South Western Sydney Area Health Service

Colorectal Cancer

A Strategic Plan for Improving Health 2001 – 2005

VERSION 2.3

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EXECUTIVE SUMMARY

The planning for colorectal cancer services supports a comprehensive approach to achieving improved health outcomes for the residents of South Western Sydney (SWS). The *SWSAHS Colorectal Cancer: A Strategic Plan for Improving Health (2001-2005)* outlines such an approach in this plan.

The principles of the *SWSAHS Colorectal Cancer: A Strategic Plan for Improving Health (2001-2005)* are consistent with the principles of the Area Health Service of equity, efficiency, effectiveness and acceptability. These principles are outlined in the document *SWSAHS Strategic Directions Statement and Implementation Plan 1998-2003* (SWSAHS 1998).

The plan proposes an Area Colorectal Cancer Service Strategy that addresses three main issues – the organisation and coordination of services and investment in health promotion and surgical services. It is imperative that SWSAHS starts preparing now for its ageing population which is projected to increase by 79% in the over 50 age group between 1996 and 2016.

The Colorectal Tumour Group Steering Committee identified a number of issues needing to be addressed in SWSAHS. Estimates are that between 300-350 SWS residents will be diagnosed with colorectal cancer in any one year. Thus, whilst SWSAHS has a lower standardised incidence of colorectal cancer than the NSW average, the volume involved makes best practice provision a high priority.

Specific issues for service provision in SWSAHS include

- Lower than optimal rates of early detection and intervention
- Diverse pathways of care depending on referral
- Late stage presentation of disease, particularly for some target groups
- Access to colonoscopies in some Sectors
- No Area colorectal cancer screening policy
- No single point of contact for advice, referral and information regarding colorectal cancer
- A projected large increase in the population over 50 years of age

The following service goals were established by the Steering Committee to address issues of service provision

- Detect colorectal cancer at the earliest possible stage
- Optimise patient survival
- Optimise the quality of life of colorectal cancer patients and their families and carers
- Optimise patient satisfaction with colorectal cancer services
- Provide a seamless, consistent, high quality pathway of care and advice irrespective of where the patient enters the pathway
- Select and retain high quality staff
- Implement best practice colorectal cancer services in SWSAHS
- Provide information to patients and providers relevant to their needs

The implementation of a comprehensive approach to best practice in colorectal cancer management is fundamental to improving outcomes. The Steering Committee recommends the adoption of an Area Colorectal Cancer Service Strategy that will involve

1. The establishment of an Area Colorectal Cancer Management Committee to coordinate the implementation of the agreed Area Colorectal Cancer Service Strategy.
   This committee's responsibility would include quality service development and clinical governance. The committee would develop Area-wide policies and protocols, coordinate best practice colorectal cancer strategies and services, promote early intervention, screening and community education, oversee management of a colorectal cancer database, and promote quality improvement.

   The committee's membership would comprise multi-disciplinary Sector and Area representatives and community representation. The committee would report to the SWSAHS Cancer Advisory Committee. Sector representatives of the Cancer Advisory Committee are responsible for reporting to their local sector cancer committees or the equivalent.

2. The establishment of an Area Colorectal Surgery Unit and network of providers. There is evidence to support improved morbidity and mortality rates in a patient with rectal cancer following the introduction of a colorectal unit. In collaboration with the colorectal cancer Tumour Program Leader the Area Colorectal Cancer Management Committee would promote the uptake of best practice standards and the implementation of the Colorectal Cancer NHMRC guidelines. The unit would also provide specialist colorectal procedures, establish and maintain multi disciplinary assessment and continence clinics, develop and promulgate local protocols and procedures in the treatment of colorectal disease, provide a consultative service, and be involved in educational and research activities.

3. The Area Colorectal Surgery Unit would be a network of public and private providers involved in the full range of colorectal cancer services from prevention to palliation. The purpose of the network is to encourage the development of best practice standards and protocols.

4. Targeted community education regarding the prevention, early detection and treatment of colorectal cancer.

5. Facilitate the Colorectal database inclusion in the Area Cancer Registry and appropriate links or integration has taken place for reporting and case review.

6. The development of an Area policy for the provision of colorectal surgical services that
   - Addresses best practice requirements and supports the importance of continuing professional education for colorectal and general surgeons
   - Seeks to credential those SWS surgeons with an active interest in colorectal disease and with appropriate skills and qualifications
   - Establishes a clear strategy for the sub-specialisation of colorectal surgery within the Area's generalist surgical framework

7. The development of a pilot screening program for individuals at average risk of colorectal cancer.

8. The establishment of colorectal cancer care coordinators in SWSAHS who would act as the central contact point for all colorectal cancer patients to assist in the coordination of their care according to protocols and an individual care plan. The care coordinator would link closely with the Area Stomal Therapy service, particularly for clinical advice and expertise, skills development, research activities and care pathways. The care coordinator would also provide education and training and would participate in clinical meetings and case presentations and be responsible for ensuring relevant patient details are available in the SWS Colorectal database.

   The care coordinator would undertake the key liaison role between patients and care providers and would be instrumental in establishing and maintaining a support group for patients in the Area that will ensure patient needs are addressed.

RESOURCE IMPLICATIONS

The SWSAHS budget enhancement proposed a 2-year allocation in the acute services enhancement program for the Service Related Group (SRG) of Colorectal Surgery.

The establishment of a colorectal cancer screening pilot program would require an additional 1500 colonoscopies per annum for SWS residents associated with it. The funding for the program would not include costs for these projected procedures. The distribution of the additional workload required will be subject to negotiation with the Professors of Surgery and Gastroenterology.

The demand for genetic services associated with a screening program would also be expected to increase. An additional 0.5 FTE Genetic Counsellor would be required were a screening program established in SWS.

The continuation of research into colorectal cancer in SWS in the Colorectal Cancer Research Laboratory, is dependent on successful submissions for research grants from many sources, including the NH&MRC and the Sydney South West Research Foundation. The laboratory is currently maintained on funding grants and ideally the appointment of a permanent hospital scientist position is preferred to maintain stability for ongoing research. Ongoing secured funding is also preferred to ensure the future viability of the laboratory.

There is one dedicated transrectal ultrasound machine available in the Area utilising two transducers dedicated to transrectal applications. All rectal cancer should be assessed by transrectal ultrasound in accordance with the NH&MRC guidelines. Currently only one machine is available at Liverpool. This does not provide optimal access to residents in the southern Sectors of the Area Health Service. The purchase of a second machine and probe would allow for dedicated equipment to be located in the northern and southern sectors of the Area. This machine can also be used by other disciplines, eg urology, obstetrics.

The establishment of the proposed Area Colorectal Surgery Unit could be a staged development over 3 years and in the future would require the appointment of a staff specialist, some office space and secretarial support. This unit would represent the consolidation of the existing activity in the Area. The unit would act as a central point for contact and information. No potential location for the unit has yet been identified. The recurrent cost of a staff specialist is approximately **$**152,855. (Base cost $109,182, on costs is 40% for staff specialists.) There would need to be an allowance for G&S and RMR associated with this position. In the interim is it proposed that the unit be operated by the SWSAHS colorectal surgeons. This would require approximately 2 days per week with secretarial support, a budget for goods and service and office space.

The recurrent funds required for the appointment of a Colorectal Cancer Coordinator (Clinical Nurse Specialist graded position, see Appendix VII for a draft job description) are approximately **$49,170**. There would need to be some additional goods and services funds with this position and these are normally calculated at about 12%. There would also need to be some RMR allowed for the position (approximately 7%).

Funding to support education programs for patients, carers and families and primary and secondary care providers would need to be available, and could be factored into the Goods and Services budget to support the proposed Area Colorectal Cancer Service.

All strategies in the plan have been cross-referenced in the text and appear in brackets in ***Bold Italics***.

Policy and Strategic Direction

This colorectal cancer services plan, *Colorectal Cancer, A Strategic Plan for Improving Health 2001-2005*, provides a clear direction for the provision of services to meet the needs of the SWS population for the next 5 years. The plan is consistent with achieving the State and Area Health Service purpose of **Better Health, Good Health Care**.

The goals of NSW Health, which have been adopted by SWSAHS are

- **Healthier People**
- **Fairer Access**
- **Quality Health Care**
- **Better Value**

The planning principles of SWSAHS are

1. **Equity**
2. **Efficiency**
3. **Effectiveness**
4. **Acceptability**

To achieve the purpose of **Better Health, Good Health Care** SWSAHS identified the following 7 key challenges for the 5 year period 1998 to 2003.

1. Working with our community and staff to develop a shared sense of responsibility and direction
2. Working in partnership with other agencies to improve health
3. Ensuring that people in SWS access health services according to need
4. Making the best use of and fairly allocating existing and incoming resources
5. Developing effective and efficient health services which focus on improved health outcomes
6. Attracting, developing and retaining the best staff
7. Becoming a learning and teaching organisation

The SWSAHS key challenges have guided the development of the colorectal cancer services plan and have influenced the service priorities that are presented later in the plan.

The plan's major objective is to address planning for the organisation and delivery of colorectal cancer services in SWS to provide optimal health outcomes. In developing the plan the NSW Health *Optimising Cancer Management* document and the *SWSAHS Area Cancer Control Network* document have been considered in the proposed **Colorectal Cancer Services Strategy** in SWSAHS.

Cancer is a major cause of morbidity and mortality in South Western Sydney. It was the second most common cause of death for the period 1986-1995, accounting for 25% of total deaths. Although some causes and risk factors have been identified, the causes of cancer to a large extent remain unexplained. Cancer incidence and deaths will increase as the population ages.

Some cancers are preventable. At the 1993 Australian Health Ministers Council meeting it was agreed that a national coordinated effort in a selected range of disease or conditions offered the most potential for health gain. Preventable cancer was one of the disease groups selected. ***Colorectal cancer is a preventable cancer***.

