

**Evaluation of the “Here’s Your Bottom Line
– Bowel Cancer Project” Project
in the Midlands Health Region**

By

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EXECUTIVE SUMMARY

During 2002/2003, the Coastal and Wheatbelt Public Health Unit implemented the “Here’s Your Bottom Line- Bowel Cancer Project” project in the Midlands Health Region of Western Australia to reduce mortality rates due to colorectal cancer

As part of the Project, several strategies were implemented in an awareness campaign including a series of four print ads in local newspapers, four radio ads which aired every third day, radio interviews, mailout of a brochure to all households in the Wheatbelt region, community education seminars, poster displays and a banner.

The Project focused mainly on promoting the prevention of bowel cancer through modifiable risk factors (e.g., increased physical activity, weight control, quit smoking, decrease alcohol intake and checking for symptoms). Due to advice from the Project’s steering committee, there was little emphasis on the types of screening and diagnostic methods for bowel cancer as it was deemed that the current services in the region would not be able to cope with an increased influx of referrals. Hence, these topics were discussed briefly in community education sessions only.

The Centre for Behavioural Research in Cancer Control was commissioned by Coastal and Wheatbelt Public Health Unit to evaluate the awareness campaign. A pre-post study design was used. Telephone surveys of the target population (i.e., people aged 40 years and over) were used to assess awareness of the campaign, impact of the campaign on discussing bowel cancer with others (e.g., family, GP), and attitudes and knowledge about bowel cancer. The pre-survey was conducted prior to the commencement of the awareness campaign (17-20 October, 2002). Due to the Coastal and Wheatbelt Public Health Unit’s time commitments in reporting the outcomes of this Project, the post-surveys were conducted approximately a month prior to the end of the campaign (22-25 May, 2003). In each survey, 150 respondents were interviewed.

SUMMARY OF MAJOR FINDINGS – CONCLUSIONS AND RECOMMENDATIONS

- There was a significant and substantial increase in the salience of bowel cancer in the top three cancers mentioned (30% to 48%, $p=.001$).
- There was a significant increase in the proportion who perceived bowel cancer as at least moderately preventable (65% to 79%, $p=.005$).
- Knowledge of what people (can do that decrease/do that increase) their chances of getting bowel cancer increased, but not significantly, in seven of the nine factors (i.e., increase: healthy diet, physically activity, smoking, alcohol intake, hereditary; decrease: checking responses, weight control).
- There was a slight increase in the proportion of respondents who were aware of at least one lifestyle risk factor of bowel cancer (83% to 86%). Also, there was an increase in awareness that hereditary is a risk factor of bowel cancer (2% to 6%).
- There was an increase in the proportion of respondents who were aware of at least one sign or symptom of bowel cancer (69% to 77%, $p=.091$). The two most frequently mentioned signs or symptoms of bowel cancer were rectal bleeding and change in bowel pattern, with both increasing significantly (53% to 70%, $p=.002$; and 32% to 44%, $p=.032$, respectively).
- There was a slight increase in the most frequently mentioned test – colonoscopy (31% to 37%), but a decrease in mentions of a lab test for blood in stool (11% to 5%, $p=.051$); and check for blood in stool (19% to 11%, $p=.075$). Thirteen percent of respondents in the pre and post samples mentioned ‘a blood test’. In both the pre and post samples, a substantial proportion of respondents were not aware of a test or check for bowel cancer (42% and 38%, respectively).
- Cued recall of the campaign media increased from 16% to 33% ($p=.000$). Cued recall was highest for the brochure (16%). Three percent of respondents recalled information about bowel cancer in the local newspaper and 12% recalled the radio stations used in the Campaign.

- Prompted awareness of the poster was 21%. Prompted awareness was higher amongst females than males (27% vs 15%, $p=.056$), and amongst respondents aged 60 years and over than those aged 40-59 years (36% vs 19%, $p=.110$).
- Overall, awareness of any information about bowel cancer in the campaign media increased from 18% to 42% ($p=.000$). It is important to note that the evaluation was conducted a month prior to the completion of the campaign, and the mailout of the brochure to households was not conducted till early May 2003.
- Amongst respondents who were aware of any information about bowel cancer, approximately half rated the information as 'very/quite' relevant (pre and post: 51%).
- There was an increase in the proportion of respondents who talked to a family member or close friend about bowel cancer (22% to 28%). Less than 5% in the pre-post surveys talked to their GP, or a community nurse/local health service person.
- Approximately one in three respondents who were aware of the poster were unsure of any main message of the poster (32%). Instead, respondents mainly described the picture in the poster (16%). The other main responses were 'get a check' (13%), 'be more aware of bowel cancer' (10%) and talk to a doctor (10%).
- Overall, awareness of the Campaign was only moderate. Nevertheless, there were: significant increases in the salience and perceived preventability of bowel cancer; slight increases in knowledge of the signs and symptoms and risk factors of bowel cancer; no change in knowledge of at least one test or check of bowel cancer, but a slight increase in awareness of colonoscopy; and an increase, but not significantly, in the proportion of respondents who talked to someone about bowel cancer.
- Although there is no comparison community, these increases suggest that the awareness campaign has had a significant impact on the salience of bowel cancer and factors related to preventability; that is, lifestyle factors (diet, physical activity & body weight), screening, early symptoms and early detection.
- The sample size was too small to identify any significant behavioural change.

