d or i then cenyear=1996;
else if e or j then cenyear=2001;
if a or b or c or d or e then Mod=1;

```

```

else if f or g or h or i or j then Mod=2;
if probchisq eq . then Sig=.;
else if probchisq le 0.01 then Sig=0.01;
else if probchisq le 0.05 then Sig=0.05;
else if probchisq le 0.10 then Sig=0.10;
else if probchisq le 0.50 then Sig=0.50;
else if probchisq le 0.70 then Sig=0.70;
else if probchisq gt 0.70 then Sig=0.99;
label Mod='1=Regs run without missing TA, Dep, Eth; 2=Run including missings';
run;

```

```

data Type3All;
set t3a1981(in=a) t3a1986(in=b) t3a1991(in=c) t3a1996(in=d) t3a2001(in=e)
    t3am1981(in=f) t3am1986(in=g) t3am1991(in=h) t3am1996(in=i) t3am2001(in=j);
Length Cenyear 4 Mod 3;
if a or f then cenyear=1981;
    else if b or g then cenyear=1986;
    else if c or h then cenyear=1991;
    else if d or i then cenyear=1996;
    else if e or j then cenyear=2001;
if a or b or c or d or e then Mod=1;
else if f or g or h or i or j then Mod=2;
if probchisq eq . then Sig=.;
else if probchisq le 0.01 then Sig=0.01;
else if probchisq le 0.05 then Sig=0.05;
else if probchisq le 0.10 then Sig=0.10;
else if probchisq le 0.50 then Sig=0.50;
else if probchisq le 0.70 then Sig=0.70;
else if probchisq gt 0.70 then Sig=0.99;
label Mod='1=Regs run without missing TA, Dep, Eth; 2=Run including missings';
run;

```

```

data fexport.typeall;
set type1all(in=a) type3all(in=b);
if a then ty='Type1'; else if b then ty='Type3';
run;

```

```

data fexport.MFAll;
set mfa1981(in=a) mfa1986(in=b) mfa1991(in=c) mfa1996(in=d) mfa2001(in=e)
    mfam1981(in=f) mfam1986(in=g) mfam1991(in=h) mfam1996(in=i) mfam2001(in=j);
Length Cenyear 4 Mod 3;
if a or f then cenyear=1981;
    else if b or g then cenyear=1986;
    else if c or h then cenyear=1991;
    else if d or i then cenyear=1996;
    else if e or j then cenyear=2001;
if a or b or c or d or e then Mod=1;
else if f or g or h or i or j then Mod=2;
label Mod='1=Regs run without missing TA, Dep, Eth; 2=Run including missings';
run;

```

```

data fexport.PEAll;
set pea1981(in=a) pea1986(in=b) pea1991(in=c) pea1996(in=d) pea2001(in=e)
    peam1981(in=f) peam1986(in=g) peam1991(in=h) peam1996(in=i) peam2001(in=j);
Length Cenyear 4 Mod 3;
if a or f then cenyear=1981;

```

```

else if b or g then cenyear=1986;
else if c or h then cenyear=1991;
else if d or i then cenyear=1996;
else if e or j then cenyear=2001;
if a or b or c or d or e then Mod=1;
else if f or g or h or i or j then Mod=2;
if probchisq eq . then Sig=.;
else if probchisq le 0.01 then Sig=0.01;
else if probchisq le 0.05 then Sig=0.05;
else if probchisq le 0.10 then Sig=0.10;
else if probchisq le 0.50 then Sig=0.50;
else if probchisq le 0.70 then Sig=0.70;
else if probchisq gt 0.70 then Sig=0.99;
label Mod='1=Regs run without missing TA, Dep, Eth; 2=Run including missings';
run;

data fexport.CSAll;
set csa1981(in=a) csa1986(in=b) csa1991(in=c) csa1996(in=d) csa2001(in=e)
    csam1981(in=f) csam1986(in=g) csam1991(in=h) csam1996(in=i) csam2001(in=j);
Length Cenyear 4 Mod 3;
if a or f then cenyear=1981;
else if b or g then cenyear=1986;
else if c or h then cenyear=1991;
else if d or i then cenyear=1996;
else if e or j then cenyear=2001;
if a or b or c or d or e then Mod=1;
else if f or g or h or i or j then Mod=2;
label Mod='1=Regs run without missing TA, Dep, Eth; 2=Run including missings';
run;

data allyears;
set bias1981(keep=link CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)
    bias1986(keep=link CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)
    bias1991(keep=link CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)
    bias1996(keep=link CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)
    bias2001(keep=link CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)
;
run;

proc summary data=allyears missing chartype;
class CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp link;
types CenYear *(Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp link)
    CenYear*(Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp)*link;
output out=sumout;
run;

data sumout2;
set sumout;
substr(_type_,12,1)='0';

```

```

if link eq . then link=9;
run;

proc sort data=sumout2;
by CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp _type_ link;
run;

proc transpose data=sumout2 out=sumout2T prefix=Link_;
by CenYear Sex age10yrs g_ta nzdep3
    MaoriC1 PacificC1 AsianC1 nonMPAC1 timesincecengp G_Rur01Grp _type_;
id link;
var _freq_;
run;

