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the Australian Government Department of Health and Ageing
for the National Bowel Cancer Screening Program**

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Australian Institute of Health and Welfare

Board Chair

Hon. Peter Collins, AM, QC

Director

Penny Allbon

Any enquiries about or comments on this publication should be directed to:

Mr David Meere

Australian Institute of Health and Welfare

GPO Box 570

Canberra ACT 2601

Phone: (02) 6244 1158

Email: screening@aihw.gov.au

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Any enquiries about or comments on the data and statistical analyses in this report should be directed to:

Mr David Meere
Cancer and Screening Unit
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601
Phone: (02) 6244 1158

Any enquiries about or comments on the National Bowel Cancer Screening Program should be directed to:

Mr Alan Keith
Director, Bowel Cancer Screening Section
MDP 152
Population Health Division
Australian Government Department of Health and Ageing
GPO Box 9848
Canberra ACT 2601
Phone: (02) 6289 3263

Summary

This data supplement forms an addendum to the National Bowel Cancer Screening Program annual monitoring report 2009 (AIHW 2009). Based on data extracted from the National Bowel Cancer Screening Register on 31 January 2010 this supplement provides an extra 12 months of follow-up data for those participants invited into the National Bowel Cancer Screening Program (NBCSP) in 2008. Estimated participation and screening outcomes from the previous report are updated with final figures for those participants. It is important to note, however, that follow-up data remain incomplete due either to participants failing to follow-up a positive screening test, or follow-up outcome forms – particularly those relating to histopathology – not being returned to the NBCSP Register.

Participation

Of the 685,000 people invited into the NBCSP in 2008, 40.1% agreed to participate. Overall, participation was lower than previous years due to the inclusion of invitees aged 50 years, who had a lower participation rate (33.8%) than the other two target ages. Participation of those aged 55 (39.9%) and 65 years (48.6%) was similar to previous years. Participation in the NBCSP by males (36.7%) was significantly lower than females (43.5%).

Faecal occult blood test outcomes

The proportion of positive screening test results for those participants who correctly completed a faecal occult blood test (FOBT) was 6.6%. This was statistically significantly lower than 2007, possibly due to the inclusion of invitees aged 50 years from 1 July 2008 who generally had lower positivity rates than the older target ages.

Male participants had a higher FOBT positivity rate (7.7%) than females (5.7%), which correlated with known bowel cancer incidence patterns between the sexes.

Follow-up of positive faecal occult blood test results

Of the 17,991 people who returned a positive FOBT, 49.4% had a primary health care practitioner visit recorded by 31 January 2010, and 76.3% were recorded as having had a colonoscopy to investigate the positive FOBT result.

Cancer detection

There were 11,598 people invited in 2008 who had outcome data for follow-up of a positive FOBT recorded by 31 January 2010. Of these, 120 had a confirmed cancer and 334 a suspected cancer. Potentially pre-cancerous adenomas were confirmed in a further 1,754 people.

Outcomes for a further 6,393 participants with a positive FOBT result were unknown as follow-up data were not available. This may be because they had not progressed to follow-up, or follow-up forms had not been returned to the NBCSP Register as at 31 January 2010. There were also no final histopathology diagnoses available for the 334 participants with suspected cancers or the 3,745 participants with polyps detected at colonoscopy.

Introduction

This data supplement is an addendum to the National Bowel Cancer Screening Program annual monitoring report 2009 (AIHW 2009), known within this report as the '2009 monitoring report' with data available as at 31 January 2010.

Why does the 2009 monitoring report need updating?

The 2009 monitoring report contended that many of the National Bowel Cancer Screening Program (NBCSP) outcomes reported were only a partial picture of program performance due to:

- insufficient time for participants to complete the screening pathway as the data used to analyse the progress of people invited in 2008 were only available to 31 January 2009
- incomplete form return by clinicians at key pathway points.

To account for these lags, the 2009 monitoring report used Kaplan-Meier rate estimates for participation and follow-up indicators. This data supplement provides final figures for those previous estimates, as well as updating outcome summary tables by following the progression of those people invited in 2008 through the screening pathway up until 31 January 2010. This provides enough time to ensure almost all, including those aged 50 years for whom invitations were started halfway through 2008, have completed their screening journey.

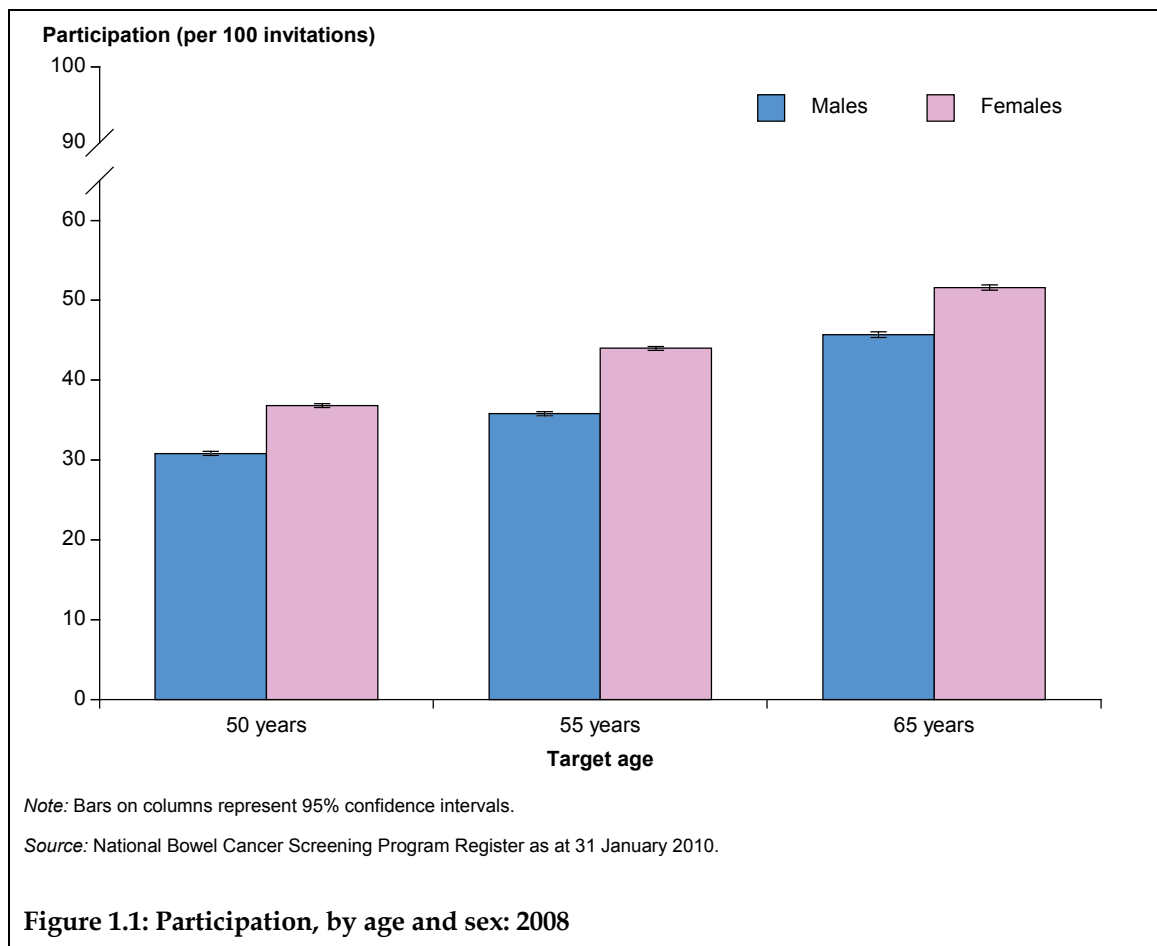
This data supplement updates specific information from the 2009 monitoring report using the same chapter, table and figure numbers for easy cross-checking. Not all tables from the 2009 monitoring report are included in this data supplement; only information relating to previous Kaplan-Meier rate estimates and outcome summary information are presented.