Overall, it is recommended that:

- Research is required to determine the best media to reach the target group in this community. Although we did not measure prompted recognition, radio did not appear to be effective in reaching the target group despite intensive broadcast of the radio ads. It may well be that this medium has little penetration in this target group, or that the scheduling was inappropriate.
- Future campaigns could use more intensive advertising in the local newspaper with poster-styled ads to complement informational articles. Awareness of the series of four articles about bowel cancer in the local newspaper was low which may be due, in part, to each article being placed once only.
- There is a need to revise and pre-test the poster as a substantial proportion of respondents who were aware of the poster did not know the message it was trying to get across. There may be a need to increase the size and position of the copy: “If you are over 40 talk to your GP about bowel cancer”, relative to the headline.

1. INTRODUCTION

During 2002/2003, the Coastal and Wheatbelt Public Health Unit implemented the “Here’s Your Bottom Line- Bowel Cancer Project” project in the Midlands Health Region of Western Australia to reduce mortality rates due to colorectal cancer (CRC). The Project has two main aims:

1. To increase public awareness of the subject of CRC; the risk factors associated with it; the lifestyle changes which may reduce risk, the symptoms which may suggest it, and actions that can be taken by the public if they are concerned that they may be at risk; and
2. To recruit general practitioners to support the project objectives and ensure that they, and appropriate specialists, are fully conversant with best practice management of the clients concerns relating to CRC.

As part of the Project, several strategies were implemented in an awareness campaign including a series of four print ads in local newspapers, four radio ads which aired every third day, radio interviews, mailout of brochures to all householders in the Wheatbelt region, community education sessions, poster displays and a banner (displayed two weeks in five major towns in the region) (see Appendix 2).

The Project focused mainly on promoting the prevention of bowel cancer through modifiable risk factors (e.g., increased physical activity, weight control, quit smoking, decrease alcohol intake and checking for symptoms). Due to advice from the Project’s steering committee, there was little emphasise on the types of screening and diagnostic methods for bowel cancer as it was deemed that the current services in the region would not be able to cope with an increased influx of referrals. Hence, these topics were discussed briefly in community education sessions only.

This report presents the results of a pre-post evaluation of the awareness campaign.

2 THE EVALUATION

2.1 Survey Methods

Telephone surveys of the target population (i.e., people aged 40 years and over) were used to assess awareness of the campaign, impact of the campaign on discussing bowel cancer with others (e.g., family, GP), and attitudes and knowledge about bowel cancer. Appendix 1 contains the questionnaire used in the evaluation.

A pre-post, no comparison group study design was used. Available resources precluded the inclusion of a comparison community. The pre-survey was conducted prior to the commencement of the awareness campaign (17-20 October, 2002). The post-survey was conducted approximately a month prior to the end of the campaign (22-25 May, 2003). In each survey, 150 respondents were interviewed.

The interviews were conducted throughout the week in the evenings between 4:00pm and 8:00pm to maximise the availability of household members aged 40 years and over. Random digit dialling was used to select households in the Midlands Health Region for inclusion in the survey, and quota methods were used to ensure an approximately equal representation of males and females in each survey. The Survey Research Centre at the University of Western Australia conducted the telephone interviews.

2.2 The Pre-Post Questionnaire

Prior to any questions about bowel cancer, the salience of bowel cancer was measured. Then respondents were asked: how preventable is bowel cancer; what increases/decreases chances of getting bowel cancer; what are the signs and symptoms of bowel cancer; and what are the tests or checks for detecting bowel cancer.

Respondents were asked whether or not, in the last six months, they talked to a family member/close friend, their GP, or a community nurse/local health service person about bowel cancer.

Awareness of the campaign was measured by asking respondents whether or not, in the last six months, they read in the newspaper, heard on the radio, or anywhere else, anything about bowel cancer, and if so, to describe what they remembered. Then respondents were read a description of the campaign poster and asked whether or not they remembered seeing the poster, and if so, what was the main message of the poster. Respondents who claimed to have read or heard information about bowel cancer were asked how relevant they felt the information was to them personally, and whether or not something about bowel cancer stood out in their mind.

Respondents were asked whether or not they: had bowel cancer; knew someone who had bowel cancer; and had any of the three tests for bowel cancer (i.e., test for blood in the stool or faeces, colonoscopy, sigmoidoscopy). Respondents were also asked the extent to which they were interested in learning about health-related issues and preventive health behaviours.

The questionnaire collected several demographic data (e.g., gender, age, education level, and marital status).

3. RESULTS

3.1 Sample Characteristics

Table 1 shows the socio-demographic characteristics of respondents in the pre-post surveys. A total of 300 respondents was surveyed. Males and females were equally represented in the survey samples. Overall, the sample demographics in the pre and post surveys were similar. In both samples, at least half of the respondents were aged between 40-59 years (pre: 58%; post: 55%), the majority were married (pre: 71%; post: 64%), and approximately 55% were employed full-time (approximately 30% were retired)(see Table 1).