The NSW Health Department adopted the National Goals and Targets framework to develop statewide goals and targets. The NSW Health Goals and targets for cancer control are to

- Increase the disability-adjusted survival rates from cancer, especially from skin, cervical, breast, colorectal and prostate cancers
- Reduce colorectal cancer mortality and reduce prostate cancer mortality
- Intensify efforts in primary prevention
- Ensure high levels of screening for early detection of cancers where there is scientifically demonstrated cost benefit
- Provide optimal cancer management to all patients requiring care
- Maximise the quality of life and dignity of death of people with incurable cancer and ensure adequate support for their families and carers
- Provide quality information and support services to all cancer patients, their families and carers
- Improve the collection and dissemination of cancer data including data on screening rates, outcomes and risk factors
- Reduce health inequalities related to treatment, prevention and control
- Ensure a well trained and flexible workforce to effect cancer services
- Improve the management of cancer through research on cancer
- Reduce the incidence of lung cancer through reducing smoking prevalence
- Reduce skin cancer incidence and prevalence
- Reduce cervical cancer incidence and mortality
- Reduce breast cancer mortality

Incidence of Colorectal Cancer in Australia

Colon and rectal cancers are the commonest cancer sites in men and women combined, and are a major health problem in Australia. Only lung cancer, causing 20% of deaths in 1990, was a more common cause of cancer death. The risk of developing colorectal cancer increases after the age of 40 and rises sharply from the age of 50, with about 1 in 21 Australians likely to develop the disease during their lifetime (NHMRC 1999).

The risk of developing colorectal cancer before age 75 is about 1 in 18 for males and 1 in 26 for females. Incidence and mortality both increase with age. Less than 1% of diagnosed cases are in people less than 35 years.

Five year survival for cancers detected at the earliest stage is higher in Australia than those reported for most European countries (See Table 2).

Survival rates improve significantly when the disease is detected and treated early (NHMRC 1999). Improved survival efforts recently have focused on early diagnosis, adjuvant chemotherapy and radiotherapy, intensive follow up and modification of surgical technique.

A lower survival rate from colorectal cancer has been found in lower socioeconomic groups in the South Australian population and this has been attributed to delays in seeking care as a major cause (NRMRC 1999). ***(Strategy 7)***

Risk Factors

The risk factors that are associated with colorectal cancer are

- age
- a personal history of colorectal cancer or adenoma
- a family history of colorectal cancer or adenoma
- a personal history of inflammatory bowel disease

AGE AS A RISK FACTOR

Table 1 shows how the risk of colorectal cancer increases with age for the general population.

Table 1 – Absolute risk of colorectal cancer

If a person is aged:	Risk over the next …			
	5 years	10 years	15 years	20 years
30	1 in 7000	1 in 2000	1 in 700	1 in 350
40	1 in 1200	1 in 400	1 in 200	1 in 90
50	1 in 300	1 in 100	1 in 50	1 in 30
60	1 in 100	1 in 50	1 in 30	1 in 20
70	1 in 65	1 in 30	1 in 20	1 in 15
80	1 in 50	1 in 25		

Note: Absolute risk is the observed or calculated likelihood of the occurrence of an event in a population under study
Source: AIHW 1996

Risk will increase for persons who develop symptoms such as certain nonspecific bowel or abdominal symptoms, iron deficiency anaemia and/or rectal bleeding. Risk is also modified for individuals with a relative who has, or who develops, colorectal cancer.

DIETARY RISK FACTORS

It is estimated between 66% and 75% of colorectal cancer could be prevented by appropriate diet and physical activity (World Cancer Research Fund, 1997). For those already treated for the disease this means adherence to a healthy regime to maintain health and so attempt to prevent further malignancy.

Most colorectal cancers develop through adenomas (benign tumours). There is strong evidence to support the sequence from adenoma to carcinoma. High dietary fat intake (greater than 40% of total caloric intake) has been correlated with incidence of colorectal cancer and adenomas. Also, a low frequency of colorectal adenomas

and cancers has been associated with dietary fat intake of less than 15% of total caloric intake.

The NHMRC *Guidelines for the prevention, early detection and management of Colorectal Cancer (CRC)* stress the importance of a well balanced diet and a healthy lifestyle. A well balanced diet would include a daily intake of fruit and vegetables, cereal fibre, nutrients such as calcium and vitamin D and are important dietary protective factors for colorectal tumours.

The 1997 NSW Health Survey reported that the recommended daily intake of fruit and vegetables in persons aged 16 years and over in SWS was less than the NSW average. The survey also reported the daily intake of breads and cereals for persons aged 16 years and over in SWS was slightly higher than the NSW average.[1]

Evidence suggests that the total alcohol intake is more closely correlated with increased risk than any specific type of alcohol. The effect appears to be generally stronger in men than women. In Australian studies the association has in particular been with men who are beer drinkers.

There is strong evidence (Level 3 as defined in the Level of Evidence Table in Appendix VI) to suggest that physical activity protects against colon (as distinct from rectal) cancer. The NSW Health Survey reported that men from SWS were slightly less likely to undertake adequate physical activity than the NSW average and SWS women were significantly less likely to undertake adequate physical activity than the NSW average.

Other studies have shown a 50% increase in risk of colorectal cancer from smoking and increased again for those smoking for a long time. There is more consistent evidence of the effect of smoking for adenomas, which leads to the conclusion that the main effect of smoking occurs early in the process, during adenoma formation.

The importance of adopting good dietary habits, regular physical exercise and maintaining a healthy weight is stressed and has been supported by Level 3 evidence, and in time could help reduce the incidence of colorectal cancer. ***(Strategy 7)***

POPULATION SCREENING

Randomised controlled clinical trials conducted at the population level (Level 1 evidence) have indicated that screening tests based on faecal occult blood for those aged 50 years and over have reduced overall mortality from colorectal cancer (NHMRC 1999).

The Australian Health Technology Advisory Committee (AHTAC) report concluded that screening based on the faecal occult blood test (FOBT) is efficacious, but mass screening of the Australian population should be preceded by pilot screening studies. One such large-scale pilot project has been collaboratively proposed for people at average risk of colorectal cancer. This proposal has been put forward jointly between The Collaboration for Cancer Outcomes Research and Evaluation

[1] It should be noted that these results are based on a small sample of the total population

(CCORE), the Australian Centre for Effective Health Care and BreastScreen NSW to be undertaken in an area with a population of one to one and a half million people.

The screening process would involve a sequence of risk factor refinement that will lead to a final decision as to whether the definitive diagnostic test should be recommended for a particular individual. This is taken in the context of an individual already living in a high-risk country such as Australia, having reached 50 years (from whence the risk increases), and excluding conditions that would indicate a high risk including personal or family history. An FOBT or sigmoidoscopic examination in this context would be the more acceptable screening tool.

The Commonwealth Government is sponsoring trials of FOBT. The NSW Cancer Council and NSW Health are exploring means of implementing FOBT screening for average risk populations. SWSAHS is considered suitable by local clinicians to undertake a pilot program for colorectal cancer screening because of its demographic and organisational conditions. This would require a fully developed proposal that examines all resource implications for SWSAHS.

THE PATIENT WITH SYMPTOMS

Symptoms that may raise the possibility of colorectal cancer are grouped into three main types. They are

- certain non specific bowel or abdominal symptoms
- iron deficiency anaemia
- rectal bleeding

These symptoms can also be associated with more common conditions such as irritable bowel syndrome but need to be investigated. This can make the decision of when to investigate difficult depending on age and the onset of symptoms. If risk factors, such as over 50, personal or family history of the disease, are also present then investigation would need to be undertaken.

Rectal bleeding is the most important symptom but requires further investigation as lesions may coexist with colorectal cancer. Prompt identification of the cause for rectal bleeding aids the early diagnosis of colorectal cancer.

Prognostic Indicators in Colorectal Cancer

The prognosis of those diagnosed with colorectal cancer depends on the degree to which the cancer has spread at diagnosis and is described in stages. The following table describes the stages (A-D) and gives approximate five-year survival figures for Australia.

TABLE 2 – STAGES OF COLORECTAL CANCER

Stage	Definition	5-yr Survival Figures
A	Localised within the bowel	88%
B	Penetrates the bowel wall	70%
C	Regional lymph node involvement	43%
D	Distant metastases	7%

Source: NHMRC

The overall five-year survival for colorectal cancer for those who have had their bowel cancer successfully removed is about 53%, and there is an upward trend emerging in these survival figures both in Australia and overseas (NHMRC, 1999).

The Patient and their Family

Evidence has suggested that most cancer patients want access to be all available information regarding their diagnosis. They usually desire a relative or friend present at the initial interview with the clinician (NHMRC 1999). As it has been suggested that patients rarely remember all information provided at the time of initial interview therefore it is important that the opportunity to provide ongoing information and access for the patient to someone who will answer questions. Access to such a resource person should be ongoing.

Individual needs of patients need to be taken into account and where required include professional interpreter services (not a family member) to assist the patient in understanding the information being provided and making decisions concerning treatments or procedures. Access to a member of the multi disciplinary team for guidance and support should be ongoing.

The support needs of patients with colorectal cancer and their families include

- counselling, including sexuality, fertility and hereditary risks
- access to a cancer support service and / or ostomy support group
- education and assistance with stomal therapy
- assistance with care of children or other family members
- assistance with transport
- dietary advice

Up to 50% of patients report psychological distress, depression or anxiety following a diagnosis of colorectal cancer (NHMRC 1999). Those patients requiring stomas are more likely to experience psychological distress. Psychological distress can impact a patient's life in many ways and may result in a perceived decrease in the patient's quality of life. It is therefore important to ensure patients are informed of treatment alternatives and what is entailed at the initial information dissemination stage.

Geographic and Population Profile

GEOGRAPHY

South west Sydney (SWS) comprises the seven local government areas of Bankstown, Camden, Campbelltown, Fairfield, Liverpool, Wingecarribee and Wollondilly and covers an area of 6,237km^2 with a total population of 769,243.

Settlement varies from quite dense suburban residential development in Bankstown to scattered rural townships in Wingecarribee and Wollondilly. Parts of the Area are quite geographically isolated, particularly in Camden, Wingecarribee and Wollondilly and the western parts of Fairfield and Liverpool.