%recontab(indat=sumout2t,outdat=sumout2t,typvar=_type_,lenfmts=40,maxlen=500);

/*The following is the final version of the process*/

data peTAall;
set fexport.peall;
where trim(parameter) eq 'G_TA' and mod eq 2;
length B_TA1 B_TA2 B_TA3 B_TA4 $1;
B_TA1=put(probchisq,ita1.);
if B_TA1 eq 'N' then do;
    if estimate ge 0 then b_ta1='O'; else b_ta1='P';
end;
else if B_TA1 eq 'K' then do;
    if estimate ge 0 then b_ta1='L'; else b_ta1='M';
end;
else if B_TA1 eq 'G' then do;
    if estimate ge 0 then b_ta1='H'; else b_ta1='I';
end;
b_ta2=input(b_ta1,$ita2.);
b_ta3=input(b_ta2,$ita3.);
b_ta4=input(b_ta3,$ita4.);
G_TA=input(level1,itacode.);
run;

%macro makestrat(year=,action=ABC);

%let yr=%substr(&year,3,2);
%let action=%upcase(&action);

%if %index(&action,A) ne 0 %then %do;

proc sort data=petaall out=pet&year;
where cenyear eq &year;
by g_ta;
run;

proc sort data=bias&year;
by g_ta;
run;

data biascoh&year(drop=s5 s4);

```

```

merge bias&year(in=a) pet&year(in=b keep=g_ta B_TA1 B_TA2 B_TA3 B_TA4);
by g_ta;
if a;
length B_S $1
  B_A1 B_A2 B_A3 B_A4 $1
  B_E1 B_E2 B_E3 B_E4 $1
  B_RU1 B_RU2 B_RU3 B_RU4 $1
  B_Tim1 B_Tim2 B_Tim3 $1
  B_Dep1 B_Dep2 B_Dep3 $1
  OnlyBias 3 s5 $5 s4 $4;
format B_S $fisex.
  B_A1 B_A2 B_A3 B_A4 $flage.
  B_Dep1 B_Dep2 B_Dep3 $fldepc.
  B_RU1 B_RU2 B_RU3 B_RU4 $flRur.
  B_Tim1 B_Tim2 B_Tim3 $fltime.
  B_E1 B_E2 B_E3 B_E4 $fleth.
  B_TA1 B_TA2 B_TA3 B_TA4 $flta.;
if link eq 0 then onlybias=1; else onlybias=0;
s5='      ';s4='      ';
B_S=put(sex,iisex.);
  if maoric1 ne 0 then B_E1=put(maoric1,iieth.);
  else if pacificc1 ne 0 then B_E1=put(pacificc1,iieth.);
  else if asianc1 ne 0 then B_E1=put(asianc1,iieth.);
  else if nonMPAc1 ne 0 then B_E1=put(nonMPAc1,iieth.);
  else B_E1='?';
b_e2=input(b_e1,$iE2L.);
b_e3=input(b_e2,$iE3L.);
b_e4=input(b_e3,$iE4L.);
B_A1=put(age10yrs,ia1l.);
b_a2=input(b_a1,$ia2l.);
b_a3=input(b_a2,$ia3l.);
b_a4=input(b_a3,$ia4l.);
B_Dep1=put(nzdep3,idep1l.);
B_Dep2=input(B_Dep1,$iDep2c.);
B_Dep3=input(B_Dep2,$iDep3c.);
B_RU1=put(G_RUR01grp,iRur1L.);
B_RU2=input(b_ru1,$iRur2L.);
B_RU3=input(b_ru2,$iRur3L.);
B_RU4=input(b_ru3,$iRur4L.);
B_Tim1=put(timesincecengp,it1l.);
B_Tim2=input(b_Tim1,$iT2L.);
B_Tim3=input(b_Tim2,$iT3L.);
/*Adjustment to deal with low numbers for various years*/
%if "&year" eq "1981" %then %do;
  b_ta1=b_ta2;
  b_e1=b_e3;b_e2=b_e3;
  b_dep1=b_dep2;
  if b_a1 eq 'V' then do;
    b_e1='A';b_e2=b_e1;b_e3=b_e1;b_e4=b_e1;
  end;
  /*Trying A2 TA3 Tim3 Eth3 Dep3 for 1981 therefore need a couple of tweaks*/
  if b_e3 in ('C','G') then do;
    b_ru4='A';
    b_dep3='A';
  end;
  else if b_s eq 'F' and b_a2 eq 'F' and b_ta3 eq 'G' and b_tim3 in ('C','0')
    and b_e3 in ('C','G') then b_tim3='A';