Table 1: Sample Demographics

	Pre N=150 %	Post N=150 %	Total N=300 %		Pre N=150 %	Post N=150 %	Total N=300 %
Gender:				Education:			
Males	50	50	50	Up to yr 10/primary school	46	41	44
Females	50	50	50	Yr 12/secondary school	18	22	20
Total	100	100	100	Trade certificate/ diploma/more than yr 12	14	17	15
				TAFE qualification	7	7	7
Age group:				University degree	15	13	14
40-49 years	34	28	31	Total	100	100	100
50-59 years	24	27	25				
60-69 years	31	25	28	Employment status:			
70+ years	11	20	16	Employed full-time	41	38	40
Total	100	100	100	Employed part-time/casual	12	19	15
				Unemployed	5	3	4
Marital Status:				Student	1	0	1
Married	71	64	67	Retired	27	29	28
Defacto relationship	1	4	3	Permanently unable to work	4	3	3
Divorced	5	13	9	Home duties	10	9	10
Married (separated)	5	1	3	Total	100	100	100
Widowed	11	11	11				
Never married	6	7	6				
Total	100	100	100				

In both the pre and post surveys, one respondent reported that they had bowel cancer, and approximately 60% knew someone who had bowel cancer (pre: 59%; post: 61%).

When respondents were asked to rate their interest in learning about health-related issues and preventive health behaviours, females were significantly and substantially more likely than males to be 'very interested' (pre: 47% vs 25%, $p=.000$; post: 40% vs 23%, $p=.000$).

3.2 Salience of Bowel Cancer

Prior to questions about bowel cancer, respondents were asked: “*When you think of cancers, what types comes to mind?*” There was a significant and substantial increase in the salience of bowel cancer in the top three mentions (30% to 48%, $p=.001$), but not in first mentions (12% to 9%) (see Table 2). In the top three mentions, salience of bowel cancer moved from fourth (behind breast, skin and lung cancers) to second (behind breast cancer).

The other cancer with a notable changes in awareness was cancer of the prostate: first mention: 6% to 13%, $p=.047$; top three mentions: 23% to 32%, $p=.070$. This was possibly related to the Men’s Health Coordinator, in the Central Wheatbelt Division of General Practice, conducting community education sessions about prostate cancer in the region in approximately the same time period as this Project.

Across both surveys combined, females were far more likely than males to mention breast cancer in the top three mentions (79% vs 25%, $p=.000$). In contrast, males were more likely than females to mention prostate cancer (37% vs 18%, $p=.000$).

Table 2: Salience of different types of cancers

	First mention		Top 3 mentions	
	Pre N=150 %	Post N=150 %	Pre N=150 %	Post N=150 %
Breast cancer	35	33	50	55
Skin/melanoma	18	20	39	38
Lung cancer	15	13	37	41
Bowel	12	9	30	48
Prostate	6	13	23	32
Cervical	0	0	10	17
Leukemia	2	1	5	5
Don’t know	5	5	5	5

3.3 Perceived Preventability of Bowel Cancer

Respondents were asked: “*How preventable do you think bowel cancer is?*” There was a significant increase in the proportion who perceived bowel cancer as at least moderately

preventable (65% to 79%, $p=.005$) (see Table 3). The proportion of respondents who responded ‘don’t know’ decreased substantially (17% to 7%, $p=.008$), particularly amongst males (23% to 9%, $p=.026$).

Table 3: Perceived preventability of bowel cancer

	Pre N=150 %	Post N=150 %	Total N=300 %
Completely/very preventable	24	31	28
Moderately preventable	41	48	44
Slightly preventable	11	11	11
Not at all preventable	7	2	5
Don’t know	17	7	12

3.4 Knowledge of the Risk Factors of Bowel Cancer

Because the way the question is asked can influence people’s responses, half the respondents were asked: “*Do you know of anything that people can do that decreases their chances of getting bowel cancer?*” The other half were asked: “*Do you know of anything that people do that that increases their chances of getting bowel cancer?*” Table 4 shows the data for the increase and decrease questions combined for the pre and post surveys. Responses to the *increase* question are the mirror of those listed (i.e., ‘poor diet’ for ‘healthy diet’ and so on). Of the seven risk factors of bowel cancer, six are lifestyle-related.

Table 4: Main responses of what people (can do that decrease/do that increase) their chances of getting bowel cancer

	Pre N=150 %	Post N=150 %	Total N=300 %
Healthy diet:	78	83	81
Fibre intake	57	64	60
Low fat intake	29	33	31
Physically activity	21	25	23
Checking/screening	19	17	18
Not smoking	17	19	18
Low alcohol intake	15	19	17
Weight control	6	3	4
Hereditary	2	6	4
Don’t know	13	13	13

There was an increase, but not significant, in seven of the nine factors. In both the pre and post surveys, the most frequently mentioned risk factor of bowel cancer was an unhealthy diet (pre: 78%; post: 83%), followed by physical activity (pre: 21%; post: 25%). Also, there was an increase in awareness that hereditary is a risk factor of bowel cancer (2% to 6%).