There are slight differences between this data supplement and the 2009 monitoring report in the number of people shown as invited in 2008. Only people who have not opted off or suspended participation in the NBCSP are eligible for analysis. As a participant's suspend or opt-off status at the time of analysing the data is used to determine his or her inclusion, there are differences in the number of people included between the two reports.

For further information on data sources and classifications or statistical methods, please refer to the relevant appendix in the 2009 monitoring report.

1 Participation

Participation in the NBCSP increased with increasing age at invitation for both males and females (Figure 1.1). Further, females had statistically significantly higher participation rates than males at all target ages.



Participation by state and territory

The final participation rate for people invited in 2008 was 40.1% (Table 1.1), which was slightly higher than the estimated Kaplan-Meier participation rate of 39.3% reported in the 2009 monitoring report. The Northern Territory (25.1%) and New South Wales (36.6%) both recorded a statistically significant lower participation rate than the overall Australian rate. The highest participation was recorded in Tasmania (46.1%).

Table 1.1: Participation, by state and territory: 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
50 years	Number	11,642	8,423	6,790	4,348	3,242	764	546	315	36,070
	Per cent	28.5	32.1	30.8	33.9	33.3	33.9	32.5	23.2	30.8
55 years	Number	13,278	10,236	11,492	5,991	5,060	1,645	755	321	48,778
	Per cent	32.4	36.3	36.1	39.1	39.5	42.0	39.5	23.5	35.8
65 years	Number	11,857	8,237	9,867	4,844	4,256	1,384	562	199	41,206
	Per cent	42.2	44.7	46.7	50.5	51.5	49.3	50.6	30.7	45.7
Total	Number	36,777	26,896	28,149	15,183	12,558	3,793	1,863	835	126,054
	Per cent	33.4	36.9	37.5	40.2	40.8	42.3	39.6	24.8	36.7
	95% CI	33.2– 33.7	36.6– 37.3	37.2– 37.9	39.7– 40.7	40.2– 41.3	41.2– 43.3	38.2– 41.0	23.3– 26.2	36.5– 36.9
Females										
50 years	Number	13,807	10,030	8,060	5,302	3,840	975	744	329	43,087
	Per cent	33.8	38.6	36.2	41.2	39.8	42.4	40.7	25.4	36.8
55 years	Number	16,366	12,781	13,911	7,103	6,307	2,055	944	290	59,757
	Per cent	40.0	44.9	44.6	47.7	48.0	51.3	47.5	23.7	44.0
65 years	Number	13,242	9,357	10,692	5,010	4,725	1,441	610	148	45,225
	Per cent	48.0	50.6	52.9	56.3	57.4	54.6	54.2	29.7	51.6
Total	Number	43,415	32,168	32,663	17,415	14,872	4,471	2,298	767	148,069
	Per cent	39.7	44.1	44.3	47.5	48.0	50.0	46.5	25.4	43.5
	95% CI	39.4– 40.0	43.7– 44.5	44.0– 44.7	47.0– 48.0	47.4– 48.5	49.0– 51.0	45.1– 47.9	23.9– 27.0	43.3– 43.6
Persons										
50 years	Number	25,449	18,453	14,850	9,650	7,082	1,739	1,290	644	79,157
	Per cent	31.1	35.3	33.5	37.6	36.6	38.2	36.8	24.3	33.8
55 years	Number	29,644	23,017	25,403	13,094	11,367	3,700	1,699	611	108,535
	Per cent	36.2	40.6	40.3	43.3	43.8	46.7	43.6	23.6	39.9
65 years	Number	25,099	17,594	20,559	9,854	8,981	2,825	1,172	347	86,431
	Per cent	45.1	47.7	49.7	53.3	54.5	51.9	52.4	30.2	48.6
Total	Number	80,192	59,064	60,812	32,598	27,430	8,264	4,161	1,602	274,123
	Per cent	36.6	40.5	40.9	43.8	44.4	46.1	43.2	25.1	40.1
	95% CI	36.4– 36.8	40.3– 40.8	40.7– 41.2	43.5– 44.2	44.0– 44.8	45.4– 46.8	42.2– 44.2	24.0– 26.1	40.0– 40.2

Notes

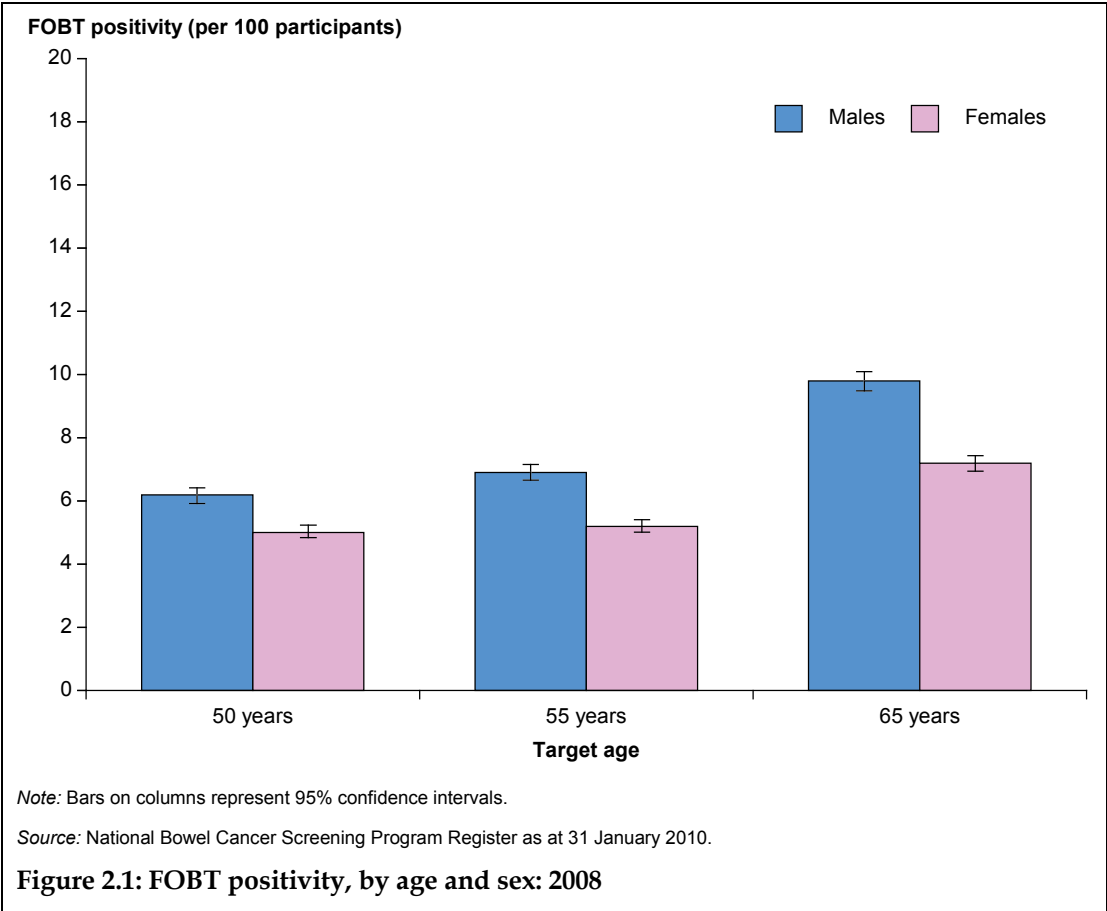
1. Participants in the Program were defined as members of the eligible population who returned a completed FOBT kit.
2. Percentages equal people participating as a proportion of the total number of the eligible population who were invited to screen. This excludes people who suspended or opted off the NBCSP.
3. CI—confidence interval.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

2 Faecal occult blood test outcomes

While males invited in 2008 were less likely to participate in the NBCSP than females, they were statistically significantly more likely to return a positive FOBT result in all three target ages (Figure 2.1).