POPULATION

1996 ABS census data indicates that the intercensal population growth in SWS (8.4%) was higher than that for the whole of NSW (5.4%), particularly in Camden and Liverpool. Based on population numbers this makes SWSAHS the second largest health area in NSW. Population projections indicate that by 2006 it will be the biggest health area in NSW (population based) with 840,680 people growing to 879,170 people by 2011. Currently 28.5% of the population are from NESB (compared to 15.7% in NSW) and 1.2% are Aboriginal or Torres Strait Islander people.

The population projections for South Western Sydney indicate a growth of 25% between 1996 and 2016. As well as overall population growth, the proportion of elderly people in SWSAHS is projected to increase from 9.1% to 12.6% of the total population. There was a 17% growth in the number of people from culturally and linguistically diverse backgrounds in SWS in the inter-censal period 1991 to 1996.

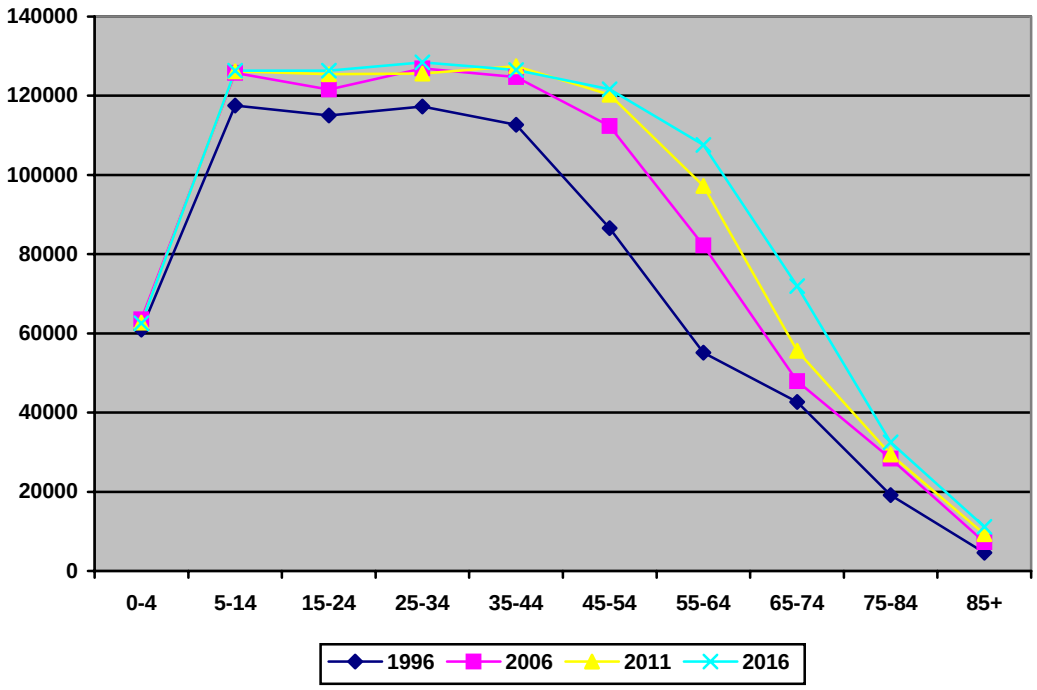
SWS PROJECTED POPULATION GROWTH

Table 3 - Population projections by SWS LGA (total population)

LGA	1998*	2006	2011	2016
Bankstown	167,839	169,400	169,490	169,490
Camden	37,767	58,200	68,040	77,490
Campbelltown	149,489	156,840	158,420	159,530
Fairfield	190,920	193,680	193,460	192,600
Liverpool	137,066	176,600	197,710	217,110
Wingecarribee	39,346	45,070	47,930	51,240
Wollondilly	35,489	40,890	44,120	47,580
Total SWS	757,916	840,680	879,170	915,040

**1998 Estimated resident population*
Source: Department of Health Population Projections for NSW Area Health Services March 2000

Figure 1 - Population projections by age group



Source: Department of Health Population Projections for NSW Area Health Services March 2000

As demonstrated in Figure 1, it is apparent that the age distribution of SWSAHS is shifting over time with a growing proportion of the total SWSAHS population aged 45 years and over. Rates of change for people 65 years and older are higher with growth in younger groups being relatively static over the same period.

This is relevant to colorectal services in SWSAHS as most new patients are expected to fall in the 50 years and over age groups. Therefore as well as increasing incidence and prevalence, population groups most affected are increasing significantly in SWSAHS.

DEMOGRAPHIC AND SOCIO ECONOMIC INDICATORS

The demographic characteristics of SWS indicate the residents have more social disadvantage than other areas in NSW, and as indicated previously there is some South Australian evidence that lower socio-economic status may have a higher risk/incidence of cancer of the colon (Lewis et al. 1999):

- Young population (24.5% aged less than 15 years compared with 21.4% for NSW);
- Aboriginal or Torres Strait Islander descent (1.2% compared with 0.57% for the rest of Sydney). SWSAHS also has 25% of Sydney's Aboriginal population;
- 34.4% of the SWS population was overseas-born compared to 23% for the rest of NSW, with even higher rates in Fairfield (53.5%), Liverpool (35.1%) and Bankstown (33.2%) LGAs;

- 28.5% of the SWSAHS population is from a non English speaking background compared to 15.7% for NSW. 36.5% of the population speak a language other than English at home compared to 18.1% for the rest of NSW);
- Unemployment (10.8% for SWSAHS compared with 8.8% for NSW);
- In relation to levels of education attained only 0.7% of the SWSAHS population had higher degree qualifications compared to 1.6% for NSW. 5.4% had post graduate diploma or bachelor degree qualifications compared to 9.3% in NSW;
- The SWSAHS population has a higher proportion of persons with incomes less than $31,200 (18.4% for SWSAHS compared to 16.9%for NSW) and a lower proportion of persons with incomes above $52,000 (2.6% for SWSAHS compared to 3.9% for NSW);
- Large population living in public housing with 10.1% for the SWSAHS population compared with 5.7% for NSW);
- 3.1% of the population received a disability support pension, 1.0% receive a carer's pension and 5.1% of the population are considered the Home and Community Care (HACC) target population.

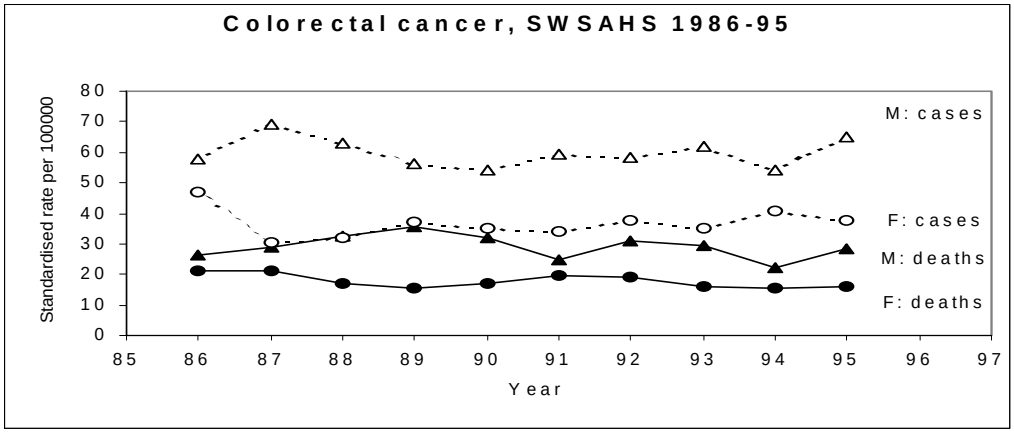
Source: Health in South Western Sydney Epidemiological Profile 2000

CRC Incidence in the South Western Sydney Population

The average crude incidence rates for colorectal cancer in the five-year period 1991-1995 were 43 per 100,000 population for males and 33 per 100,000 population for females. The average crude mortality rates were 18 per 100,000 population for males and 15 per 100,000 population for females. The highest incidence of colorectal cancer was observed in Bankstown followed by Wingecarribee and reflects the older age distribution in these LGAs.

On average the male colorectal cancer rate was about 63% higher than females in both incidence and mortality (SWS Epidemiological Profile, 2000). ***(Strategy 7)***

Figure 2 – Trends in CRC incidence and deaths in SWS 1986 to 1995



In the period 1991-1995 there were 1322 new cases, and 580 deaths from colorectal cancer in SWS residents. The SWS Colorectal Cancer database which records all cases of colorectal cancer seen by colorectal surgeons in SWSAHS will, within 6-12 months, be able to provide a more thorough analysis of morbidity and mortality and survival rates for the local population. ***(Strategy 3)***

CRC was third in the incidence rank for males and second in mortality for the most common cancers. CRC was second in the incidence rank for females and third in mortality for the most common cancers. CRC incidence rates of residents of SWS were significantly lower than NSW. Mortality rates in SWS were also lower than for NSW but these were not statistically significant.

There was a decreased incidence in CRC in overseas-born residents, and this is most likely related to dietary factors. The NSW Cancer Council '*Common Cancers in Migrants to New South Wales 1972 – 1990'* presented information on migrants from 49 countries where at least 100 new cancers were recorded during the period. The report notes that when persons migrate from one country to another the risks of cancer that prevailed in their country of birth are taken with them (Cancer Cancer Council, 1993). The incidence rates in this study were calculated as a single incidence rate for the whole period of 1972-1990 for each cancer and sex and did not take into account changes in incidence that may occur over time.

Compared with the Australian born most migrants from the countries presented had significantly lower rates of cancer of the colon and rectum. The exceptions were New Zealand born women where the incidence of colon cancer was significantly higher and French born women where the incidence of rectal cancer was significantly higher.