Across both surveys combined, the *decrease* question generated greater mentions of a healthy diet (76% vs 56%, $p=.000$), fibre intake (56% vs 31%, $p=.000$), checking/screening responses (16% vs 5%, $p=.000$). In contrast, the *increase* question generated greater mentions of fat intake (24% vs 16%, $p=.010$), smoking (14% vs 6%, $p=.001$) and alcohol intake (12% vs 6%, $p=.007$). Hence, it is important to ask both questions to obtain more complete information about knowledge of the risk factors of bowel cancer.

3.5 Knowledge of the Signs or Symptoms of Bowel Cancer

Respondents were asked: “Do you know of any signs or symptoms that might suggest a person has bowel cancer?” Overall, there was an increase in the proportion of respondents who were aware of at least one sign or symptom of bowel cancer (69% to 77%, $p=.091$).

There was a significant increase in the proportion of respondents who mentioned each of the two most frequently mentioned responses: rectal bleeding (53% to 70%, $p=.002$) and change in bowel pattern (32% to 44%, $p=.032$) (see Table 5).

Table 5: Main responses of signs and symptoms that might suggest a person has bowel cancer

	Pre N=150 %	Post N=150 %	Total N=300 %
Rectal bleeding (e.g., blood in stools)	53	70	61
Change in bowel pattern (e.g., constipation)	32	44	38
Abdominal/rectal pain	25	20	22
Feeling of bloating, fullness or cramping	5	7	6
Weight loss	3	7	5
Lethargy	1	3	2
Anaemia	1	0	1
One or more correct signs or symptoms	69	77	73
Incorrect signs or symptoms	4	2	3
Don't know	27	21	24

3.6 Knowledge of Tests or Checks for Bowel Cancer

Respondents were asked: “Do you know of any tests or checks that a person or their doctor could do to see if they have bowel cancer?” Table 6 shows the proportion of respondents in the pre-post surveys who mentioned each of the tests for bowel cancer. In both the pre and post surveys, approximately one in two respondents were aware of at least one test or check of bowel cancer (55% to 53%, respectively).

There was a slight increase in the most frequently mentioned test – colonoscopy: 31% to 37%. However there was a decrease in mentions of the next two most frequently mentioned tests: lab test for blood in stool (11% to 5%, $p=.051$); and check for blood in stool (19% to 11%, $p=.075$). Thirteen percent of respondents in the pre and post samples mentioned ‘a blood test’. It may well be that these respondents were referring to a fecal occult blood test, however their response was not probed further by the interviewers. In both the pre and post samples, a substantial proportion of respondents were not aware of a test or check for bowel cancer (42% and 38%, respectively).

Table 6: Main responses of tests or checks that a person or their doctor could do to see if they have bowel cancer

	Pre N=150 %	Post N=150 %	Total N=300 %
Colonoscopy	31	37	34
Check for blood in stool	19	11	15
Blood test	13	13	13
Lab test for blood in stool	11	5	8
Barium enema x-ray	7	9	8
Unspecified – colonoscopy or sigmoidoscopy	3	5	4
Digital examination by doctor	4	3	3
Sigmoidoscopy	1	0	1
One or more correct tests or checks	55	53	54
Incorrect tests or checks	3	9	6
Don't know	42	38	40

Respondents were asked whether or not they had each of the three main tests for bowel cancer. The most common test respondents have had is a colonoscopy (21%), followed by a test for blood in faeces (15%) and sigmoidoscopy (3%) (see Table 7). There were no significant pre-post differences in the proportions who had had each of these tests.

Table 7: Proportion of respondents who had test for bowel cancer

	Pre N=150 %	Post N=150 %	Total N=300 %
Colonoscopy	21	21	21
Test for blood in the stool or faeces	17	13	15
Sigmoidoscopy	4	3	3

3.7 Awareness of the Campaign

3.7.1 Unprompted recall: Campaign materials

Respondents were asked, in turn, whether or not in the last six months, they saw or heard anything in the newspaper, on the radio or anywhere else about bowel cancer. Those who recalled any information in the newspaper or radio were asked: “*which ones?*” These responses were analysed to determine whether the respondents were recalling the Campaign’s materials or some other information.

Overall, there was a significant and substantial increase in the proportion of respondents who were aware of any information – in any media – about bowel cancer (43% to 67%, $p=.000$) (see Table 8). Cued recall of the campaign media (i.e., local newspapers; posters; brochure; radio stations: ABC 720, 6AM, 6MD, Hot FM) increased from 16% to 33% ($p=.000$). Cued recall was highest for the brochure mailed out to households (16%) (see Table 9). There was no other significant increase in awareness of information about bowel cancer in any of the other media or strategies used in the campaign.