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```

else if b_s eq 'F' and b_a2 eq 'K' and b_ta3 eq 'K' and b_tim3 in ('C','O')
  and b_e3 in ('C','G') then b_tim3='A';
else if b_s eq 'F' and b_a2 eq 'K' and b_ta3 eq 'K' and b_tim3 in ('C','O')
  and b_e3 in ('C','G') then b_tim3='A';
else if b_s eq 'F' and b_a2 eq 'I' and b_ta3 eq 'G' and b_e3 eq 'I' and b_tim3 eq 'O'
  and b_dep3 eq 'J' then b_ru4='A';
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'G' and b_tim3 in ('C','O') then
  b_tim3='A';
else if b_s eq 'F' and b_a2 eq 'V' and b_ta3 in ('G','K') and b_e3 eq 'A'
  and b_tim3 eq 'O' then do;
  b_ru4='A';
  b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'I' and b_ta3 eq 'C' and b_tim3 eq 'O' then b_e3='D';
else if b_s eq 'M' and b_a2 eq 'I' and b_ta3 in ('K','N') and b_e3 eq 'I'
  and b_tim3 eq 'O' then do;
  b_ru4='A';
  b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'K' and b_ta3 eq 'G' then do;
  b_e3='A';
  b_ru4='A';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'K' and b_e3 eq 'I' and b_tim3 eq 'O'
  then do;
  b_ru4='A';
  b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'N' and b_e3 in ('C','G') then do;
  b_e3='D';
  b_ru4='A';
  b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'N' and b_e3 eq 'I'
  and b_tim3 in ('C','O') then b_ru4='A';
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'K' and b_tim3 in ('C','O')
  and b_e3 in ('C','G') then b_tim3='A';
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'N' and b_e3 in ('C','G')
  and b_tim3 in ('O','C') then b_e3='D';
else if b_s eq 'M' and b_a2 eq 'V' and b_ta3 eq 'K' and b_e3 eq 'A'
  and b_tim3 eq 'O' then do;
  b_ru4='A';
  b_dep3='A';
end;

if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'G' and b_tim3 eq 'A' and b_ru4 eq 'A'
  and b_dep3 eq 'A' and b_e3 in ('C','G') then b_e3='D';
else if b_s eq 'F' and b_a2 in ('R','S') and b_ta3 in ('K','N') and b_e3 eq 'G'
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then b_tim3='A';
else if b_s eq 'M' and b_a2 eq 'F' and b_ta3 eq 'G' and b_e3 eq 'C'
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then b_tim3='A';
else if b_s eq 'M' and b_a2 eq 'F' and b_ta3 eq 'K' and b_e3 in ('C','G')
  and b_tim3 eq 'C' and b_ru4 eq 'A' and b_dep3 eq 'A' then b_e3='D';
else if b_s eq 'M' and b_a2 eq 'F' and b_ta3 eq 'K' and b_e3 eq 'I'
  and b_tim3 in ('C','O') and b_ru4 eq 'M' and b_dep3 in ('H','J') then b_dep3='A';
else if b_s eq 'M' and b_a2 eq 'K' and b_ta3 eq 'G' and b_e3 eq 'A'
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 in ('H','J') then b_dep3='A';

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else if b_s eq 'M' and b_a2 eq 'R' and b_ta3 eq 'G' and b_e3 eq 'G'
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then b_tim3='A';
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'K' and b_e3 in ('C','G')
  and b_tim3 eq 'A' and b_ru4 eq 'A' and b_dep3 eq 'A' then b_e3='D';
/*Extra tweaks missed originally as weren't looking at proportions at the same time*/
s5=b_s||b_a2||b_ta3||b_e3||b_tim3;
s4=b_s||b_a2||b_ta3||b_e3;
if s4 in ('FFKI','FFNI','FIKI','FINI')
  and b_Tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
  b_ru4='A';b_dep3='A';
end;
else if s4 in
('FFCI','FFGI','FICI','FIGI','FKCI','FKGI','FKKI','FKNI','FNCI','FNGI','FNKI',
'FNNI','FRCI','FRKI','FRNI','FSCI','FSGI','FSKI','FSNI','FUCI','FUGI','FUKI',
'FUNI','FVCA','FVNA','MFCI','MFGI','MFNI','MIGI','MKCI','MKKI','MNCI',
'MRCI','MRGI','MRKI','MRNI','MSCI','MSGI','MSKI','MSNI','MUCI','MUGI','MUKI',
'MUNI','MVCA','MVGa','MVNA')
  and b_Tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('H') then do;
  b_ru4='A';
end;
else if s4 in
('FFCI','FFKI','FFNI','FICI','FIGI','FIKI','FINI','FKNI','FRKI','FRNI','FSCI',
'FSNI','FUCI','FUKI','FUNI','FVCA','FVGA','FVKA','FVNA','MFCI','MFGI','MFNI',
'MICI','MKKI','MNGI','MSGI','MSKI','MUCI','MUKI','MUNI','MVCA','MVGa','MVKA','MVNA')
  and b_Tim3 in ('C') and b_ru4 in ('C','M') and b_dep3 in ('H') then do;
  b_ru4='A';
end;
else if s4 in ('FKCI','FKKI','FSKI','MNCI','MRCI','MRGI','MRKI','MSCI','MUGI')
  and b_Tim3 in ('C') and b_ru4 in ('M') and b_dep3 in ('J','H') then do;
  b_dep3='A';
end;
else if s4 in ('FRGI','FUGI','MKCI') and b_Tim3 in ('A','C')
  and b_ru4 in ('M') and b_dep3 in ('J','H') then do;
  b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'K' and b_e3 in ('C','G')
  and b_tim3 in ('A','C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then do;
  b_e3='D';b_tim3='A';
end;
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'G' and b_e3 in ('C','G')
  and b_tim3 in ('A','C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then do;
  b_e3='D';b_tim3='A';
end;
else if b_s eq 'M' and b_a2 eq 'K' and b_ta3 eq 'G' and b_e3 in ('A','C','G')
  and b_tim3 in ('A','C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then do;
  b_e3='A';b_tim3='A';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'N' and b_e3 in ('C','G')
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then do;
  b_e3='D';b_tim3='A';
end;
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'N' and b_e3 in ('C','G')
  and b_tim3 in ('C','O') and b_ru4 eq 'A' and b_dep3 eq 'A' then do;
  b_e3='D';b_tim3='A';
end;
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'K' and b_e3 in ('C','G')
  and b_tim3 in ('O') and b_ru4 eq 'A' and b_dep3 eq 'A' then b_e3='D';