Those aged 65 years were also statistically significantly more likely to return a positive FOBT result than those aged 50 or 55 years.



FOBT results by state and territory

The overall positivity rate for Australia was 6.6%. Tasmania recorded the highest FOBT positivity rate (7.8%) with both males (8.8%) and females (7.1%) being statistically significantly higher than their counterparts in other jurisdictions.

Positivity rates for males in the Australian Capital Territory (5.5%) were statistically significantly lower than the Australian male rate (7.7%) (Table 2.4).

Table 2.4: FOBT positivity rates, by state and territory: 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
50 years	Positive results	696	548	411	255	210	49	21	21	2,211
	Per cent	6.0	6.6	6.1	5.9	6.5	6.4	3.9	6.7	6.2
55 years	Positive results	894	675	783	407	408	129	37	26	3,359
	Per cent	6.8	6.6	6.9	6.8	8.1	7.9	4.9	8.3	6.9
65 years	Positive results	1,182	808	899	474	433	153	43	25	4,017
	Per cent	10.0	9.9	9.2	9.8	10.2	11.1	7.7	12.6	9.8
Total	Positive results	2,772	2,031	2,093	1,136	1,051	331	101	72	9,587
	Per cent	7.6	7.6	7.5	7.5	8.4	8.8	5.5	8.7	7.7
	95% CI	7.3–7.9	7.3–7.9	7.2–7.8	7.1–8.0	7.9–8.9	7.9–9.7	4.4–6.5	6.8–10.7	7.5–7.8
Females										
50 years	Positive results	674	531	360	253	175	61	44	18	2,116
	Per cent	4.9	5.3	4.5	4.8	4.6	6.3	5.9	5.5	5.0
55 years	Positive results	823	668	694	375	332	124	46	17	3,079
	Per cent	5.1	5.3	5.0	5.3	5.3	6.1	4.9	6.0	5.2
65 years	Positive results	988	662	717	323	332	129	51	7	3,209
	Per cent	7.5	7.2	6.8	6.5	7.1	9.0	8.4	4.8	7.2
Total	Positive results	2,485	1,861	1,771	951	839	314	141	42	8,404
	Per cent	5.8	5.8	5.5	5.5	5.7	7.1	6.2	5.5	5.7
	95% CI	5.6–6.0	5.6–6.1	5.2–5.7	5.2–5.8	5.3–6.1	6.3–7.8	5.2–7.2	3.9–7.2	5.6–5.8
Persons										
50 years	Positive results	1,370	1,079	771	508	385	110	65	39	4,327
	Per cent	5.4	5.9	5.2	5.3	5.5	6.4	5.1	6.1	5.5
55 years	Positive results	1,717	1,343	1,477	782	740	253	83	43	6,438
	Per cent	5.8	5.9	5.9	6.0	6.6	6.9	4.9	7.2	6.0
65 years	Positive results	2,170	1,470	1,616	797	765	282	94	32	7,226
	Per cent	8.7	8.4	7.9	8.1	8.6	10.0	8.1	9.3	8.4
Total	Positive results	5,257	3,892	3,864	2,087	1,890	645	242	114	17,991
	Per cent	6.6	6.7	6.4	6.4	6.9	7.8	5.9	7.2	6.6
	95% CI	6.4–6.8	6.4–6.9	6.2–6.6	6.2–6.7	6.6–7.2	7.3–8.4	5.1–6.6	5.9–8.5	6.5–6.7

Notes

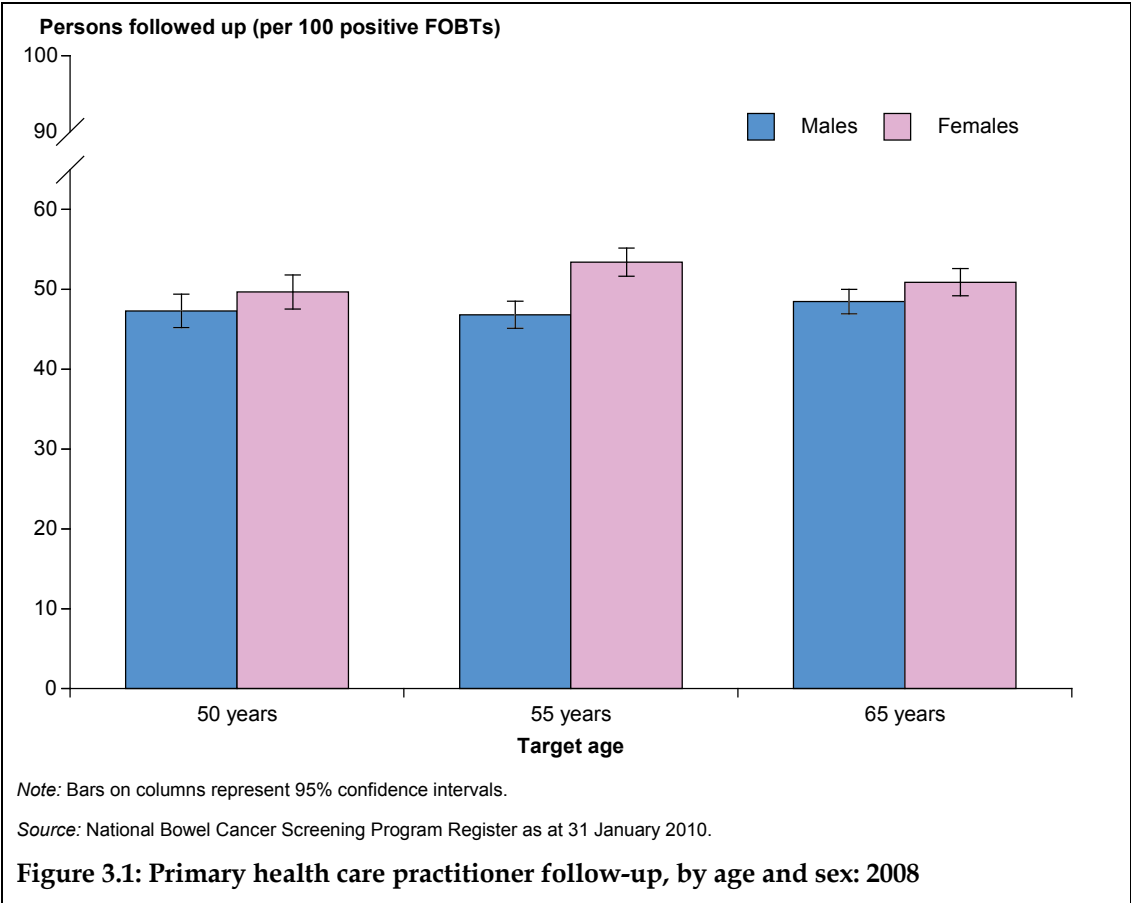
1. Rates equal the number of participants with positive FOBT results as a percentage of the total number of participants with valid results. A valid result was either positive or negative; inconclusive results were excluded.
2. CI—confidence interval.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

3 Follow-up of positive faecal occult blood test results

3.1 Primary health care practitioner follow-up

Females were more likely than males to consult their primary health care practitioner after a positive FOBT result (Figure 3.1); however, this was not a statistically significant difference. Further, there were no statistically significant differences in primary health care practitioner consultation rates across the three target ages. This is in contrast to the 2009 monitoring report where primary health care practitioner follow-up of people aged 50 years was significantly lower than those aged 55 or 65 years due to insufficient time to progress through the screening pathway.



Primary health care practitioner follow-up by state and territory

There were wide variations in primary health care practitioner consultation rates across jurisdictions (Table 3.1). As there is an extra 12 months of data since the 2009 monitoring report's analysis, waiting time for a primary health care practitioner consultation was unlikely to be a contributing factor in these differences.