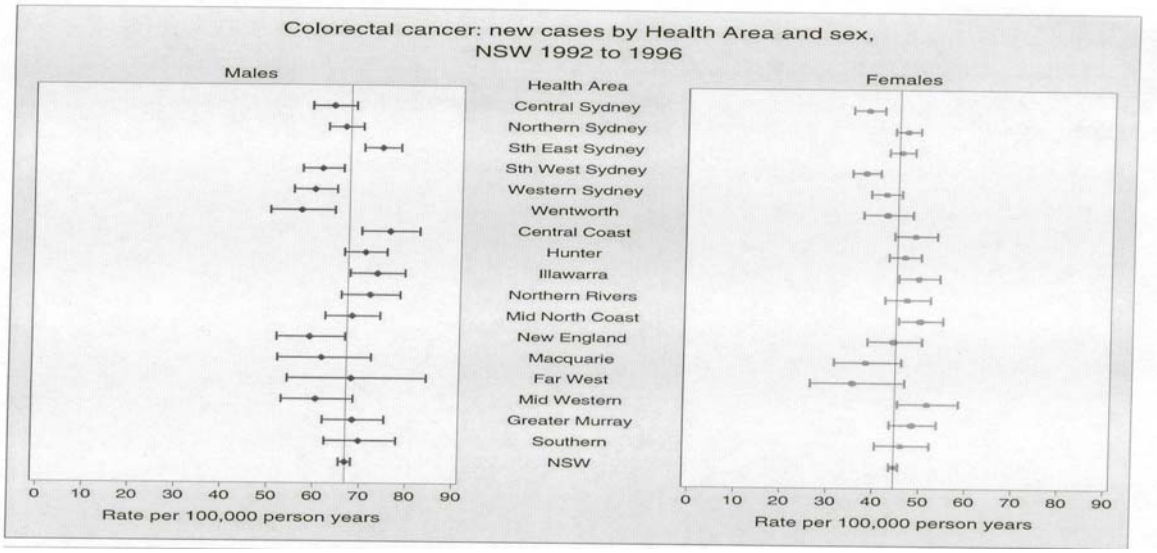
Table 10 in Appendix V provides data on the distribution of potential life years lost (PYLL) in NSW and SWSAHS from 1994-1998 due to Colon and Rectal cancer related deaths (assuming persons died before the age of 75 years. The PYLL due to Colon and Rectal cancer related deaths in SWS is consistent with other PYLL for SWS residents, that is Potential Years of Life Lost for SWS residents is slightly higher than the NSW average.

It should be noted that CRC occurs mostly in the age group over 50 years. At this time SWS has a predominantly younger age structure than many other Area Health Services. In the 1996 Census 22% of the SWS population were aged 50 years and over. Of significance is that the number of residents over 50 years is projected to grow by 79% in the period 1996 to 2016. ***(Strategy 7)***

SWSAHS Compared to Other Area Health Services

For the period 1992-1996 data show that the age-adjusted incidence rate for new cases of CRC was higher than for the NSW average in males in the Central Coast and South Eastern Sydney AHSs but not higher for females in any AHS. The rates were lower in males in the Western Sydney, South Western Sydney and Wentworth AHSs and for females in the Central Sydney and South Wester Sydney AHSs. Figure 3 provides new case data by AHS and gender in NSW from 1992 to 1996.

Figure 3 – CRC New cases by AHS and gender, NSW 1992 to 1996



Source: NSW Central Cancer Registry incidence data, ABS population estimates (HOIST). Epidemiology and Surveillance Branch, NSW Health Department

A recent report on the geographic distribution of colon cancer in NSW by LGA and socioeconomic status (SES) revealed that the incidence of colon cancer (but not rectal cancer) may be lower in LGAs of low SES (Lewis et al. 1999). The section on demographic and socio economic indicators indicate that SWS residents have more social disadvantage than other areas in NSW. The incidence of colorectal cancer in SWS is expected to change significantly as the population ages. The predominantly younger population in SWS at the 1996 Census and the number of overseas born residents would explain the current low incidence rate.

- ***Incidence and mortality*** for CRC is lower in SWS than NSW, with its younger population
- Projected population of SWS residents ***over 50 to grow by 79%*** from 1996 *to* 2016
- SWSAHS is ***82% self sufficient*** for colorectal surgical services

The NSW Health Surveys in 1997 and 1998 collected data on tests for bowel cancer. When those who have had diagnostic tests were excluded an estimated 22.1% of males and 19.3% of females aged between 50 and 79 years had a screening test for bowel cancer in the last 12 months. These tests included faecal occult blood tests (FOBT), flexible sigmoidoscopy, colonoscopy, and double-contrast barium enemas. High screening rates were reported for CRC for both genders in the Central Coast, Northern Rivers, Mid North coast and New England AHSs.

Except for females in the Central Coast AHS high rates of investigations for CRC in AHSs does not correspond with high incidence and death rates. There is some evidence that higher screening rates in rural areas may be associated with the Bowelscan program under the auspice of Rotary Australia which has been implemented in North Eastern NSW (Chief Health Officer's Report, 2000).

Flows of SWS Patients for Colorectal Surgical Services

Surgery for colorectal cancer is not limited to Principal Referral Hospitals. Each hospital in SWSAHS undertakes a level of colorectal surgery and surgeons sub-specialise within the discipline.

Table 4 shows the flows of patients within and out of SWSAHS. As can be seen from the table the majority of surgery for the Service Related Group (SRG) Colorectal Surgery for SWS residents is carried out in one of the SWSAHS hospitals. The inpatient activity in SWSAHS hospitals has been categorised. These categories are resident demand (total demand for services by SWS residents); hospital supply (total inpatient activity for residents of SWS and other area health services); resident capture (the number of SWS residents treated in SWSAHS hospitals) and inflows from other area health services (people not residing in SWS).

Table 4 – Flows for Colorectal Surgery SRG – '96/97 to '99/2000

Episodes of Care	'97/98	'98/99	'99/00
SWS Resident Demand	1819	1953	1926
SWSAHS Hospital Supply	1690	1802	1798
SWS Resident Capture	***1504***	***1602***	***1570***
Inflows from other AHS'	186	200	228
Outflows to other AHS'	315	351	356
Private Hospital Demand	922	882	893

Source: FlowInfo ver 4.2.Q3

As can be seen by the above table there has been a 6% increase in demand in the 3 years and SWSAHS is approximately 82% self sufficient for these services, ie 82% of SWS residents are receiving surgery in SWSAHS hospitals. Approximately 1/3 of total SWS resident demand is being treated in the private sector. There has been a steady increase in inflows from other Area Health Services (Central, Western and South Eastern) with most flows to Bankstown/Lidcombe and Fairfield hospitals.

Outflows represent about 18% of total demand and these are mainly to Concord and St George and some outflows could potentially be reversed. Paediatrics represents approximately 25% of total outflow for colorectal surgery.

Colorectal Surgery in SWSAHS has

- *A **volume of activity similar** to other metro AHS*
- *A **shorter average length of stay***
- *The **highest level of surgical activity** at Bankstown, Liverpool & Campbelltown Hospitals*
- ***Colonscopies** projected to increase by **71.5%** to 2011*

Of those SWS residents receiving out of Area treatment, some Area Health Services refer SWS residents back to local services for post acute care, particularly for Stomal Therapy services.

ACUTE ACTIVITY PROJECTIONS

The acute activity projection tool, APPI, uses past activity data and population projections to estimate the expected level of activity for Service Related Groups (SRGs). The projections for Colorectal Surgery are shown in Table 5.

Table 5 – Projected Activity for SWS Residents for Colorectal Surgery – 2000 to 2011

Activity Measure	2000	2006	2011
SWS Resident Demand Episodes (includes private)	2822	3028	3148
Day Only	1197	1320	1401
Non tertiary overnight	1625	1708	1747
Overnight Beddays	10687	10757	10621

Source: APPI January 2002

As can be seen from Table 5 the activity for colorectal surgical procedures is projected to show the largest increase in day only services with a 17% increase projected between the years 2000 and 2011. ***(Strategy 3)***

The increase in day only investigative procedures such as colonoscopy as shown in Table 6 is significant. Between 2000 and 2011 day only colonoscopy procedures are projected to increase by ***71.5%.*** This data is reported through the Inpatient Statistical Collection System (ISCOS). There is no activity data available for investigative procedures undertaken in private clinics.

Table 6 – Projected Activity for SWS Residents for Colonoscopy – 2000 to 2011

Colonoscopy	**2000**	**2006**	**2011**
Total SWS demand	**9676**	**13368**	**16231**
Public	3910	5381	6526
Day Only	***3533***	***4990***	***6137***
Overnight	377	390	389
Private	5766	7987	9705
Day Only	***5587***	***7792***	***9505***
Overnight	179	196	200
Projected % increase		**38%**	**21.5%**

Source: APPI January 2002

Current SWSAHS Colorectal Cancer Services

PREVENTION AND COMMUNITY EDUCATION

Colorectal cancer prevention services are not specifically funded in SWSAHS.

One of the roles of the area health service is to provide community education about early detection, including education about dietary and nutrition and familial risk factors, and the importance of regular screening for people aged 50 years and over. This education needs to be specifically targeted to the general community and high-risk groups, particularly those with a family history of CRC. ***(Strategy 7)***

- ***Most people with colorectal cancer will undergo surgery***

PRIMARY CARE

General Practitioners play a central role in community education and the early identification and management of colorectal cancer.

Continuing professional education of primary care workers that includes General Practitioners working in SWS is important to achieving best practice in the detection and management of colorectal cancer. ***(Strategy 7)***

SCREENING

Population-based screening services are not yet established for colorectal cancer apart from screening tests that are available through the General Practitioner. These are not consistently made available to all members of a population 50 years and over. Recent randomised controlled clinical trials at the population level indicate that screening tests based on faecal occult blood, and in populations selected on the basis of age, reduce overall mortality from colorectal cancer (NHMRC, 1999).

A collaborative screening study has been proposed for the Greater Western area of Sydney. This proposal is for the screening of individuals at average risk of colorectal cancer. The study would recruit participants in the screening program by identifying all cases of colorectal cancer diagnosed in the five years prior to the start of the pilot and all new cases diagnosed after the start of the pilot. Participants would be asked to undergo screening tests as recommended in the NHMRC guidelines that include a colonoscopy every 5 years and annual faecal occult blood testing (FOBT).