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else if s4 in ('MFKI')
  and b_Tim3 in ('C') and b_ru4 in ('C','M') and b_dep3 in ('A','J','H') then do;
  b_ru4='A';b_dep3='A';
end;
else if s4 in ('MFKI')
  and b_Tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('A','J','H') then do;
  b_ru4='A';b_dep3='A';
end;
else if s4 in ('MINI','FFGG','FKKG','MIKI') and b_Tim3 in ('A','C','O')
  and b_ru4 in ('A','C','M') and b_dep3 in ('A','J','H') then do;
  b_tim3='A';b_ru4='A';b_dep3='A';
end;

%end;
%else %if "&year" eq "1986" %then %do;
  b_e1=b_e3;b_e2=b_e3;
  b_dep1=b_dep2;
  b_ta1=b_ta2;
  if b_a1 eq 'V' then do;
    b_e1='A';b_e2=b_e1;b_e3=b_e1;b_e4=b_e1;
  end;
  /*Using A2 TA3 E3 Tim3 RU4 Dep3 as a base for 1986*/
  s5=b_s||b_a2||b_ta3||b_e3||b_tim3;
  if s5 in
('FFCCO','FFCIC','FFCIO','FFGIC','FFGIO','FFKCC','FFKIC','FFKIO','FFNIC','FFNIO',
'FICCC','FICCO','FICIC','FICIO','FIGCO','FIGIC','FIGIO','FIKCO','FIKGO','FIKIC',
'FIKIO','FINCC','FINCO','FINIC','FINIO','FKCCC','FKCCO','FKCGC','FKCGO','FKCIC',
'FKCIO','FKGCC','FKGCO','FKGIC','FKGIO','FKKCO','FKKGC','FKKGO','FKKIC','FKKIO',
'FKNCC','FKNCO','FKNGC','FKNGO','FKNIO','FNCCO','FNCGC','FNCGO','FNGIC','FNKCC',
'FNKCO','FNKGC','FNKGO','FNKIC','FNKIO','FNNCO','FNNGO','FNNIO','FRCCO','FRCCO',
'FRCGC','FRCGO','FRCIC','FRCIO','FRGCO','FRGIO','FRKCC','FRKCO','FRKGC','FRKGO',
'FRKIC','FRKIO','FRNCC','FRNIC','FRNIO','FSCCC','FSCGO','FSCIC','FSCIO','FSGCO',
'FSGIC','FSGIO','FSKGO','FSKIC','FSKIO','FSNGO','FSNIO','FUCCC','FUCCO','FUCIC',
'FUCIO','FUGIC','FUGIO','FUKGC','FUKGO','FUKIC','FUKIO','FUNIC','FUNIO','FVCAC',
'FVCAO','FVGAO','FVKAC','FVKAO','FVNAC','MFCCO','MFCIC','MFCIO','MFGIC','MFGIO',
'MFKGC','MFKGO','MFKIC','MFKIO','MFNIC','MFNIO','MICCO','MICGO','MIGIO','MIKIC',
'MIKIO','MINCC','MINIC','MINIO','MKCCC','MKCIO','MKGIO','MKGGO','MKGIC','MKGIO',
'MNCCC','MNGCO','MNGIC','MNGIO','MNGGC','MNGGO','MNGIC','MNGIO','MNNCC','MNNIO',
'MRCCO','MRGCC','MRGIO','MRKCO','MRKGC','MRKGO','MRKIC','MRKIO','MRNGC','MRNIO',
'MSCCO','MSCGC','MSCGO','MSKCO','MSKGC','MSKGO','MSKIC','MSKIO','MSNCO','MSNIO',
'MUGIO','MUKCC','MUKGC','MUKGO','MUKIC','MUKIO','MUNIC','MVCAC','MVCAO','MVKAC',
'MVKAO','MVNAC','MVNAO')
  and b_dep3 eq 'H' then b_ru4='A';
s4=b_s||b_a2||b_ta3||b_e3;
if s4 in ('FFCG','FFGG','FUCG','MIKG','MING','MRCG','MRGG','MUCG')
  and b_Tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
  b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if s4 in
('FFGC','FFKC','FFNG','FIGG','FING','FRNC','FRNG','FSGG','FSNC','FUGC','FUKC',
'FUNC','FUNG','MFKC','MFNC','MFNG','MIKC','MKKC','MKNC','MKNG','MNKC','MRGC',
'MRNC','MRNG','MSGC','MSGG','MSNG','MUGC','MUKC','MUNC','MUNG','FFNC')
  and b_Tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
  b_ru4='A';b_dep3='A';
end;
else if s4 in
('FFNG','FIKC','FRNG','FSCG','FSNG','FUGC','FUNG','MFCG','MFKC','MFNC','MFNG',