Possible reasons for these variations therefore include differences in primary health care practitioner assessment form return across jurisdictions, and potential differences in participant willingness to consult their primary health care practitioner between jurisdictions.

Table 3.1: Follow-up by primary health care practitioners following a positive FOBT result, by state and territory: 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
50 years	Number	328	235	232	121	91	22	4	13	1,046
	Per cent	47.1	42.9	56.4	47.5	43.3	44.9	19.0	61.9	47.3
55 years	Number	397	317	432	167	168	58	14	18	1,571
	Per cent	44.4	47.0	55.2	41.0	41.2	45.0	37.8	69.2	46.8
65 years	Number	552	363	512	212	198	80	15	16	1,948
	Per cent	46.7	44.9	57.0	44.7	45.7	52.3	34.9	64.0	48.5
Total	Number	1,277	915	1,176	500	457	160	33	47	4,565
	Per cent	46.1	45.1	56.2	44.0	43.5	48.3	32.7	65.3	47.6
	95% CI	44.2– 47.9	42.9– 47.2	54.1– 58.3	41.1– 46.9	40.5– 46.5	43.0– 53.7	23.5– 41.8	54.3– 76.3	46.6– 48.6
Females										
50 years	Number	307	250	225	114	96	28	21	10	1,051
	Per cent	45.5	47.1	62.5	45.1	54.9	45.9	47.7	55.6	49.7
55 years	Number	422	336	417	197	166	73	27	7	1,645
	Per cent	51.3	50.3	60.1	52.5	50.0	58.9	58.7	41.2	53.4
65 years	Number	497	300	427	158	160	63	21	7	1,633
	Per cent	50.3	45.3	59.6	48.9	48.2	48.8	41.2	100.0	50.9
Total	Number	1,226	886	1,069	469	422	164	69	24	4,329
	Per cent	49.3	47.6	60.4	49.3	50.3	52.2	48.9	57.1	51.5
	95% CI	47.4– 51.3	45.3– 49.9	58.1– 62.6	46.1– 52.5	46.9– 53.7	46.7– 57.8	40.7– 57.2	42.2– 72.1	50.4– 52.6
Persons										
50 years	Number	635	485	457	235	187	50	25	23	2,097
	Per cent	46.4	44.9	59.3	46.3	48.6	45.5	38.5	59.0	48.5
55 years	Number	819	653	849	364	334	131	41	25	3,216
	Per cent	47.7	48.6	57.5	46.5	45.1	51.8	49.4	58.1	50.0
65 years	Number	1,049	663	939	370	358	143	36	23	3,581
	Per cent	48.3	45.1	58.1	46.4	46.8	50.7	38.3	71.9	49.6
Total	Number	2,503	1,801	2,245	969	879	324	102	71	8,894
	Per cent	47.6	46.3	58.1	46.4	46.5	50.2	42.1	62.3	49.4
	95% CI	46.3– 49.0	44.7– 47.8	56.5– 59.7	44.3– 48.6	44.3– 48.8	46.4– 54.1	35.9– 48.4	53.4– 71.2	48.7– 50.2

Notes

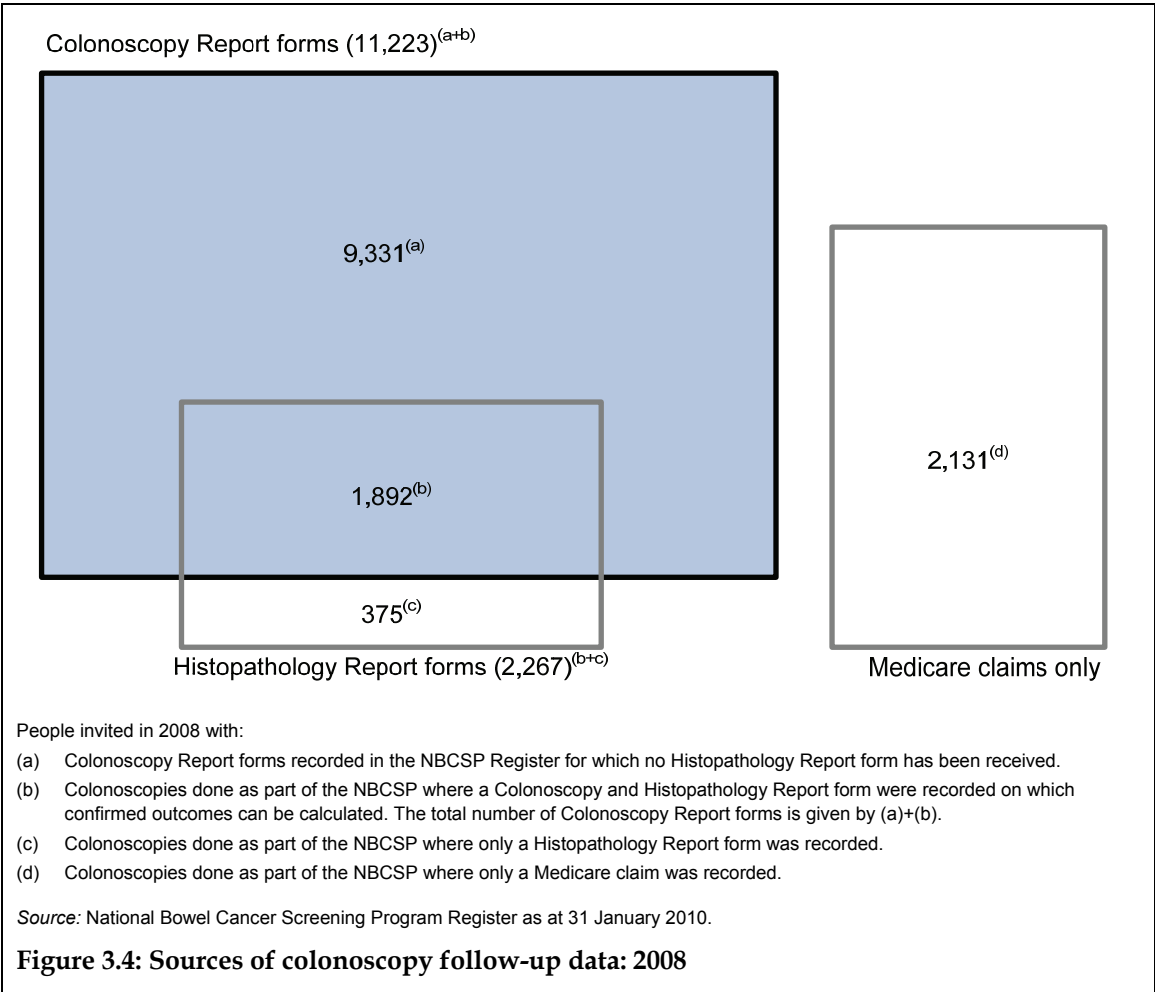
1. Percentages equal the number of people having consulted a primary health care practitioner following a positive FOBT result as a proportion of the total number of people with positive FOBT results.
2. Reporting of primary health care practitioner follow-up is not mandatory. Therefore, actual numbers of participant consultations may be underestimated.
3. CI—confidence interval.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