Most cancers will be detected through screening but not all those identified will be recruited into the screening program. Funding for this proposal has not been granted and if an alternate funding source can be identified it is important that the widest penetration possible is obtained to inform the population about the screening program. ***(Strategy 4)***

ASSESSMENT

The assessment of colorectal cancer should provide expert, multidisciplinary assessment for all those who have been identified as requiring further investigation. Assessment is generally carried out by referral from the GP to a gastroenterologist and / or surgeon who will then schedule other diagnostic tests, and in the case of

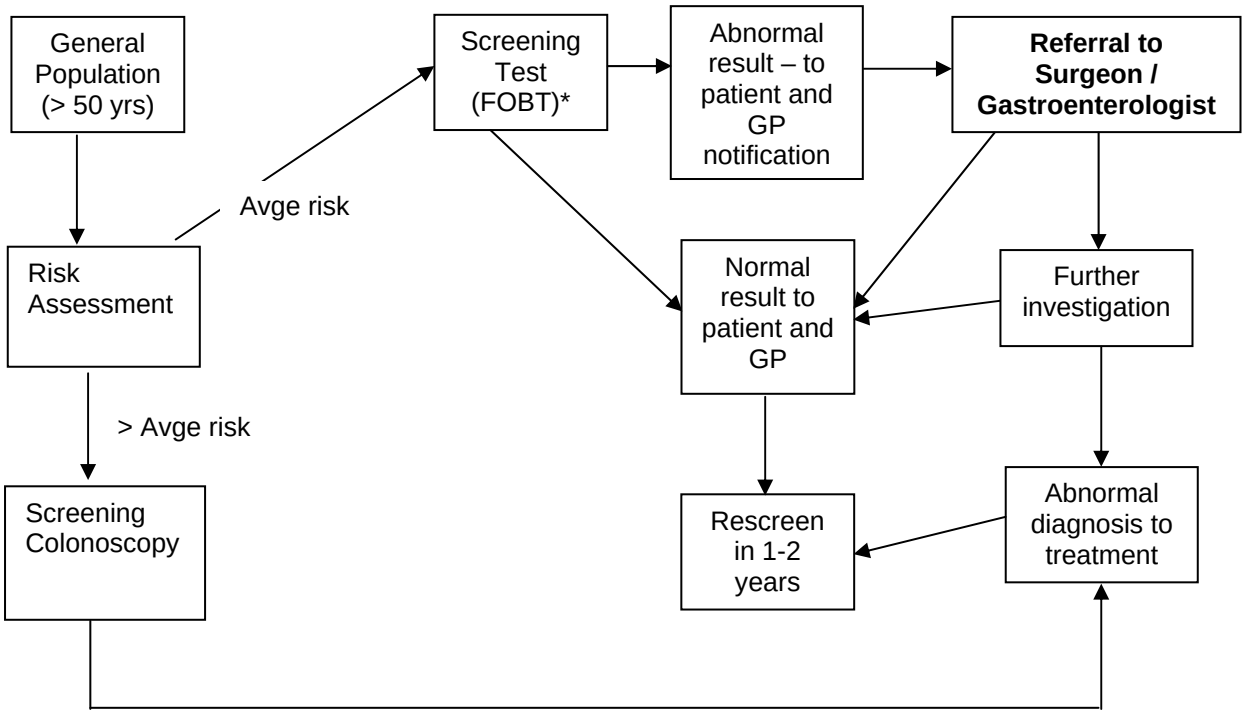
rectal cancer possibly pre-operative adjuvant chemoradiotherapy. Most people with colorectal cancer will undergo surgery and therefore will be seen by a surgeon who will act as the gatekeeper of care.

Recent onset of symptoms in a patient over 40 years will raise the index of suspicion for colorectal cancer as will the presentation of a patient with iron deficiency. Many rectal cancers produce no symptoms at first and are discovered as part of a routine anorectal examination. However typical clinical features appear in only 40% of people with colon cancer (NHMRC, 1999) and the presence or risk factors and /or a strong family history of colorectal or other cancers would be taken into the consideration of the need for further investigation.

Pathway of Care for Asymptomatic Population Aged 50 or Over

As stated, the screening process for the individual asymptomatic person, without other risk factors, over 50 years involves a sequence of risk refinement leading to the decision of whether to undertake further definitive diagnostic tests. The initial screening tool in this case is a faecal occult blood test (FOBT) which has been shown to significantly reduce mortality from colorectal cancer.

Figure 1 – Pathway of Care for Asymptomatic Population Aged 50 or Over



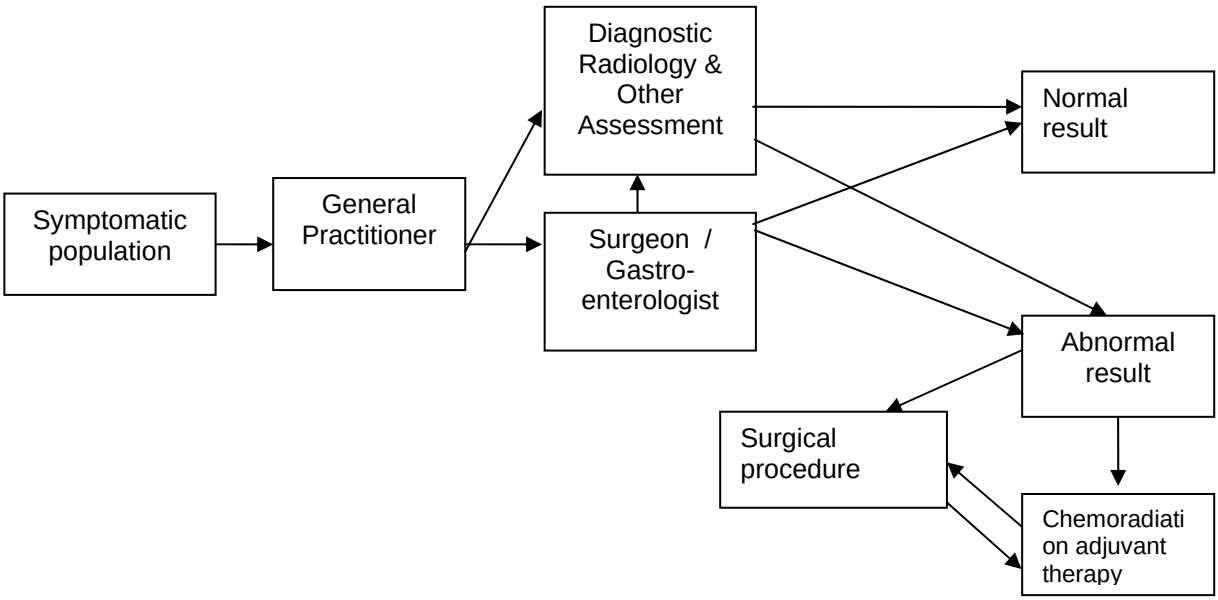
**Faecal Occult Blood Test*

Pathway of Care for Symptomatic Population

People presenting with symptoms that may be associated with colorectal cancer will initially see their general practitioner and then be referred for assessment and further investigation to a gastroenterologist or surgeon.

Further investigation and treatment will follow an abnormal diagnosis.

Figure 2 – Pathway of Care for Symptomatic Population



There are also no defined formal links between assessment in a screening program or by a GP and diagnostic services in the public or private sector. These links would include quality, reporting and pathways of care. ***(Strategy 6)***

Cancer Therapy Centre Cancer Clinic

Liverpool and Bankstown-Lidcombe Hospitals provide a variety of specialised management and assessment services for colorectal cancer, including a general cancer clinic. The clinics have radiologists, surgeons, radiation oncologists, nuclear medicine physicians and sonologists, and medical oncoloists in attendance, including those with a special interest in colorectal cancer. There are also general clinics in operation or planned for all Sectors.

TREATMENT

Colorectal Surgery

Surgery for colorectal cancer is not categorised as complex or high cost surgery and is undertaken at all hospitals within SWSAHS. There is a large volume of colorectal surgery carried out in SWSAHS (see Table 4), and this is likely to increase with the ageing of the population and with raised community awareness of the importance of screening for colorectal cancer. Colorectal surgery is undertaken by General and Colorectal surgeons within the Area. There is one surgeon appointed at Liverpool Hospital in the sub specialty of Colorectal Surgery.

There is a Colorectal Tumour Group Steering Committee that is well represented by surgeons practising in SWS. Both public and private sector hospitals are represented. There is also a multi-disciplinary team meeting monthly where colorectal diseases are presented, and a combined Bankstown / Liverpool meeting with surgeons and gastroenterologists.

A Professor of Gastroenterology is based at Bankstown Hospital and there is a comprehensive service at Liverpool Hospital that has a service director and a number of consultants. The Gastroenterology service aims to establish a number of clinics in

the area including clinics for inflammatory bowel disease whose sufferers are at high risk of colorectal cancer.

The proposal for a pilot screening study in SWSAHS projects an increased workload of approximately 1500 per annum colonoscopies associated it. Funding for this workload increase is not a part of the program proposal, and the distribution of the additional workload would be subject to negotiation with the Professors of Surgery and Gastroenterology. ***(Strategy 3)***

It has been proposed to form a tumour board with appropriate representation to discuss problem cases and monitor compliance with the national guidelines. There is evidence that supports better patient outcomes associated with a dedicated colorectal unit. This would assist in a more coordinated and integrated approach to colorectal cancer and would also provide excellent education and training opportunities.

Surgeons with a special interest in colorectal surgery would be credentialled according to agreed guidelines. Credentialling would include membership of the Sydney Society of Colorectal Surgeons or equivalent, cross appointment to SWSAHS hospitals, a practice with a large colorectal surgery workload, time commitment to the unit, commitment to developing an area colorectal surgical network and commitment to achieving a colorectal consultative and teaching service to other medical staff. ***(Strategy 6)***

There are a high number of colonoscopies performed in SWSAHS in both the public and private sectors by a large number of practitioners. In some Sectors there is an access issue for colonoscopies (not enough sessions, leading to long waiting times) and some targeted education to GPs regarding appropriate referral for colonoscopies is required. ***(Strategy 3)***

<u>Adjuvant Therapy</u>
Most patients diagnosed with colorectal cancer who undergo a surgical procedure will require some form of adjuvant therapy either prior to or post surgery.