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'MICG','MIKC','MKGC','MKKC','MSKC','MUCC','MUGC','MUGG','MUNC','MUNG','MSNG')
and b_Tim3 in ('C') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
b_ru4='A';b_dep3='A';
end;
else if s4 in ('FINI','FNNC','FIKI') and b_Tim3 in ('O') and b_ru4 in ('C','M')
and b_dep3 in ('J') then do;
b_ru4='A';
end;
else if s4 in ('MNNC','MRCI','MSGI') and b_Tim3 in ('O') and b_ru4 in ('C','M')
and b_dep3 in ('H') then do;
b_ru4='A';
end;
else if s4 in ('FNGG') and b_Tim3 in ('O') and b_ru4 in ('C') and b_dep3 in ('J','H')
then do;
b_dep3='A';
end;
else if s4 in ('FRGC','FSKC','FUKC','MFCC','MSCC','MSGC','FSNI') and b_Tim3 in ('C')
and b_ru4 in ('M') and b_dep3 in ('J','H') then do;
b_dep3='A';
end;
else if s4 in ('FSCC','FSKC','MNCC','MNNG','MUCC') and b_Tim3 in ('O') and b_ru4 in ('M')
and b_dep3 in ('J','H') then do;
b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'I' and b_ta3 eq 'G' and b_e3 in ('C','G')
and b_tim3 eq 'O' and b_ru4 eq 'C' and b_dep3 eq 'J' then b_e3='D';
/*Extra tweaks missed originally*/
if s4 in ('FNNG','MNNG','MSCG') and b_Tim3 in ('O') and b_ru4 in ('A','C','M')
and b_dep3 in ('A','J','H') then do;
b_ru4='A';b_dep3='A';
end;
else if s4 in ('FRCG') and b_Tim3 in ('C') and b_ru4 in ('A','C','M')
and b_dep3 in ('J','H') then do;
b_ru4='A';b_dep3='A';
end;
else if s4 in ('FUNG','MIKC') and b_Tim3 in ('C','O') and b_ru4 in ('A')
and b_dep3 in ('A') then do;
b_tim3='A';
end;

%end;
%else %if "&year" eq "1991" %then %do;
b_e1=b_e2;
b_dep1=b_dep2;
b_ta1=b_ta2;
if b_a1 eq 'V' then do;
b_e1=b_e4;b_e2=b_e1;b_e3=b_e1;
end;
/*Using A2 TA3 E2 Tim3 RU4 Dep3 as a base for 1991*/
s5=b_s||b_a2||b_ta3||b_e2||b_tim3;
s4=b_s||b_a2||b_ta3||b_e2;
if s5 in
('FFCC','FFCC','FFGC','FFGC','FFCM','FFCM','FFGC','FFGC','FFGM','FFGM',
'FFGO','FFKM','FFKM','FIGO','FICKO','FICMO','FIGMC','FIKCC','FIKCO','FKCCC',
'FKCG','FKCG','FKCK','FKCK','FKCMO','FKGKO','FKGMC','FKGMO','FKKCC','FKKMC',
'FKMO','FKNCC','FKNCO','FKNMC','FKNMO','FNCCC','FNCCO','FNCGC','FNCGO','FNCKC',
'FNCKO','FNCMO','FNGCO','FNGGO','FNGKC','FNGMC','FNGMO','FNKCC','FNKMC','FNKMO',