Table 8: Cued recall of any information about bowel cancer in last 6 months

	Pre N=150 %	Post N=150 %	Total N=300 %
Newspaper	23	33	28
Radio	17	16	17
Anywhere else	14	33	24
Total cued recall	43	67	55

3.7.2 Prompted recall: Poster

Respondents were asked: “Do you remember seeing a poster in the last six months which showed several people sitting on a wooden fence with their backs facing to the camera?” In the pre-survey, 4% of females claimed to have seen such a poster (males: 0%). In the post-survey, 21% of respondents claimed to have seen such a poster, particularly amongst females (27% vs 15%, $p=.056$). Respondents aged 60 years and over were more likely to claimed to have seen such a poster than those aged 40-59 years (36% vs 19%, $p=.110$).

Overall, awareness of any information about bowel cancer in the campaign media increased from 18% to 42% ($p=.000$). It is important to note that the evaluation was conducted a month prior to the completion of the campaign, and the mailout of the brochure to households was not conducted till early May 2003.

Table 9: Recall of information about bowel cancer in specific media in last 6 months

	Pre N=150 %	Post N=150 %	Total N=300 %
Newspaper:			
Local newspaper	1	3	2
West Australian	21	21	21
Sunday Times	1	4	2
Don't know	1	5	3
Radio:			
ABC 720	10	12	11
6MD	1	0	1
Radio West	1	0	1
Don't know	3	3	3
Other media:			
Brochure	1	16	8
TV	3	8	6
Magazine	4	7	6
Doctor surgery	2	5	4
Word of mouth	4	2	3
Community presentation	1	1	1

3.8 Message Take-out: Poster

Respondents who were aware of the poster were asked: “*What was the main message in that poster?*” These respondents mainly described the picture in the poster (16%). The other main responses were ‘get a check’ (13%), ‘be more aware of bowel cancer’ (10%) and talk to a doctor (10%). A substantial proportion of respondents who were aware of the poster were unsure of any main message of the poster (32%) (see Table 10).

Table 10: Perceived main messages of the poster

	Post	
	N=31	
	n	%
The bottom line – people sitting on a fence	5	16
Get a check	4	13
Be more aware of bowel cancer	3	10
Talk to a doctor	3	10
Over 40s should do something	2	6
Don’t know/unsure	10	32

3.9 Personal Relevance of the Campaign

Respondents who claimed to have read or heard information about bowel cancer were asked: “*Thinking back over all the information about bowel cancer you have read or heard in the last six months, how relevant do you feel the information about bowel cancer was to you personally?*” In both the pre and post surveys, approximately one in two respondents felt that the information was ‘very/quite’ relevant (pre and post: 51%) (see Table 11).

Table 11: Personal relevance of the information about bowel cancer

	Pre	Post	Total
	N=65	N=100	N=165
	%	%	%
Very relevant	32	31	32
Quite relevant	18	20	19
Somewhat relevant	32	21	26
Not very relevant	6	17	13
Not at all relevant	8	9	8
Don’t know	3	2	2

Respondents who claimed to have read or heard information about bowel cancer were then asked: “*Was there any single thing about bowel cancer that stood out in your mind?*” Of these respondents, 49% in the pre-survey and 57% in the post-survey responded “yes”. Table 12 shows the main things mentioned by at least 10% of these respondents in either the pre or post samples.

Table 12: Main things that stood out about bowel cancer

	Pre N=31 %	Post N=57 %	Total N=88 %
Get a check	13	25	20
Early detection increases chances of survival	10	12	11
Bowel cancer can kill	6	12	10
Bowel cancer is preventable	10	10	10
I don't want to get it	16	5	9
Be aware of early symptoms	0	11	7
Anyone can get it	10	2	4

There were two significant increases here: an increased emphasis on detection (i.e., get a check and early detection increases chance of survival) and hence an increase in being aware of early symptoms.

3.10 Impact of the Campaign on Behavioural Outcomes

Respondents were asked whether or not, in the last six months, they had talked to a family member or close friend, their GP, or a community nurse/local health service person about bowel cancer. There was an increase, but not significant, in the proportion of respondents who talked to a family member or close friend (22% to 28%) (see Table 13). Less than 5% in the pre-post surveys talked to their GP, or a community nurse/local health service person about bowel cancer.

In both the pre and post surveys, respondents who were aware of information about bowel cancer were far more likely than those who didn't to had talked to a family member or close friend about bowel cancer (pre: 38% vs 9%, $p=.000$); post: 33% vs 18%, $p=.054$).