The Liverpool Cancer Therapy Centre provides consultation and treatment for those requiring radiation therapy and there is a Radiation Oncologist with a special interest in CRC. Radiation therapy will be available in 2002/2003 in the Macarthur Sector.

There are Medical Oncology services at Liverpool and Bankstown and outreach outpatient clinics held at Macarthur, and in Wingecarribee. Chemotherapy services will be provided at Campbelltown as part of the establishment of the Macarthur Cancer Centre.

There are no dedicated multi disciplinary colorectal cancer clinics held in the Area and patients are seen in a generalist clinic. There is sufficient volume of activity (300-400 new cases per annum) for a dedicated outpatient clinic that could be a half day clinic once a week and possibly rotated across the Area to ensure good access to all residents, and to provide opportunity for all colorectal surgeons to be involved. ***(Strategy 2)***

OTHER SUPPORT SERVICES

Diagnostic Imaging

Nuclear Medicine departments are situated at Liverpool and Bankstown-Lidcombe Hospitals and private practices are located at Bankstown, Campbelltown and Liverpool. The Liverpool unit also provides facilities for Positron Emission Tomography scanning.

There is a degree of difficulty in attracting appropriately trained sonographers to work in SWSAHS.

An assessment test frequently used in the detection of colorectal cancer is transrectal ultrasound, especially for assessing the depth of invasion. This test requires the use of a transrectal probe with only one probe currently available in the public sector. This service is also available in the private sector.

Another transrectal ultrasound machine with probe located in the southern part of the Area would greatly increase access to this service by residents in the surrounding LGAs. While there is a specialist level of expertise required for interpretation of results the equipment can have application in other specialties, for example obstetrics. ***(Strategy 2)***

Pathology Assessment

South Western Area Pathology Service (SWAPS) provides services for colorectal cancer including diagnosis, tumour assessment for adequacy of treatment (QA) and staging (prognosis), as well as general surveillance of polyps. Diagnostic assessment for colorectal cancer represents approximately 5-10% of SWAPS total surgical pathology caseload.

While colorectal cancer is reported by all staff specialists in the Department of Anatomical Pathology SWAPS, there is one with a special interest in colorectal pathology who can provide specific expertise and who coordinates the reporting of colorectal cancer. The pathologists participate in regular oncology meetings where colorectal cancer cases are discussed.

An increase in demand for pathology services may be generated by the introduction of a pilot screening program. This may require an increase in SWAPS resources. ***(Strategy 4)***

Molecular Biochemistry associated with colorectal cancer, currently undertaken only at Westmead, RPA and the two children's hospitals is becoming more mainstream. Molecular Biochemistry is for assessing full colonic carcinoma, particularly for those with a history of CRC and their families. This test will provide benefits by being able to better form a prognosis and anticipate the best management of the disease. In the future this may become a routine part of diagnostic assessment to be integrated with other testing. In that case a Molecular Biochemistry laboratory in SWSAHS may be required.

There are also private pathology services in SWS who report on colorectal tissue for GPs, private radiology practices and patients in private hospitals.

Clinical Genetics

There is a small amount of funding for Cancer Clinical Genetics available in SWSAHS. Currently this amount is funding counselling services, and would also fund .4 of a Clinical Geneticist if one were available. Currently colorectal cancer referrals to this service are small but projected to increase with the ageing of the population. Also with the possible introduction of a screening study where people who are at average risk will be identified from past medical records and recruited for testing it is expected that increased demand will be generated from the study. Increased demand associated with the study would need an additional 0.5 FTE Genetics Counsellor appointed.

There is a combined familial cancer clinic held weekly where family history and possible predisposition of the family to cancer is discussed. If the criteria for predisposition are fulfilled family members undertake specific tests and the pathology analysis is carried out at Hunter Area Health Service at this time. Should the pathology analysis be carried out locally additional Genetic Counselling services would also be needed. ***(Strategy 4)***

There are outreach clinics held at Bankstown, Fairfield, Macarthur and Bowral and services are also provided to Southern Area Health Service.

It is believed by the Genetics service there is only minor penetration of awareness of the service to NESB residents. This belief is based on the small number of referrals received. The barriers to accessing Genetic Counselling services are as yet unknown. Further work needs to be undertaken to address this issue. ***(Strategy 7)***

Service links with other Area Health Services (viz Hunter and Wentworth) with similar services have also been established with regular inter-Area meetings. An aim of these meetings is to establish a shared database and the development of shared protocols around the implementation of guidelines. ***(Strategy 6)***

Psychosocial Support

The Cancer Therapy Centre (CTC) at Liverpool Hospital and the Oncology Service at Bankstown-Lidcombe Hospital provide Social Work services specifically for cancer patients. There is a full time psychologist employed at the Liverpool CTC and a part time psychologist based at Bankstown Hospital. There are also generalist Social Workers available in all hospitals in the Area and in the community. There are general cancer clinics held at both Liverpool and Bankstown Hospitals in a multidisciplinary setting that includes social work.

With the expected increase in the number of patients with colorectal cancer there is potential to run a specialist bowel cancer clinic and to set up a patient support group.

Stomal Therapy

There is an Area-based Stomal Therapy service with one CNC and a CNS with stomal therapy training who share the Area with a north / south split of the workload. Bowral Hospital employs a nurse as a part time Stomal Therapist who has stomal therapy training.

Referrals to the service are received from specialists, nursing staff, surgeons, pre-op and pre-anaesthetic clinics, private hospitals, nursing homes, GPs, associations and

some self-referrals. There is caseload for the stomal therapists of approximately 100 people at any one time. As a part of the Area-wide service there are in-house education sessions provided to staff and an annual Stomal Therapy Conference hosted in the Area.

The national guidelines for the management of colorectal cancer patients include the protocol for the siting of temporary or permanent stomas to be carried out by the surgeon or an accredited Stomal Therapist. In SWSAHS the Stomal Therapists carry out most stoma sitings.

There are a number of patients who have undergone surgery in another Area or move into SWS and require stomal therapy services. In this regard there is little networking with other Area Health Services at the present time which would aim to improve referrals of local residents to the service.

A review of Stomal Therapy services in SWSAHS is being carried out and the results should be available in the near future.

Palliative Care

The Palliative Care Service is based in all Sectors and offers extended hours service to 8pm on weekdays and a weekend service. There are two inpatient palliative care units, Braeside Hospital at Fairfield and the Palliative Care Unit at Camden Hospital where registered palliative care patients are admitted. There are oncology clinics held at Liverpool and Bankstown Hospitals.

The focus for palliative care services in terms of colorectal cancer is on function and symptom control, and on terminal care for patients with metastatic disease. For CRC this is mostly for patients with bowel obstruction symptoms in late stage disease.

The future will see an increase in Palliative Care staff specialists in the Area, and outreach palliative care clinics set up at Wingecarribee and in Macarthur. The *Strategic Plan for Palliative Care Services 2001-2004* sets the service direction for palliative care in SWSAHS. This plan presents strategies aimed to improve the early identification for the need for referral of patients to Palliative Care and improvement in the coordination of care.

There is also an opportunity to link with the Genetic Counselling service at the point of palliative care as this is when there is a concentration of relatives who may be at familial risk.

Rehabilitation

The focus for rehabilitation services for colorectal cancer is on post surgery de-conditioned and exhausted patients who cannot go home. Rehabilitation for colorectal cancer patients focuses on returning them to their highest possible level of functionality.

SWS Colorectal Cancer Database

The SWS Colorectal Cancer Database has been developed under the auspices of the Colorectal Tumour Group and its management is currently undertaken by a Data Manager employed by the Group who is located in the Epidemiology Department within the Division of Population Health. The development of the SWSAHS Area

Cancer Registry will include the linking, and /or integration of disparate cancer registration systems and it is envisaged that the Colorectal Cancer database will become a part of a SWSAHS integrated cancer registry.

There has been little reporting available from the data base to date due to a number of reasons. The database is now being brought up to date with this due for completion in the next 6-12 months. Reporting from the database will then be regularly available. ***(Strategy 3)***

FOLLOW UP

"All patients who have undergone *curative* surgery and are fit for further intervention if disease is detected should be offered follow up" (NHMRC, 1999). Those patients who are assessed as being unfit for further surgery, or who have advanced disease, require follow up directed at psycho social support and symptom relief with appropriate referral to palliative care services.

People without Colorectal Cancer Recurrence

Follow-up services are undertaken so as:

- To detect and treat cancer recurrence at the earliest opportunity. This is particularly important as colonoscopic surveillance and the removal of any adenomas may reduce the incidence of subsequent primary colorectal cancer
- To ensure that related psychosocial problems are appropriately assessed
- To provide rehabilitation
- To provide reassurance to those who remain in remission; and
- To collect data on outcomes of interventions.

Where individuals develop significant functional disability, arising from their colorectal cancer, access to multidisciplinary rehabilitation services is required to facilitate return to the highest possible level of functionality. Rehabilitation services include medical rehabilitationists, allied health professionals, stomal therapy staff, psychiatrists and psychosocial support personnel.

People Who Develop Metastases

Following the development of distant metastases, the prognosis is variable. The aim of treatment during this time is to palliate symptoms and to prolong survival whilst maintaining the highest possible quality of life. Appropriate treatment may include surgery, systemic chemotherapy, physical rehabilitation aimed at reducing the effects of cancer-related disability, local treatment such as radiotherapy and palliative with appropriate palliative care services. The selection of appropriate treatment depends on the site of metastases, the likelihood of benefit for the individual, the potential toxicities of different treatments and the preferences of the patient and family.

50% of patients with colorectal cancer will develop liver metastases within 5 years (NHMRC, 1999). The treatment available will depend on the assessment of the individual's disease. Alternate treatment options available to the patient include surgical resection, imaging controlled destruction, hepatic arterial infusion.