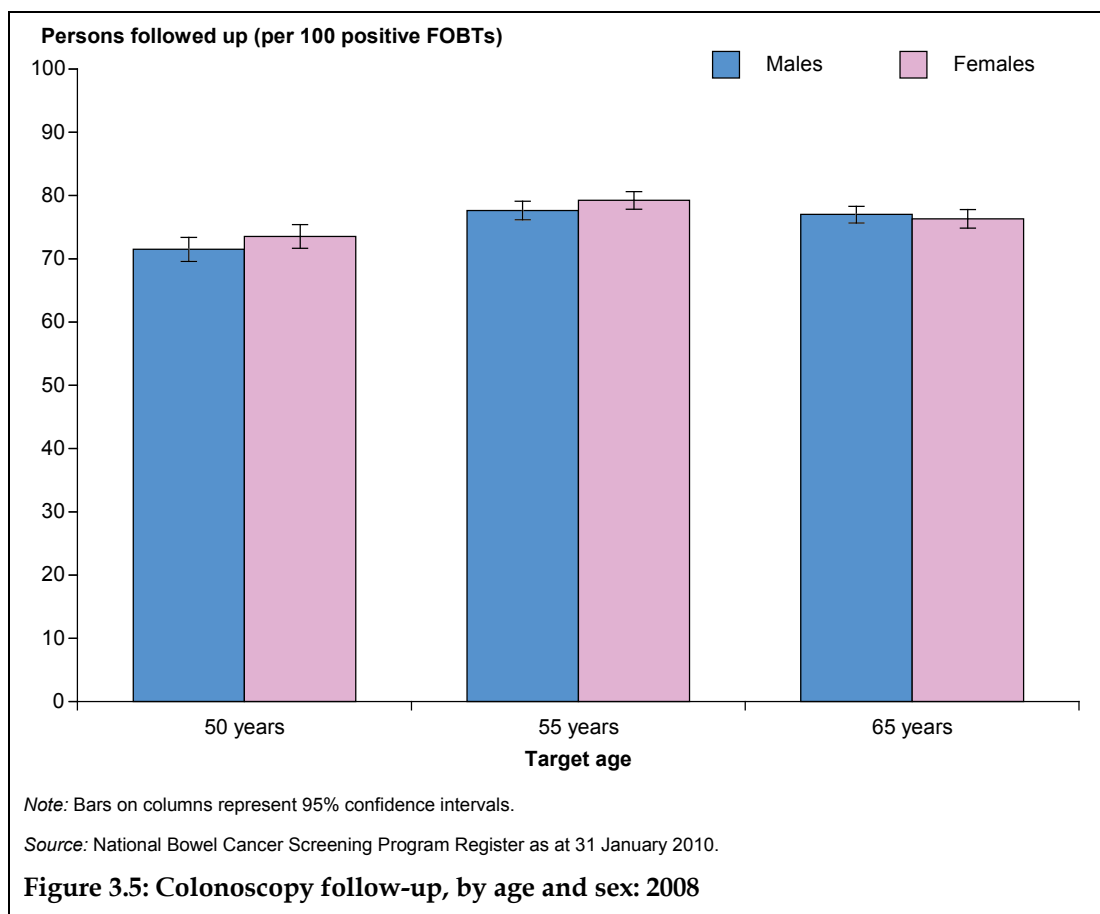
3.2 Colonoscopy follow-up

Progression through the screening pathway from invitation to colonoscopy takes time and is affected by a variety of factors. As a result, the number of recorded colonoscopies as at 31 January 2010 for people invited in 2008 who recorded a positive FOBT (13,729) has increased markedly compared with the 2009 monitoring report (8,741).

A participant's progression to colonoscopy can be identified through three sources as shown in Figure 3.4. Of the 13,729 participants identified in the NBCSP Register as having progressed to colonoscopy, 11,223 (81.7%) were detected as the result of a Colonoscopy Report form and 375 (2.7%) were detected as a result of a returned Histopathology Report form. The remaining 2,131 (15.5%) were detected as a result of a Medicare claim for the procedure.



Colonoscopy follow-up rates varied little between sexes or target ages of people invited into the NBCSP in 2008 (Figure 3.5). This is also in contrast to the 2009 monitoring report where colonoscopy follow-up of people aged 50 years was significantly lower than those aged 55 or 65 years due to insufficient time to progress through the screening pathway.



Colonoscopy follow-up by state and territory

New South Wales (69.2%) and Western Australia (73.0%) recorded statistically significantly lower levels of colonoscopy follow-up than the overall Australian rate of 76.3%. The highest levels of follow-up were recorded in Queensland (84.8%) and South Australia (83.5%) (Table 3.13).

Similar to primary health care practitioner consultation rates, the further 12 months of data since the 2009 monitoring report reduces the likelihood that waiting time for colonoscopy services is a factor in these follow-up rates. Analysis of median waiting times for colonoscopy indicated that all jurisdictions had median waiting times of less than 90 days (data not shown). Therefore, differences in colonoscopy assessment form return or, potentially, participant willingness to undergo a colonoscopy are more likely explanations for the difference in colonoscopy follow-up rates between jurisdictions.

Table 3.13: Colonoscopy follow-up following a positive FOBT result, by state and territory: 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
50 years	Number	426	403	338	181	169	37	14	13	1,581
	Per cent	61.2	73.5	82.2	71.0	80.5	75.5	66.7	61.9	71.5
55 years	Number	626	511	674	295	347	111	25	19	2,608
	Per cent	70.0	75.7	86.1	72.5	85.0	86.0	67.6	73.1	77.6
65 years	Number	831	613	750	361	369	122	32	17	3,095
	Per cent	70.3	75.9	83.4	76.2	85.2	79.7	74.4	68.0	77.0
Total	Number	1,883	1,527	1,762	837	885	270	71	49	7,284
	Per cent	67.9	75.2	84.2	73.7	84.2	81.6	70.3	68.1	76.0
	95% CI	66.2– 69.7	73.3– 77.1	82.6– 85.7	71.1– 76.2	82.0– 86.4	77.4– 85.7	61.4– 79.2	57.3– 78.8	75.1– 76.8
Females										
50 years	Number	456	396	312	176	134	38	30	14	1,556
	Per cent	67.7	74.6	86.7	69.6	76.6	62.3	68.2	77.8	73.5
55 years	Number	607	519	596	284	285	101	34	13	2,439
	Per cent	73.8	77.7	85.9	75.7	85.8	81.5	73.9	76.5	79.2
65 years	Number	693	505	605	227	274	102	38	6	2,450
	Per cent	70.1	76.3	84.4	70.3	82.5	79.1	74.5	85.7	76.3
Total	Number	1,756	1,420	1,513	687	693	241	102	33	6,445
	Per cent	70.7	76.3	85.4	72.2	82.6	76.8	72.3	78.6	76.7
	95% CI	68.9– 72.5	74.4– 78.2	83.8– 87.1	69.4– 75.1	80.0– 85.2	72.1– 81.4	65.0– 79.7	66.2– 91.0	75.8– 77.6
Persons										
50 years	Number	882	799	650	357	303	75	44	27	3,137
	Per cent	64.4	74.1	84.3	70.3	78.7	68.2	67.7	69.2	72.5
55 years	Number	1,233	1,030	1,270	579	632	212	59	32	5,047
	Per cent	71.8	76.7	86.0	74.0	85.4	83.8	71.1	74.4	78.4
65 years	Number	1,524	1,118	1,355	588	643	224	70	23	5,545
	Per cent	70.2	76.1	83.8	73.8	84.1	79.4	74.5	71.9	76.7
Total	Number	3,639	2,947	3,275	1,524	1,578	511	173	82	13,729
	Per cent	69.2	75.7	84.8	73.0	83.5	79.2	71.5	71.9	76.3
	95% CI	68.0– 70.5	74.4– 77.1	83.6– 85.9	71.1– 74.9	81.8– 85.2	76.1– 82.4	65.8– 77.2	63.7– 80.2	75.7– 76.9

Notes

1. Percentages of colonoscopies performed equal the number of people who have had a colonoscopy recorded following a positive FOBT as a proportion of the total number of people with positive FOBT results.
2. Record of a colonoscopy as part of the NBCSP is identified from the Colonoscopy Report form, Histopathology Report form and/or Medicare claims.
3. Reporting of colonoscopy follow-up is not mandatory. Therefore, actual numbers of participant colonoscopies may be underestimated.
4. CI—confidence interval.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

4 Cancer detection

As this data supplement has allowed an extra 12 months for those invited in 2008 to progress through the NBCSP pathway, outcome data is now more comprehensive than in the 2009 monitoring report, with 64.5% of those people with a positive FOBT having outcome data available by 31 January 2010 (compared with 42.8% at 31 January 2009) (Figure 4.1).