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'FRCCO', 'FRCGC', 'FRCGO', 'FRCKC', 'FRCKO', 'FRGCC', 'FRGMO', 'FRKCC', 'FRKCO', 'FRKGC',
'FRKMC', 'FRKMO', 'FRNCO', 'FSCGO', 'FSCKC', 'FSCKO', 'FSGMO', 'FSKCO', 'FSKMO', 'FSNCC',
'FSNKO', 'FUCCC', 'FUCCO', 'FUCGC', 'FUCKO', 'FUCMC', 'FUGKC', 'FUGMC', 'FUGMO', 'FUKMC',
'FUKMO', 'FUNMO', 'FVCEC', 'FVCEO', 'FVCEC', 'FVCEO', 'FVCEC', 'FVCEO', 'FVKEC', 'FVKEO', 'FVNEO', 'MFCCO',
'MFCGC', 'MFCKC', 'MFCKO', 'MFCMO', 'MFGKO', 'MFGMC', 'MFGMO', 'MFKMC', 'MFKMO', 'MFNMC',
'MICCC', 'MICKO', 'MICMC', 'MICMO', 'MIGMO', 'MIKMC', 'MINMC', 'MINMO', 'MKCCO', 'MKCGC',
'MKCKO', 'MKCMO', 'MKGGC', 'MKGMC', 'MKGMC', 'MKGMO', 'MKKCC', 'MKKCO', 'MKKMC', 'MKKMO',
'MKNMC', 'MNCCO', 'MNCGC', 'MNCGO', 'MNCKC', 'MNCKO', 'MNCMO', 'MNGCO', 'MNGMC', 'MNGMO',
'MNKMO', 'MNNCC', 'MRCCO', 'MRCGC', 'MRCGO', 'MRCKO', 'MRGCC', 'MRGCO', 'MRGKO', 'MRGMO',
'MRKCC', 'MRKCO', 'MRKGC', 'MRKMC', 'MRKMO', 'MRNCC', 'MRNCO', 'MSCCC', 'MSCCO', 'MSCGC',
'MSCGO', 'MSCKC', 'MSCKO', 'MSGMC', 'MSKCC', 'MSKKO', 'MSNCO', 'MSNMO', 'MUCCC', 'MUCCO',
'MUCGO', 'MUCKC', 'MUCKO', 'MUGMO', 'MUKCC', 'MUKCO', 'MUKMO', 'MUKMO', 'MUNGO', 'MUNKO',
'MVCEC', 'MVGEC', 'MVCEO', 'MVCEO', 'MVKEC', 'MVKEO', 'MVNEO', 'FICMC')
and b_dep3 eq 'H' then b_ru4='A';
else if s5 in ('FKKMC', 'MFNMC', 'MICMO', 'MIGMO', 'MINCC')
and b_dep3 eq 'J' then b_ru4='A';
else if s5 in
('FFGKO', 'FFKCC', 'FFKCO', 'FFNCC', 'FFNCO', 'FFNMC', 'FFNMO', 'FICCC', 'FICCO', 'FIGCC',
'FIGCO', 'FIGMO', 'FIKGO', 'FIKMC', 'FIKMO', 'FINCC', 'FINMC', 'FINMO', 'FKGGO', 'FKKCO',
'FNKGC', 'FNKGO', 'FNKCC', 'FNKCO', 'FSCGC', 'FUCGO', 'FUKCC', 'FUKCO', 'FUNCC', 'FVCCC',
'FVCCO', 'FVNCO', 'MFKGC', 'MFNCC', 'MICCO', 'MICGC', 'MIKCC', 'MIKMO', 'MINCO', 'MKCCC',
'MKCGO', 'MNCCC', 'MRKGO', 'MSKGO', 'MSNCC', 'MUCGC', 'MVCCC', 'MVCCO', 'MVKCC')
and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;
b_ru4='A'; b_dep3='A';
end;
else if s4 in
('FKKG', 'FKNG', 'FRNK', 'FSKG', 'FVKC', 'MFKC', 'MFKK', 'MKGK', 'MKNC', 'MNKC', 'MRGG',
'MRKK', 'FFGG')
and b_Tim3 in ('C', 'O') and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;
b_tim3='A'; b_ru4='A'; b_dep3='A';
end;
else if s4 in ('FKNK', 'FRGK', 'MFGC', 'MUGK', 'FRKK') and b_Tim3 in ('C', 'O')
and b_ru4 in ('C', 'M') and b_dep3 in ('H') then do;
b_tim3='A'; b_ru4='A';
end;
else if s5 in ('MIGCC', 'MUGCO', 'MUKGO', 'MVNCO') and b_ru4 in ('C')
and b_dep3 in ('J', 'H') then do;
b_dep3='A';
end;
else if s5 in ('FSNCO', 'MUNCC', 'MUNCO', 'MVNCO') and b_ru4 in ('M')
and b_dep3 in ('J', 'H') then do;
b_dep3='A';
end;
else if s4 in ('FSKK') and b_Tim3 in ('C', 'O') and b_ru4 in ('C')
and b_dep3 in ('J', 'H') then do;
b_tim3='A'; b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'I' and b_ta3 eq 'N' and b_e2 in ('C', 'G')
and b_tim3 in ('C', 'O') and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;
b_e2='D'; b_tim3='A'; b_ru4='A'; b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'N' and b_ta3 eq 'N' and b_e2 in ('C', 'K')
and b_tim3 in ('C', 'O') and b_ru4 in ('M') and b_dep3 in ('J', 'H') then do;
b_e2='H'; b_tim3='A'; b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'G' and b_e2 in ('C', 'G')
and b_tim3 in ('C', 'O') and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;

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    b_e2='D';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'N' and b_e2 in ('C','G')
    and b_tim3 in ('C') and b_ru4 in ('M') and b_dep3 in ('J','H') then do;
    b_e2='D';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'S' and b_ta3 eq 'G' and b_e2 in ('C','G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='B';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'U' and b_ta3 eq 'G' and b_e2 in ('C','G')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='D';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'U' and b_ta3 eq 'K' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'U' and b_ta3 eq 'N' and b_e2 in ('C','G')
    and b_tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='D';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'F' and b_ta3 eq 'N' and b_e2 in ('C','G','K')
    and b_tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='B';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'I' and b_ta3 eq 'G' and b_e2 in ('C','G')
    and b_tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='D';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'I' and b_ta3 eq 'K' and b_e2 in ('C','G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='B';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'K' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'R' and b_ta3 eq 'N' and b_e2 in ('C','G')
    and b_tim3 in ('O') and b_ru4 in ('C') and b_dep3 in ('J') then do;
    b_e2='D';
end;
else if b_s eq 'M' and b_a2 eq 'S' and b_ta3 eq 'G' and b_e2 in ('C','G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='B';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'I' and b_ta3 eq 'G' and b_e2 in ('G','K')
    and b_tim3 in ('O') and b_ru4 in ('C') and b_dep3 in ('J') then do;
    b_e2='F';
end;
else if b_s eq 'M' and b_a2 eq 'S' and b_ta3 eq 'N' and b_e2 in ('G','K')
    and b_tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('H') then do;
    b_e2='F';b_ru4='A';
end;
%end;
%else %if "&year" eq "1996" %then %do;
    b_e1=b_e2;