The multiplicity of treatments available for metastatic disease emphasises the need for multi-disciplinary involvement in the process of care giving. As the disease

progresses the focus of care is likely to shift, with greater involvement of non-surgical oncologists and palliative care staff.

Involvement of the palliative care team can help to ensure physical, psychological, social and spiritual needs are met. Close integration between the surgical team, the oncology team and palliative care team ensure continuity of care. ***(Strategy 5)***

Psychosocial support and counselling may be especially important for those with advanced colorectal cancer. This will include attention to the patient's psychological, social and spiritual well being. Colorectal nurse specialists, social workers, pastoral carers and palliative care teams both in the hospital and in the community can be invaluable at this stage. Close liaison with general practitioners and the primary health care team is of particular importance.

Palliative care services are provided in SWSAHS on an Area basis with services provided in every Sector. Current services include:

- Medical consultancy services by the Area Director of Palliative Care to all public and private hospitals in SWS; a part time staff specialist in Palliative Care at Liverpool Hospital; and medical outpatient clinics at Bankstown, Liverpool and Braeside Hospitals;
- Palliative care nurse consultancy by Clinical Nurse Consultants and Clinical Nurse Specialists to all primary care health professions; an after hours community nursing service; after hours telephone advice and inpatient nurse consultants at Liverpool and Braeside Hospitals;
- Inpatient beds located at Camden Hospital (10 beds) and Braeside Hospital (20 beds);
- Outpatient clinic and day hospital/therapy services located at Braeside Hospital; and
- A part time Palliative Care Volunteer coordinator located at Narellan Community Health Centre conducting regular training courses for recruited volunteers who provide respite at home, support, massage and other activities.

TEACHING AND RESEARCH

The SWSAHS has the Colorectal Cancer Research Laboratory that has been in operation since the formation of the Colorectal Cancer Research Foundation and which was originally funded through the Foundation's fundraising activities. The Foundation is now a part of the Sydney South West Research Foundation.

There is a tumour bank that has been set up and the laboratory receives about 3 samples each week. Micro satellite instability is currently employed as a research tool that will most likely be introduced into routine selected clinical testing within the next 5-10 years and which may also be introduced into screening.

The laboratory is currently maintained on funding grants and ideally the appointment of a permanent hospital scientist position is preferred to maintain stability for ongoing research. Ongoing secured funding is also preferred to ensure the future viability of the laboratory. ***(Strategy 2)***

Key Issues for South Western Sydney

The analysis of the current service and practices highlights a number of central issues which will need to be addressed so that the population of SWS with suspected or confirmed colorectal cancer receive improved health care services with optimal outcomes. The plan proposes a strategy that addresses three main issues – the organisation and coordination of services and investment in health promotion and surgical services.

BEST PRACTICE AND GUIDELINES IMPLEMENTATION

One of the aims of achieving a high quality service is to improve effectiveness and the emphasis on introducing best practice based on evidence and the implementation of best practice guidelines.

The development of a high quality service requires:

- Selection of **appropriately qualified staff** or staff with appropriate levels of experience or expertise as defined by National Accreditation Requirements. There are accreditation requirements relevant to all involved disciplines eg. surgeons, radiologists, pathologists, medical oncologists, radiation oncologists, clinical nurse specialists, social workers.

- **Accurate and timely diagnosis** with early referral to multidisciplinary expert teams or groups of health professionals operating in either the public or the private sector;

- **Multidisciplinary case review** meetings to confirm the diagnosis, plan treatment and to advise the patient of treatment options. Culturally and linguistically appropriate information should be provided concerning the diagnosis and the available treatment options;

- **Evidence-based treatment and support services** from pre-diagnosis to terminal care. Services should be assessed using National Accreditation Requirements (NAR). Locally agreed protocols and guidelines for care should be developed, based on published guidelines;

- **A strong clinical teaching, research and audit orientation**;

- The collection and interrogation of **performance and outcome data** concerning diagnostic, treatment and outcome parameters of the services provided;

- Regular **evaluation of the Area Colorectal Cancer Service** according to performance indicators, which also includes the assessment of patient satisfaction

- Good **communication** links between providers and clear identification of service roles.

PROPOSAL FOR A PILOT SCREENING PROGRAM

The report of the Australian Health Technology Advisory Committee (AHTAC) on colorectal cancer screening, December 1997, identified that screening can significantly increase the chance of detecting CRC at an early stage and thereby reduce mortality and morbidity.

In the absence of a national screening program, a pilot to assess the feasibility of screening individuals at average risk has been proposed in SWSAHS in collaboration with the Cancer Council NSW and NSW Health. This proposal was not successfully funded and the collaborative group is investigating other options.

PATHWAYS OF CARE

There are diverse pathways of care for patients in SWS with symptoms of colorectal disease.

Symptomatic and non-symptomatic patients who are evaluated by their GP and who require further investigations and diagnostic tests are usually referred from their GP to a gastroenterologist, general surgeon, or a specialist colorectal surgeon who usually acts as the coordinator of care. It is likely that these patients will then be referred to single other services eg pathology, radiation therapy, chemotherapy, social work etc. A multidisciplinary case review is unlikely in this situation.

This pathway of care can become fragmented because there is no single person with responsibility for coordination, and is also likely to take place over a longer period of time. This pathway describes patients moving through diagnosis and assessment sequentially, rather than in a coordinated manner. This sequential path is likely to take place over a longer period of time, and may in some cases be critical to the treatment outcome, as well as possibly increasing the anxiety of the patient.

Thus, this pathway may not necessarily lead to earlier diagnosis and better outcomes.

PEOPLE TRAVELLING OUTSIDE THE AREA FOR SERVICES

The number of SWS residents who undergo colorectal surgery in public hospitals in other Area Health Services is relatively small (less than 20% of total public demand). There are particular hospitals (Concord, St George, and RPA) in the Sydney metropolitan area considered to be ‘centres of excellence’ because the more complex procedures have historically been referred to these hospitals due to the available expertise. It is not known how many people who travel outside the area for surgical services have a principal diagnosis of colorectal cancer.

There are a number of surgeons with appointments at SWSAHS hospitals specialising in colorectal surgery. The following table makes a comparison of the level of complexity[2] undertaken in SWSAHS hospitals, with those hospitals considered ‘centres of excellence’. This data is for supply of services, ie includes area residents plus inflows.

[2] Casemix Index (CMI) is calculated by dividing the number of cost weighted separations by the number of episodes of care and is used to give a proxy of the complexity of cases undertaken at a particular hospital

Table 7 – Casemix Index (CMI) of colorectal surgical cases – 1999-2000

Hospital	Episodes Of Care (EOC)	Beddays	Avge Length of Stay	Cost Weighted EOC	Casemix Index
Campbelltown	469	1510	3.2	622	1.33
Liverpool	439	2620	6.0	1051	2.39
Bankstown	430	2818	6.6	1029	2.39
Fairfield	347	1291	3.7	514	1.48
Bowral	113	379	3.4	160	1.42
St George	438	4308	9.8	1407	3.21
Westmead	490	4366	8.9	1693	3.46
Concord	743	5288	7.1	2269	3.05
RPA	675	5192	7.7	1827	2.71

Source: FlowInfo v4.2.Q3

As can be seen from Table 7 the volume of colorectal surgery undertaken in SWSAHS hospitals is similar to other hospitals but with a lower average length of stay and a lower case mix index (complexity) by volume. Given the available services in SWSAHS colorectal surgery could be provided in SWSAHS to a level of 90% self sufficiency for SWS residents.

The hospitals in the above table with the higher complexity of cases are delineated Teaching and Referral Hospitals. All complexity of surgery pertaining to colorectal disease is carried out within SWSAHS. Colorectal Surgery does not need to be performed in a level 6 hospital but some procedures need to be undertaken in a hospital with a higher level of support services than others.

In SWSAHS the cross appointment of colorectal surgeons to hospitals with a higher role delineation would promote networking of the surgical service and a sufficient level of expertise to provide training in particular procedures sometimes only undertaken at one or two hospitals in the Area.

Proposed Area Colorectal Cancer Service Strategy

Most elements of a comprehensive colorectal cancer service already exist within the SWSAHS. In particular there is a multi disciplinary group of professionals willing to work cooperatively and collaboratively to provide a high quality service to SWS residents based on best practice. Most gains can be made in terms of improved service delivery and outcomes in the organisation and coordination of the service response to patients.

SERVICE GOALS

The service goals of the Area Colorectal Cancer Service strategy are to

- Detect colorectal cancer at the earliest possible stage and promote early referral
- Increase patient survival
- Improve the quality of life of colorectal cancer patients and their families and carers
- Improve patient satisfaction with colorectal cancer services
- Provide a seamless, consistent, high quality pathway of care and advice irrespective of where the patient enters the pathway
- Select and retain high quality staff
- Implement best practice colorectal cancer services in SWSAHS
- Provide information to patients and providers on the quality of care

SUMMARY OF KEY STRATEGIES

The following outlines the key elements of the proposed Area Colorectal Cancer Service Strategy and is recommended for adoption and implementation.

Area Colorectal Cancer Management Committee

Establish an Area Colorectal Cancer Management Committee who would assume the responsibility of coordinating the implementation of the Colorectal Cancer Services Plan. The committee would operate under the terms of reference of the Cancer Advisory Committee.

Among the responsibilities of this committee would be service development and clinical governance. The committee would also be responsible for developing Area-wide policies and protocols, coordinating best practice colorectal cancer strategies and services, promoting early intervention, screening and community education and promoting quality improvement and research, and the management of the SWS Colorectal Cancer database.

The committee would be charged with the development of an Area policy for the provision of colorectal cancer services which:

- Is developed in collaboration with key stakeholders eg Director of Health System Reform, Division of Surgery, Population Health, Cancer Therapy Centre, nursing, allied health and all other associated support services
- Addresses best practice requirements and supports the importance of continuing professional education for colorectal cancer service providers

- Develops an SWSAHS credentialling standard for surgeons with an active interest in colorectal disease
- Establishes a clear strategy for the sub-specialisation of colorectal surgery within the Area's generalist surgical framework and promotes networking of surgical service across the Area.