As the analysis of histopathology specimens is the last step in the NBCSP pathway a participant's histopathology results generally take the longest time to enter the NBCSP register. Histopathology outcomes recorded in this report have almost doubled from those reported in the 2009 monitoring report, increasing from outcomes for 1,204 participants to 2,267 participants. Although some of this increase may be due to the extra 12 months of data available, a one-off Histology Data Collection Project that ran from October 2009 to January 2010 in Western Australia contributed nearly half of this increase in histopathology assessment data and is reflected in the higher proportion of confirmed outcomes for this jurisdiction. While this increase in histopathology follow-up data has allowed a significant improvement in the quality of outcome data reported, a large proportion of histopathology outcome data are still missing for participants invited in 2008.

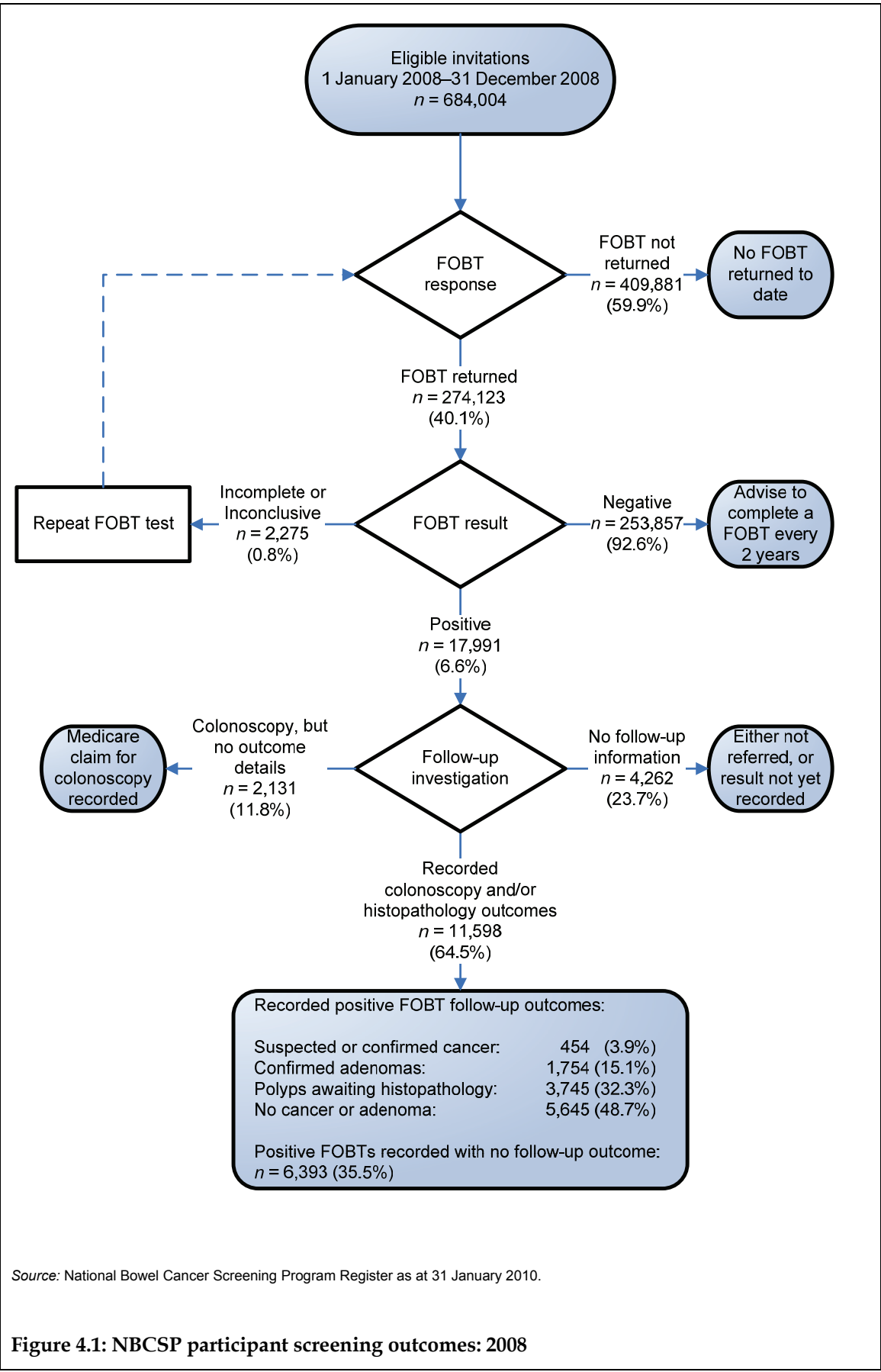
As at 31 January 2010, 76.3% of those who recorded a positive FOBT are known to have undergone a colonoscopy, with the majority of these also reporting colonoscopy and/or histopathology data. A total of 1,754 participants invited in 2008 have had medical investigation of an adenoma detected through the NBCSP, and 454 participants have had medical investigation of a suspected or confirmed cancer (Figure 4.1).

There is a wide variation in reported screening outcomes by jurisdiction (Table 4.2). Due to the differing reporting processes for colonoscopy and histopathology used in each state and territory it is difficult to interpret the significance of these variations.

In general, abnormalities (polyps, adenomas and cancers) were more likely to be diagnosed in men than women, and the rate of these abnormalities also increased as the target age of those undergoing colonoscopy increased (Table 4.3).

Cancer spread status

Favourable treatment outcomes are more commonly associated with a diagnosis at the earlier-level tumour stages (DoHA 2005). Of the 120 cancers confirmed by histopathology, 60 were recorded with tumour staging information (Table 4.5). Of these, 35 (58.3%) were recorded at the earliest stage ('Submucosa or into but not through muscularis propria') and 10 (16.7%) were recorded in the last two stages of cancer growth ('Spread of cancer to lymph nodes' and 'Metastatic disease').



Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

Figure 4.1: NBCSP participant screening outcomes: 2008

Table 4.2: Participant screening outcomes, by state and territory: 2008

State	Positive FOBT										
	Invitations issued ^(a)	Number screened ^(b)	Total positive FOBT	Colonoscopy recorded ^(c)	No cancer or adenoma ^(d)	Polyps awaiting histo-pathology ^(e)	Confirmed diminutive adenoma ^(f)	Confirmed small adenoma ^(f)	Confirmed advanced adenoma ^(f)	Suspected cancer ^(g)	Confirmed cancer ^(g)
NSW	Number	80,192	5,257	2,779	1,369	1,146	29	38	97	85	15
	Per cent				49.3	41.2	1.0	1.4	3.5	3.1	0.5
Vic	Number	59,064	3,892	2,505	1,330	900	23	35	94	111	12
	Per cent				53.1	35.9	0.9	1.4	3.8	4.4	0.5
Qld	Number	60,812	3,864	2,879	1,281	836	79	130	434	79	40
	Per cent				44.5	29.0	2.7	4.5	15.1	2.7	1.4
WA	Number	74,399	2,087	1,266	502	283	86	76	275	15	29
	Per cent				39.7	22.4	6.8	6.0	21.7	1.2	2.3
SA	Number	27,430	1,890	1,487	809	395	34	38	174	22	15
	Per cent				54.4	26.6	2.3	2.6	11.7	1.5	1.0
Tas	Number	8,264	645	456	247	83	19	16	71	11	9
	Per cent				54.2	18.2	4.2	3.5	15.6	2.4	2.0
ACT	Number	4,161	242	153	75	70	0	0	1	7	0
	Per cent				49.0	45.8	0.0	0.0	0.7	4.6	0.0
NT	Number	1,602	114	73	32	32	2	0	3	4	0
	Per cent				43.8	43.8	2.7	0.0	4.1	5.5	0.0
Australia	Number	684,004	17,991	11,598	5,645	3,745	272	333	1,149	334	120
	Per cent				48.7	32.3	2.3	2.9	9.9	2.9	1.0

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.