Table 13: Proportion of respondents who talked to someone about bowel cancer in the last 6 months

	Pre N=150 %	Post N=150 %	Total N=300 %
Family member or close friend	22	28	25
General practitioner	4	5	4
Community nurse or local health service person	1	2	2

4. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

- There was a significant and substantial increase in the salience of bowel cancer in the top three cancers mentioned (30% to 48%, $p=.001$).
- There was a significant increase in the proportion who perceived bowel cancer as at least moderately preventable (65% to 79%, $p=.005$).
- Knowledge of what people (can do that decrease/do that increase) their chances of getting bowel cancer increased, but not significantly, in seven of the nine factors (i.e., increase: healthy diet, physically activity, smoking, alcohol intake, hereditary; decrease: checking responses, weight control).
- There was a slight increase in the proportion of respondents who were aware of at least one lifestyle risk factor of bowel cancer (83% to 86%). Also, there was an increase in awareness that hereditary is a risk factor of bowel cancer (2% to 6%).
- There was an increase in the proportion of respondents who were aware of at least one sign or symptom of bowel cancer (69% to 77%, $p=.091$). The two most frequently mentioned signs or symptoms of bowel cancer were rectal bleeding and change in bowel pattern, with both increasing significantly (53% to 70%, $p=.002$; and 32% to 44%, $p=.032$, respectively).
- There was a slight increase in the most frequently mentioned test – colonoscopy (31% to 37%), but a decrease in mentions of a lab test for blood in stool (11% to 5%, $p=.051$); and check for blood in stool (19% to 11%, $p=.075$). Thirteen percent of respondents in the pre and post samples mentioned ‘a blood test’. In both the pre and post samples, a substantial proportion of respondents were not aware of a test or check for bowel cancer (42% and 38%, respectively).
- Cued recall of the campaign media increased from 16% to 33% ($p=.000$). Cued recall was highest for the brochure (16%). Three percent of respondents recalled information about bowel cancer in the local newspaper and 12% recalled the radio stations used in the Campaign.

- Prompted awareness of the poster was 21%. Prompted awareness was higher amongst females than males (27% vs 15%, $p=.056$), and amongst respondents aged 60 years and over than those aged 40-59 years (36% vs 19%, $p=.110$).
- Overall, awareness of any information about bowel cancer in the campaign media increased from 18% to 42% ($p=.000$). It is important to note that the evaluation was conducted a month prior to the completion of the campaign, and the mailout of the brochure to households was not conducted till early May 2003.
- Amongst respondents who were aware of any information about bowel cancer, approximately half rated the information as 'very/quite' relevant (pre and post: 51%).
- There was an increase in the proportion of respondents who talked to a family member or close friend about bowel cancer (22% to 28%). Less than 5% in the pre-post surveys talked to their GP, or a community nurse/local health service person.
- Approximately one in three respondents who were aware of the poster were unsure of any main message of the poster (32%). Instead, respondents mainly described the picture in the poster (16%). The other main responses were 'get a check' (13%), 'be more aware of bowel cancer' (10%) and talk to a doctor (10%).
- Overall, awareness of the Campaign was only moderate. Nevertheless, there were: significant increases in the salience and perceived preventability of bowel cancer; slight increases in knowledge of the signs and symptoms and risk factors of bowel cancer; no change in knowledge of at least one test or check of bowel cancer, but a slight increase in awareness of colonoscopy; and an increase, but not significantly, in the proportion of respondents who talked to someone about bowel cancer.
- Although there is no comparison community, these increases suggest that the awareness campaign has had a significant impact on the salience of bowel cancer and factors related to preventability; that is, lifestyle factors (diet, physical activity, weight, smoking and alcohol), screening, early symptoms, early detection.
- The sample size was too small to identify any significant behavioural change.

Overall, it is recommended that:

- Research is required to determine the best media to reach the target group in this community. Although we did not measure prompted recognition, radio did not appear to be effective in reaching the target group despite intensive broadcast of the radio ads. It may well be that this medium has little penetration in this target group, or that the scheduling was inappropriate.
- Future campaigns could use more intensive advertising in the local newspaper with poster-styled ads to complement informational articles. Awareness of the series of four articles about bowel cancer in the local newspaper was low which may be due, in part, to each article being placed once only.
- There is a need to revise and pre-test the poster as a substantial proportion of respondents who were aware of the poster did not know the message it was trying to get across. There may be a need to increase the size and position of the copy: “If you are over 40 talk to your GP about bowel cancer”, relative to the headline.

APPENDIX 1: The Questionnaire

Colorectal Cancer Telephone Survey

Hello. My name is _____, from the Survey Research Centre at UWA. We are doing a survey about people's attitude towards health issues, and we'd like the opinion of people aged 40 years and over. May I speak to the youngest male at home who is aged 40 years or more?

IF NO MALES AT HOME ASK:

Then may I speak to the youngest female at home aged 40 years plus?

IF NO-ONE AT HOME AGED 40 YEARS PLUS RECORD INELIGIBLE HOUSEHOLD.
N.B. IF ELIGIBLE PERSON LIVES THERE BUT NOT AVAILABLE SAY:

We are conducting an important survey about health issues for a health agency, and would like to interview (the selected person). When would he/she be available? (RECORD CALL BACK TIME ON CALL SHEET)

REINTRODUCE IF NECESSARY.

Q1 Record sex of respondent (DO NOT ASK):

Male	1
Female	2

Q2 In which age group are you in?

40-49 years	1
50-59 years	2
60-69 years	3
70-79 years	4
80+ years	5

Q3 When you think of cancers, what types comes to mind? Anything else? Anything else? (RECORD UP TO 3 TYPES OF CANCERS)

Bowel/colorectal cancer	1
Breast cancer	2
Cervical cancer	3
Lung cancer	4
Leukemia	5
Prostate	6
Skin/melanoma	7
Other (Write in):	

Now I would like to ask a few questions about bowel cancer.