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b_dep1=b_dep2;
b_ta1=b_ta2;
if b_a1 eq 'V' then do;
  b_e1=b_e4;b_e2=b_e1;b_e3=b_e1;
end;
/*Using A2 TA3 E2 Tim3 RU4 Dep3 as a base for 1996*/
s5=b_s||b_a2||b_ta3||b_e2||b_tim3;
s4=b_s||b_a2||b_ta3||b_e2;
if s5 in
('FFCC', 'FFCO', 'FFCG', 'FFCO', 'FFCK', 'FFCM', 'FFCO', 'FFGC', 'FFGO', 'FFKO',
'FFKC', 'FFKO', 'FFNC', 'FICC', 'FICO', 'FIGC', 'FIGO', 'FICK', 'FICM', 'FICMO',
'FIGC', 'FIGM', 'FIGO', 'FIKO', 'FIKM', 'FIKO', 'FINC', 'FINO', 'FINM', 'FINMO',
'FKCC', 'FKCO', 'FKCK', 'FKCO', 'FKMO', 'FKGO', 'FKGO', 'FKGO', 'FKCC', 'FKGO',
'FKKC', 'FKKO', 'FKMO', 'FNCO', 'FNMO', 'FNGC', 'FNGO', 'FNCK', 'FNCK', 'FNCO',
'FNGC', 'FNGO', 'FNKO', 'FNKO', 'FNKO', 'FNKO', 'FNKC', 'FNKO', 'FNCK', 'FNCK',
'FRCC', 'FRCO', 'FRCG', 'FRGO', 'FRCK', 'FRCK', 'FRGO', 'FRGO', 'FRCK', 'FRCK', 'FRGO',
'FRKO', 'FRKO', 'FRNO', 'FSCC', 'FSCG', 'FSCG', 'FSCC', 'FSCC', 'FSGC', 'FSGO',
'FSKC', 'FSNO', 'FUCG', 'FUCK', 'FUCK', 'FUGC', 'FUKO', 'FVCC', 'FVCC', 'FVCC',
'FVGC', 'FVGO', 'FVKE', 'MFCC', 'MFCC', 'MFCG', 'MFCO', 'MFCK', 'MFCK', 'MFCK',
'MFCO', 'MFKC', 'MFKM', 'MFMO', 'MFNC', 'MFNO', 'MICC', 'MICO', 'MIGC', 'MICK',
'MICK', 'MICM', 'MICO', 'MIGM', 'MIKO', 'MKCC', 'MKCC', 'MKCO', 'MKCO', 'MKCO',
'MKGC', 'MKGO', 'MKKC', 'MKKO', 'MKMC', 'MKMO', 'MNCC', 'MNCO', 'MNCK', 'MNCK',
'MNCO', 'MNGC', 'MNGO', 'MNKO', 'MRCC', 'MRCC', 'MRCG', 'MRCO', 'MRCK', 'MRCK',
'MRGC', 'MRKO', 'MRKC', 'MRKO', 'MRKC', 'MRNO', 'MSCC', 'MSCG', 'MSCO', 'MSCC',
'MSCK', 'MSGC', 'MSGO', 'MSKO', 'MSNC', 'MSNO', 'MUCC', 'MUCG', 'MUCO', 'MUCK',
'MUCK', 'MUKC', 'MUKO', 'MUNCO', 'MVCC', 'MVCC', 'MVNO', 'MUGC')
  and b_dep3 eq 'H' then b_ru4='A';
else if s5 in ('FFNC', 'FIGM', 'FKCK', 'MIGMO')
  and b_dep3 eq 'J' then b_ru4='A';
else if s5 in ('FFGO', 'FFGO', 'FFGM', 'FFGO', 'FFNO', 'FFNO', 'FIGO', 'FIKO',
'FRGO', 'FSGO', 'FUGO', 'FUKG', 'FUKO', 'FUNGO', 'MFNC', 'MINC', 'MKGC', 'MKNC',
'MKNC', 'MNGC', 'MRGO', 'MUKC', 'MVCC', 'MIKM', 'MRKO')
  and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;
  b_ru4='A';b_dep3='A';
end;
else if s4 in ('FFK', 'MINM', 'MNK', 'MRGK', 'MSGK', 'MSK', 'MUKG', 'MSGG')
  and b_tim3 in ('C', 'O') and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;
  b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if s4 in ('FNNK', 'FSKG', 'FIGG', 'FVNC') and b_tim3 in ('C', 'O')
  and b_ru4 in ('C', 'M') and b_dep3 in ('H') then do;
  b_tim3='A';b_ru4='A';
end;
else if s5 in ('FUGO', 'MIGC', 'MKGO', 'MSNO') and b_ru4 in ('C')
  and b_dep3 in ('J', 'H') then do;
  b_dep3='A';
end;
else if s5 in ('FIKO', 'FNNO', 'FSGO', 'FUGO', 'MFKC', 'MIKO', 'MKGO', 'MKKO',
'MKGO', 'MNKO', 'MNNM', 'MVGCC') and b_ru4 in ('M') and b_dep3 in ('J', 'H') then do;
  b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'F' and b_ta3 eq 'N' and b_e2 in ('C', 'G')
  and b_tim3 in ('C') and b_ru4 in ('C', 'M') and b_dep3 in ('H') then do;
  b_e2='D';b_ru4='A';
end;
else if b_s eq 'F' and b_a2 eq 'R' and b_ta3 eq 'N' and b_e2 in ('G', 'K')
  and b_tim3 in ('C', 'O') and b_ru4 in ('C', 'M') and b_dep3 in ('J', 'H') then do;