(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the NBCSP Register.

(c) 'Colonoscopy recorded' includes colonoscopies recorded via the Colonoscopy Report and/or Histopathology Report forms. It does not include colonoscopies identified through Medicare claims.

(d) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomas at histopathology.

(e) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report form received by NBCSP Register.

(f) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the NBCSP Register.

(g) Suspected indicates cancer suspected at colonoscopy but not yet confirmed by histopathology. Confirmed indicates cancer confirmed by histopathology.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

Table 4.3: Participant screening outcomes, by age and sex: 2008

		Positive FOBT										
		Invitations issued ^(a)	Number screened ^(b)	Total positive FOBT	Colonoscopy recorded ^(c)	No cancer or adenoma ^(d)	Polyps awaiting histo-pathology ^(e)	Confirmed diminutive adenoma ^(f)	Confirmed small adenoma ^(f)	Confirmed advanced adenoma ^(f)	Suspected cancer ^(g)	Confirmed cancer ^(g)
Males												
50 years	Number	117,015	36,070	2,211	1,333	635	464	26	41	125	33	9
	Per cent					47.6	34.8	2.0	3.1	9.4	2.5	0.7
55 years	Number	136,353	48,778	3,359	2,210	896	831	62	79	259	62	21
	Per cent					40.5	37.6	2.8	3.6	11.7	2.8	1.0
65 years	Number	90,070	41,206	4,017	2,617	931	1,022	65	81	363	107	48
	Per cent					35.6	39.1	2.5	3.1	13.9	4.1	1.8
Total	Number	343,438	126,054	9,587	6,160	2,462	2,317	153	201	747	202	78
	Per cent					40.0	37.6	2.5	3.3	12.1	3.3	1.3
Females												
50 years	Number	116,970	43,087	2,116	1,290	828	330	22	17	67	26	0
	Per cent					64.2	25.6	1.7	1.3	5.2	2.0	0.0
55 years	Number	135,882	59,757	3,079	2,060	1,262	503	45	50	146	38	16
	Per cent					61.3	24.4	2.2	2.4	7.1	1.8	0.8
65 years	Number	87,714	45,225	3,209	2,088	1,093	595	52	65	189	68	26
	Per cent					52.3	28.5	2.5	3.1	9.1	3.3	1.2
Total	Number	340,566	148,069	8,404	5,438	3,183	1,428	119	132	402	132	42
	Per cent					58.5	26.3	2.2	2.4	7.4	2.4	0.8

(continued)

Table 4.3 (continued): Participant screening outcomes, by age and sex: 2008

		FOBT positive										
Persons		Invitations issued ^(a)	Number screened ^(b)	Total positive FOBT	Colonoscopy recorded ^(c)	No cancer or adenoma ^(d)	Polyps awaiting histo-pathology ^(e)	Confirmed diminutive adenoma ^(f)	Confirmed small adenoma ^(f)	Confirmed advanced adenoma ^(f)	Suspected cancer ^(g)	Confirmed cancer ^(g)
50 years	Number	233,985	79,157	4,327	2,623	1,463	794	48	58	192	59	9
	Per cent					55.8	30.3	1.8	2.2	7.3	2.2	0.3
55 years	Number	272,235	108,535	6,438	4,270	2,158	1,334	107	129	405	100	37
	Per cent					50.5	31.2	2.5	3.0	9.5	2.3	0.9
65 years	Number	177,784	86,431	7,226	4,705	2,024	1,617	117	146	552	175	74
	Per cent					43.0	34.4	2.5	3.1	11.7	3.7	1.6
Total	Number	684,004	274,123	17,991	11,598	5,645	3,745	272	333	1,149	334	120
	Per cent					48.7	32.3	2.3	2.9	9.9	2.9	1.0

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.

(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the NBCSP Register.

(c) 'Colonoscopy recorded' includes colonoscopies recorded via the Colonoscopy Report and/or Histopathology Report forms. It does not include colonoscopies identified through Medicare claims.

(d) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomatous at histopathology.

(e) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report form received by NBCSP Register.

(f) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the NBCSP Register.

(g) Suspected indicates cancer suspected at colonoscopy but not yet confirmed by histopathology. Confirmed indicates cancer confirmed by histopathology.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

Table 4.4: Cancer spread status, by age and sex: 2008

	Cancer confirmed by histopathology					All confirmed cancers
	Submucosa or into but not through muscularis propria	Through muscularis propria	Spread of cancer to lymph nodes	Metastatic disease	Not reported	
Males						
50 years	4	0	1	0	4	9
55 years	10	5	0	1	5	21
65 years	12	4	2	2	28	48
<i>Total</i>	26	9	3	3	37	78
Females						
50 years	0	0	0	0	0	0
55 years	2	2	1	0	11	16
65 years	7	4	3	0	12	26
<i>Total</i>	9	6	4	0	23	42
Persons						
50 years	4	0	1	0	4	9
55 years	12	7	1	1	16	37
65 years	19	8	5	2	40	74
Total	35	15	7	3	60	120

Source: National Bowel Cancer Screening Program Register as at 31 January 2010; Histopathology Report form sections 4B and 4C.

5 Adverse events

As with any invasive surgical procedure, colonoscopic investigation is not without risk. Of the 13,729 participants invited in 2008 known to have undergone a colonoscopy by 31 January 2010, 48 (or 1 in every 286 participants that underwent colonoscopy) experienced one or more adverse events from the procedure. The breakdown of adverse events experienced by those 48 participants is shown in Table 5.1.

Bleeding was the most commonly recorded adverse event, with 22 participants (1 in 624) recording bleeding. A further 31 adverse events (including infection or sepsis, perforation or reaction to sedation) were recorded for the 48 participants. No deaths were recorded due to colonoscopy.

As a result of these adverse events 32 participants required an unplanned hospital admission within 30 days of their colonoscopy, 15 had a delayed discharge after their colonoscopy, and 9 (1 in 1,525 participants that underwent colonoscopy) required surgery due to their colonoscopy.

Table 5.1: Adverse outcomes following investigation of positive FOBT by colonoscopy: 2008

	Participants undergoing colonoscopy	Adverse outcomes									
		Bleeding	Infection/ sepsis	Perforation	Reaction to sedation/ anaesthesia	Death	Other	Delayed discharge	Unplanned hospital admission within 30 days	Surgery required	
Males	Number	19	1	2	0	0	12	7	19	6	
	Per cent	0.3	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.1	
Females	Number	3	0	3	2	0	11	8	13	3	
	Per cent	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0	
Persons	Number	22	1	5	2	0	23	15	32	9	
	Per cent	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	
	95% CI	0.1–0.2	0.0–0.0	0.0–0.1	0.0–0.0	0.0–0.0	0.1–0.2	0.1–0.2	0.2–0.3	0.0–0.1	