Q4 How preventable do you think bowel cancer is? By preventable, we mean there are certain behaviours or actions which you can take to reduce the risk of getting bowel cancer. (READ OUT RESPONSES)

Not at all preventable	1
Slightly preventable	2
Moderately preventable	3
Very preventable	4
Completely preventable	5
Don't know	6 ← (Don't read out)

ROTATE Q5A and Q5B

Q5A Do you know of anything that people can do that decreases their chances of getting bowel cancer? (RECORD UP TO 6 RESPONSES)

Eating less fat	2
Maintain weight/not get overweight	4
Exercise/physical activity	7
Get checked regularly	24
Eat more fibre	35
Eating more fruit	71
Eating more vegetables	72
Check for blood in stools	93
Other (Write in):	

Q5B Do you know of anything that people do that increases their chances of getting bowel cancer? (RECORD UP TO 6 RESPONSES)

Eating too much fat	2
Being overweight	4
Not exercising	7
Not getting checked	24
Not enough fibre	35
Not eating (enough) fruit	71
Not eating (enough) vegetables	72
Not checking stools for blood	93
Other (Write in):	

Q6 Do you know of any signs or symptoms that might suggest a person has bowel cancer? (RECORD UP TO 6 RESPONSES)

Stomach upset	3
Blood in stools/dark stools	6
Weight loss	8
Feeling bloated	22
Internal bleeding	23
Change in bowel habits	26
Not feeling well/feeling sick	67
Diaharrea	94
Constipation	95
Other (Write in):	

Q7 Do you know of any tests or checks that a person or their doctor could do to see if they have bowel cancer?

Blood test	1
Look for blood in stool	11
Check stool for blood in laboratory test	12
Colonoscopy	13
Virtual colonoscopy	14
Sigmoidoscopy	69
Other (Write in):	

Q8 Have you had any of these tests? (READ OUT)

	No	Yes
A test for blood in the stool or faeces	2	1 → If Yes: How long ago?
A colonoscopy	2	1 → If Yes: How long ago?
A sigmoidoscopy	2	1 → If Yes: How long ago?

Q9 In the last 6 months, did you talk to anyone in the family or a close friend about bowel cancer?

Yes	1 → Who?
No	2

Q10a In the last 6 months, have you talked to your GP about bowel cancer?

Yes	1 → Did you or your GP brought up the topic?	GP	1
No	2	Ownself	2

Q10b In the last 6 months, have you talked to a community nurse or local health service person about bowel cancer?

Yes	1 → Did you or the community nurse or local health service person brought up	
No	2 the topic?	
	Community nurse	1
	Ownself	2
	Local health service person	3

Q11 Do you remember reading anything in the newspaper about bowel cancer in the past 6 months?

No 2 → Q13

Yes 1 → Ask: Which newspaper was it in? Any others?(Do not read out)

	1 st ment	All others
Local/community newspaper	1	1 → Ask: Which one?
West Australian	2	2
Sunday Times	3	3
Don't know	9	
Other (Write in)		

Q12 Can you remember what was in the newspaper about bowel cancer? Anything else? (Write in verbatim)

Preventable 1 → How?

Get a check 2 → Which one?

Eat more fibre 3

Eat more fruit and vegies 4

Over 40's should do something 5

Physical activity 6

Unsure 98

Other (Write in):

Q13 Do you remember hearing anything on the radio about bowel cancer in the past 6 months?

No 2 → Q15

Yes 1 → Ask: Which radio station was it on? Any others? (Do not read out)

	1 st ment	All others
Radio west	1	1
6AM	2	2
6MD	3	3
Hot FM	4	4
ABC/720	5	5
Don't know	9	
Other (Write in):		

Q14 Can you remember what was talked about on the radio about bowel cancer? Anything else? (Write in verbatim)

Preventable 1 → How?

Get a check 2 → Which one?

Eat more fibre 3

Eat more fruit and vegies 4

Over 40's should do something 5

Physical activity 6

Unsure 98

Other (Write in):

Q15 Have you seen or heard anything, anywhere else, in the past 6 months about bowel cancer?

No 2 → Q17

Yes 1 → Ask: Where? Any where else? (Do not read out)

	1 st ment	All others
Community presentation/public lecture	1	1 → Ask: Where was the lecture?
Doctor's surgery	2	2
Chemist shop	3	3
Magazine	4	4
Other (Write in):		

Q16 Can you remember what was being said about bowel cancer? Anything else? (Write in verbatim)

Preventable	1 → How?
Get a check	2 → Which one?
Eat more fibre	3
Eat more fruit and vegies	4
Over 40's should do something	5
Physical activity	6
Unsure	98
Other (Write in):	

Q17 Do you remember seeing a poster in the last 6 months which showed several people sitting on a wooden fence with their backs facing to the camera?

Yes 1

No 2 → Q19a

Q18 What was the main message in that poster?