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    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'S' and b_ta3 eq 'K' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'F' and b_a2 eq 'S' and b_ta3 eq 'N' and b_e2 in ('G','K')
    and b_tim3 in ('O') and b_ru4 in ('C') and b_dep3 in ('H') then do;
    b_e2='F';
end;
else if b_s eq 'M' and b_a2 eq 'N' and b_ta3 eq 'N' and b_e2 in ('C','K')
    and b_tim3 in ('O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='H';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'G' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'U' and b_ta3 eq 'N' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_dep3='A';
end;
else if b_s eq 'M' and b_a2 eq 'F' and b_ta3 eq 'G' and b_e2 in ('G','K')
    and b_tim3 in ('C','O') and b_ru4 in ('C','M') and b_dep3 in ('J','H') then do;
    b_e2='F';b_tim3='A';b_ru4='A';b_dep3='A';
end;
%end;
%else %if "&year" eq "2001" %then %do;
    b_e1=b_e2;
    b_dep1=b_dep2;
    b_ta1=b_ta2;
    b_e1=b_e2;
    if b_a1 eq 'V' then do;
        b_e1=b_e4;b_e2=b_e1;b_e3=b_e1;
    end;
    /*Using A2 TA3 E2 Tim3 RU4 Dep3 as a base for 2001*/
s5=b_s||b_a2||b_ta3||b_e2||b_tim3;
s4=b_s||b_a2||b_ta3||b_e2;
    if s5 in
('FFCCC','FFCCO','FFCGO','FFCKO','FFCMC','FFCMO','FFKCC','FFKMO','FFNCC','FFNCO',
'FFNGO','FFNKC','FFNKO','FFNMC','FFNMO','FICCC','FICCO','FICGO','FICKC','FICKO',
'FICMC','FICMO','FIGCO','FIGMO','FINCC','FINCO','FINKC','FINKO','FINMC','FINMO',
'FKCCO','FKCGC','FKCGO','FKCKC','FKCKO','FKGCO','FKKKO','FKNCC','FKNCO','FKNGC',
'FKNGO','FKNKC','FKNKO','FKNMC','FKNMO','FNCCO','FNCGO','FNCKO','FNGCC','FNKO',
'FNKCC','FNKKO','FNNCC','FNNCO','FNNGC','FNNGO','FNNKC','FNNKO','FRCGC','FRCGO',
'FRCKO','FRNCC','FRNGC','FRNKC','FRNKO','FSCCC','FSCCO','FSCGC','FSCGO','FSCKC',
'FSCKO','FSKCC','FSKCO','FSNGC','FSNKC','FSNKO','FUCCC','FUCGC','FUCKC',
'FUCKO','FUCKO','FUNCO','FUNGCC','FUNGCO','FUNKC','FUNKO','FUNMO','FVCCO','FVCEC',
'FVCEO','FVKCO','FVKEC','FVNCO','FVNEC','FVNEO','MFCCC','MFCCO','MFCGC','MFCGO',
'MFCKC','MFCMC','MFCMO','MFNMC','MFNMO','MICCC','MICCO','MICMC','MICMO','MIGMC',
'MIKMC','MINMC','MINMC','MINMO','MKCCC','MKCCO','MKCGC','MKCGO','MKCKC','MKCMC',
'MKCMO','MKKCO','MKKMO','MKNCC','MKNKO','MKNMO','MNCCO','MNCGO','MNCKC','MNCO',
'MNNKC','MNNKO','MNNMO','MRCGC','MRCGO','MRCKC','MRCKO','MRNCC','MRNCO','MRNGC',
'MRNGO','MRNKC','MRNKO','MRNMO','MSCCO','MSCGO','MSCCK','MSCKO','MSGCO','MSGKC',
'MSNCO','MSGNC','MSGNO','MSNKC','MSNKO','MUCCC','MUCCO','MUGGC','MUGCO','MUCKC',
'MUCKO','MUNCO','MUNGC','MUNGO','MUNKC','MUNKO')
    and b_dep3 eq 'H' then b_ru4='A';

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