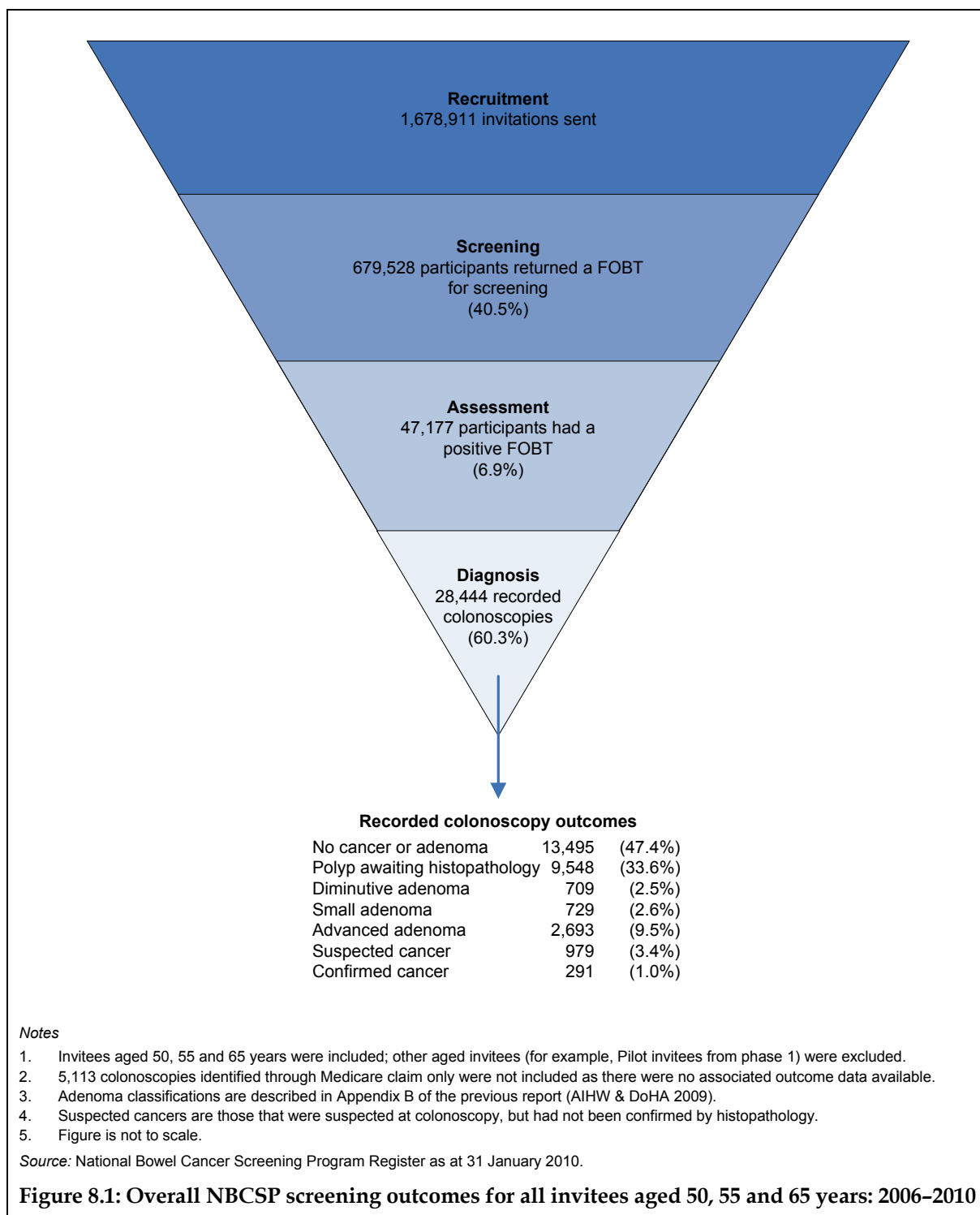
Notes

1. A person may have more than one adverse event as the result of a colonoscopy.
2. CI—confidence interval.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010, Adverse Outcome form sections 2 and 3.

8 Overall NBCSP outcomes

The latest complete data for the NBCSP includes both phase 1 and 2 participants, from the start of the program in August 2006 through to 31 January 2010. Progression of all participants through the screening pathway are summarised in Figure 8.1.



Almost 700,000 people in the target ages of 50, 55 or 65 years have been screened in the NBCSP as at 31 January 2010, with 6.9% requiring further investigation of a positive FOBT by colonoscopy. Of the known colonoscopy outcomes, 1,270 suspected or confirmed cancers (4.5%) and 4,131 adenomas (14.5%) have had medical investigation.

A more detailed breakdown of these NBCSP screening pathway outcomes for 2006 to 2010, by age and sex, is shown in Table 8.1.

Table 8.1: Overall participant screening outcomes, by age and sex: 2006–2010

		Positive FOBT										
		Invitations issued ^(a)	Number screened ^(b)	Total positive FOBT	Colonoscopy recorded ^(c)	No cancer or adenoma ^(d)	Polyps awaiting histo-pathology ^(e)	Confirmed diminutive adenoma ^(f)	Confirmed small adenoma ^(f)	Confirmed advanced adenoma ^(f)	Suspected cancer ^(g)	Confirmed cancer ^(g)
Males												
50 years	Number	194,313	57,176	3,332	1,716	800	613	35	52	158	46	12
	Per cent					46.6	35.7	2.0	3.0	9.2	2.7	0.7
55 years	Number	390,764	138,136	9,964	6,277	2,588	2,375	189	186	687	198	54
	Per cent					41.2	37.8	3.0	3.0	10.9	3.2	0.9
65 years	Number	258,451	116,969	11,940	7,262	2,552	2,965	186	200	909	335	115
	Per cent					35.1	40.8	2.6	2.8	12.5	4.6	1.6
<i>Total</i>	<i>Number</i>	<i>843,528</i>	<i>312,281</i>	<i>25,236</i>	<i>15,255</i>	<i>5,940</i>	<i>5,953</i>	<i>410</i>	<i>438</i>	<i>1,754</i>	<i>579</i>	<i>181</i>
	<i>Per cent</i>					<i>38.9</i>	<i>39.0</i>	<i>2.7</i>	<i>2.9</i>	<i>11.5</i>	<i>3.8</i>	<i>1.2</i>
Females												
50 years	Number	194,388	68,199	3,283	1,683	1,089	427	29	19	83	34	2
	Per cent					64.7	25.4	1.7	1.1	4.9	2.0	0.1
55 years	Number	389,237	171,147	9,173	5,753	3,431	1,505	125	131	386	137	38
	Per cent					59.6	26.2	2.2	2.3	6.7	2.4	0.7
65 years	Number	251,758	127,901	9,485	5,753	3,035	1,663	145	141	470	229	70
	Per cent					52.8	28.9	2.5	2.5	8.2	4.0	1.2
<i>Total</i>	<i>Number</i>	<i>835,383</i>	<i>367,247</i>	<i>21,941</i>	<i>13,189</i>	<i>7,555</i>	<i>3,595</i>	<i>299</i>	<i>291</i>	<i>939</i>	<i>400</i>	<i>110</i>
	<i>Per cent</i>					<i>57.3</i>	<i>27.3</i>	<i>2.3</i>	<i>2.2</i>	<i>7.1</i>	<i>3.0</i>	<i>0.8</i>

(continued)

Table 8.1 (continued): Overall participant screening outcomes, by age and sex: 2006–2010

Persons		Invitations issued ^(a)	Number screened ^(b)	Total positive FOBT	Colonoscopy recorded ^(c)	No cancer or adenoma ^(d)	Polyps awaiting histopathology ^(e)	Positive FOBT				
								Confirmed diminutive adenoma ^(f)	Confirmed small adenoma ^(f)	Confirmed advanced adenoma ^(f)	Suspected cancer ^(g)	Confirmed cancer ^(g)
50 years	Number	388,701	125,375	6,615	3,399	1,889	1,040	64	71	241	80	14
	Per cent											
55 years	Number	780,001	309,283	19,137	12,030	6,019	3,880	314	317	1,073	335	92
	Per cent											
65 years	Number	510,209	244,870	21,425	13,015	5,587	4,628	331	341	1,379	564	185
	Per cent											
Total	Number	1,678,911	679,528	47,177	28,444	13,495	9,548	709	729	2,693	979	291
	Per cent											

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.

(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the NBCSP Register.

(c) 'Colonoscopy recorded' includes colonoscopies recorded via the Colonoscopy Report and/or Histopathology Report forms. It does not include colonoscopies identified through Medicare claims.

(d) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomatous at histopathology.

(e) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report form received by NBCSP Register.

(f) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the NBCSP Register.

(g) Suspected indicates cancer suspected at colonoscopy but not yet confirmed by histopathology. Confirmed indicates cancer confirmed by histopathology.

Source: National Bowel Cancer Screening Program Register as at 31 January 2010.

References

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