Preventable	1 → How?
Get a check	2 → Which one?
Eat more fibre	3
Eat more fruit and vegies	4
Over 40's should do something	5
Physical activity	6
Unsure	98
Don't know	99
Other (Write in):	

Q19a [IF RESPONDENT SAID 'YES' TO Q11 OR Q13 OR Q15 OR Q17 CONTINUE, OTHERWISE GO TO Q20] Thinking back over all the information about bowel cancer you have read or heard in the last 6 months, how relevant do you feel the information about bowel cancer was to you personally? (READ OUT RESPONSES)

Very relevant	1
Quite relevant	2
Somewhat relevant	3
Not very relevant	4
Not at all relevant	5

Q19b Was there any single thing about bowel cancer that stood out in your mind?

Yes 1 → What?

No 2

Q20 Have you ever had bowel cancer?

Yes 1

No 2

Q21 Have you ever known anyone who has had bowel cancer?

Yes 1

No 2

Q22 In general, to what extent are you interested in learning about health related issues and preventive health behaviours? (READ OUT RESPONSES)

Very interested 1

Quite interested 2

Somewhat interested 3

Not very interested 4

Not at all interested 5

Just so we can check that we've interviewed a good sample of people, I would like to ask you a few questions about yourself.

Q25 Are you of Aboriginal or Torres Strait Islander descent?

Yes 1

No 2

Q26 What is the highest level of education you have completed?

Up to and including year 10/Primary school 1

Year 12/Secondary school 2

Trade certificate/Diploma/more than year 12 3

TAFE qualification 4

University degree 5

Q27 What is your current marital status?

Married 1

Living in a defacto relationship 2

Divorced 3

Married, but separated 4

Widowed 5

Never married 6

Refused 9

- Q28 How would you best describe your employment situation at the moment?
- | | |
|--|---|
| Employed full time | 1 |
| Employed part time/casual | 2 |
| Unemployed (not retired or on pension) | 3 |
| Student (full time or part time) | 4 |
| Retired | 5 |
| Permanently unable to work/ill | 6 |
| Home duties | 7 |
| Refused | 9 |
- Q29 [If currently employed] What is your present job?
[If not currently employed] What was the last main job you had?
- Q30 In which town do you currently live?
- Q31 What is your postcode?
- Q32 Would you be interested in taking part in any other research on health and social issues in your region?
- Yes 1 → Can I have your name and mailing address please?
No 2

Thank you for your time. Just to remind you my name is _____ from the Survey Research Centre at the University of Western Australia. If you have any questions about this research you can telephone our office on

APPENDIX 2: Campaign Strategies

Strategies	Numbers completed to May 03
Launch Northam, Merredin, Moora – 2 Nov	Northam (6401), Merredin (6415), Moora (6510)
RadioWest played on following stations	4 scripts played every 3 days for 5 months, weekly for 1 month on 2 stations, 2 months on 3 stations
6AM – Northam - central and Western	61 ads over 6 months - average 5 wks per script
6MD – Merredin area - Eastern	61 ads over 6 months - average 5 wks per script
HOT FM- central wheatbelt area	22-30 second ads over 2 months (4 scripts mix)
Radio interviews	2 York Radio (6302), ABC Geraldton 2 interviews (whole region)
Paper Articles from February to May 03	4 paid articles in 30 papers (30 x 4= 120), 1 article in regional Farm Weekly, Regiona Paper launch Merredin. Moora & Northam
Health Professional Print Articles	Heart Beat x 3 (Northam) Unit x 3, Healthway x 1, Conference abstract
External newsletters (SOYF, Shape Up) Aprox: 500 receivers	3 editions of both, (500 people hit 3 times)
Divisions newsletter articles	3 articles with updates of project
Speakers trained in Education Kit	trained 9 Community Health Nurses
Community Education sessions	From February 03 - Northam (6401) n= 29, Wongan hills (6603) n=14, Tammin (6409) n=11, Moora (6510) n=16, Gingin (6503) n=14 Quairading (6383) n=22, Corrigin (6375) n=40, Meckering (6405) n=9, Beverley (6304) n=21, , Dandarragan (6507) n=10, *Lancelin (6044) n=9, *Wongan Hills (6603) n=11
Education session adverts	30 localpapers, 200 mailouts to local community groups, SOYF newsletter and Shape Up newsletter x 3 times
Banner rotation – 2 weeks in each Town from 3 Feb	Bencubbin (6477) , Southern Cross (6426), Moora (6510), Corrigin (6375), *Northam (6401)
Promotional display in community Health	3 towns for 2 weeks, Northam (6401) York (6302),Quariding (6383)
Mail out to households – 3 May	21, 027 households (Sent out from 12th May)
*Recipe books sent out	from 26th May- 250 sent out
GP education – 5 April	of 32 GP's 23 attended education weekend – 2 hour education with 2 guest speakers
GP & surgery promotion of campaign mailout – 2 Nov	32 mailout of posters and postcards & tick test
Community Health Mailouts – 2 Nov	47 mailouts of posters etc. to CH services and hospitals

* Conducted after the post-survey