The group's membership would comprise Tumour Program Leader, Sector representatives, and representatives from surgery, radiation and medical oncology, pathology, health promotion, palliative care and rehabilitation, nursing, community health, the Divisions of General Practice, consumers, and other involved providers and personnel. The group would report to the SWSAHS Cancer Advisory Committee and though this to local sector cancer committees.

SWSAHS Colorectal Cancer Service

When colorectal cancer is not too far advanced it is curable and survival rates could be substantially improved with better management (NHS, 1997). Most people with colorectal cancer will undergo surgery and there is major variability in outcomes as a result of surgery between different individuals and different groups (NHMRC, 1999). Rectal cancer surgery has the potential for worse clinical outcomes than colon cancer surgery.

Some studies have also shown that there appears to be a correlation between clinical experience in the treatment of rectal cancer and outcome. A recent study by Porter and co-workers found local recurrence rates were lower and survival figures were better for those with colorectal training (Porter et al, 1998). There is evidence to support improved morbidity and mortality rates in patients with rectal cancer following the introduction of a colorectal unit (Lancet 2000).

The key activities of the Colorectal Cancer Service would be to

- Coordinate the clinical management of colorectal disease within the Area
- Provide facilities for the investigation and treatment of colorectal disease that would include anorectal physiology and anorectal ultrasound
- Include specialist nursing services, including stomal therapy, for the care of patients with continence problems
- Undertake education programs for early intervention and prevention
- Provide education and training for professionals and the community
- Adopt a multidisciplinary approach to colorectal care
- Develop key performance indicators for quality and outcome of care
- Be engaged in research and quality assurance

Colorectal Surgery Unit

The provision of high quality colorectal surgical services in SWSAHS would be provided through a Colorectal Surgery Unit that operates as a part of the comprehensive SWSAHS Colorectal Cancer Service. The aims of a surgical unit would be to –

- Address best practice requirements and support the importance of continuing professional education for colorectal and general surgeons
- Develop a credentialling process for SWS surgeons to the Unit who have an active interest in colorectal disease and with appropriate skills and qualifications

- Establish a clear strategy for the sub-specialisation of colorectal surgery within the Area's generalist surgical framework

The major activities of the Colorectal Surgery Unit would include –
- Promulgate the uptake of best practice standards and the implementation of Colorectal Cancer NHMRC guidelines
- Provision of specialist colorectal procedures, eg IBD and pouch surgery
- Establishment and maintenance of multi disciplinary assessment and continence clinics that would also provide teaching opportunities for undergraduates and post graduates
- Development and promulgation of local protocols and procedures in the treatment of colorectal disease
- Provide a multi disciplinary consultative service to the Area
- Liaison between key stakeholders regarding the establishment of teaching modules for colorectal diseases
- Promote the SWSAHS Colorectal Cancer Service and undertake educational and research activities

It is proposed that initially the unit be supported by VMO colorectal surgeons appointed throughout the Area who would participate in quality assurance, research, teaching and skills transference activities. In the future as the service develops staffing requirements would be a surgical fellow and secretarial support.

A Network of Credentialled Public and Private Providers

The Colorectal Cancer Service would also develop a network of credentialled public and private providers involved in the full range of colorectal services from prevention to palliation. The purpose of the network is to encourage and develop best practice standards and protocols.

Colorectal Cancer Service Coordination of Care

The coordination of the clinical management of patients with a diagnosis of colorectal cancer is central to ensuring optimal health outcomes. As the majority of people with colorectal cancer will undergo at least one surgical procedure the primary role of care coordination will rest with the surgeon.

It has been documented that dissemination of information about the disease and treatment options should start at initial consultation (NHMRC, 1999) and be ongoing during the interfaces patients will have with a variety of health care providers. Whilst all information can be provided at initial consultation it is unlikely that the patient or their family and carers will be able to absorb all the information they need at that time. It is preferable for information and ongoing support about the disease to be available as and when required.

Whilst the surgeon is the primary coordinator of care they may not be available to their patients at all times to provide the necessary information and support required. A specialist health care provider in consultation with the surgeon could fulfil the role of care coordinator.

The colorectal cancer care coordinator would undertake the key liaison role between patients and care providers and would work close with the Area Stomal Therapy service. It is envisaged the Stomal Therapy CNC would provide clinical support for

the management of colorectal cancer patients. The care coordinator role would specifically be in relation to colorectal cancer, and would play a coordinating role for the patient's care according to an agreed protocol and an individual care plan developed in conjunction with General Practitioners and Primary Health Nurses where required.

The care coordinator would provide education and training to colorectal cancer patients and their families, the General Practitioner and Primary Health Nurse, and would participate in the clinical meetings and case presentations of the Colorectal Cancer Service. (See Appendix VII for a draft job description.)

The role of care coordinator would also include responsibility for ensuring relevant patient details are available in the SWS Colorectal database, preparation of monthly reports for the Management Committee, participate in appropriate clinical trials, quality assurance and research activities, participate in the professional development of staff.

In Wentworth Area Health Service a patient support group has been set up in a similar manner to the support groups available to breast cancer patients. The volunteers for this support group have undergone training with the NSW Cancer Council for their role. There is a potential need to set up a similar patient support group in SWSAHS. The establishment of a support group would be undertaken as a part of the coordinator's role.

Targeted Community Education

Targeted community education regarding the prevention, early detection, timely referral and treatment of colorectal cancer would be supported through the SWSAHS Colorectal Cancer Service and through dedicated health promotion activities.

Colorectal Cancer Screening Program

The establishment of a pilot screening program in the greater western Sydney area that deals with average risk in partnership with NSW Health and the NSW Cancer Council has been proposed. The proposal has not been funded but other options for implementing a screening program are being investigated.

Participants in the screening program would be asked to undergo screening tests as recommended in the NHMRC national guidelines. This mostly involves an annual faecal occult blood test (FOBT) and / or colonoscopy.

CONCLUSION

Early case finding is required in order to optimise the outcomes for patients with colorectal cancer. Thus, good outcomes are dependent on community education, high quality primary care services and the further development of screening services that achieve a high participation rate. Strategies are required in SWS, targeted to the general population, as it is ageing fairly rapidly, and to those population groups identified as having a high incidence of colorectal cancer in SWS.

The concept of a SWSAHS Colorectal Surgery Unit to coordinate the clinical management of colorectal cancer is not new and there is evidence of better health outcomes for patients treated by practitioners associated with such a unit. The projected increase in the population over 50 years of age is significant and will demand a large increase in the number of day only investigative procedures performed in SWSAHS. This will require a coordinated approach to ensure access to investigative procedures such as colonoscopies is within an appropriate timeframe.

Colorectal cancer requires the input of a number services and many of these exist within established technical centres, for example Liverpool Cancer Therapy Centre, histopathology, genetics and research. However, the major contributors to the care of colorectal cancer patients are surgeons who currently exist without such structure.

This plan has been developed with a great deal of input from the colorectal surgeons. It is important to note that achievement of many of the strategies outlined in this plan will depend on the colorectal surgeons continuing to provide their services on a voluntary basis. The projected increase in the SWS population aged 50 and over will place increasing demands on surgeons' time and their ability to sustain the current level of input to achieving a comprehensive colorectal cancer service in SWS.

The establishment of a networked approach to service provision across the continuum of care from education to treatment and palliation has the potential to provide the following benefits

- Set standards according to achievable best practice guidelines
- facilitate improved data collection and information development
- enhance clinical research and collaboration between clinicians, and
- ultimately lead to an improvement in health outcomes for the residents of SWS.

Appendix I - Detailed Strategies

GOAL – Quality Health Care				
SDS Link – KC 3, 5, 6				
Strategy 1	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Establish Area Colorectal Service Management Committee	• Cancer Advisory Committee nominates membership • Develop terms of reference	• Management committee established • Terms of reference developed	June 2002	Area Director Cancer Control Network / Tumour Program Leader
GOAL – Quality Health Care				
SDS Link - KC 3, 5, 6, 7				
Strategy 2	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Establish an SWSAHS Colorectal Cancer network including a surgical unit	• Develop a proposal for a service and surgical unit that includes teaching and research • Provide consultancy services to all SWS Sectors • Provide dedicated colorectal cancer clinics • Undertake assessment of need for additional ultrasound machine and probe in Southern Sector	• Proposal adopted and unit established • Consultancy services available in all Sectors • Dedicated colorectal cancer clinics established • Assessment undertaken in consultation with all involved disciplines	June 2003 September 2002 June 2003 September 2002	Tumour Program Leader
GOAL – Quality Health Care & Better Value				
SDS Link - KC 1, 2, 5, 6				
Strategy 3	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Develop an Area Colorectal Surgical Service	• Policy for service written in consultation with colorectal surgeons and gastroenterologists • Annual review undertaken of growth in referrals to refine forecasts for surgical services • Undertake a review on access to and appropriateness of colonoscopies • Protocols developed for projected increase in colonoscopies associated with screening program	• Policy approved by SWSAHS Board • Review performed annually and used to inform service priorities • Review performed and strategies implemented • Resources identified for screening program • Workload distributed appropriately across Sectors	September 2002 September 2002 June 2003 September 2002	Director of Medical & Clinical Services
Link/integrate Colorectal database to Area Cancer Registry	Develop links and/or integrate systems	• Reports available from SWS Colorectal database • Colorectal database linked/integrated with Area Cancer Registry	December 2002 June 2004	Area Director Cancer Control Network/ Area Director Pop. Health

GOAL – Healthier People & Fairer Access				
SDS Link - KC 1, 2, 3, 5, 7				
Strategy 4	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Implement Colorectal Cancer screening program and develop strategy to improve participation rates	• Pilot screening program implemented • Strategy written • Review requirements for pathology and clinical genetics	• Participation rates increase in line with targets • Strategy in place in SWS Sectors • Pathology and clinical genetics requirements reviewed and recommendations made	*Dependent on funding* • Strategy written by June 2002 • June 2003	Area Director Cancer Control Network / Tumour Program Leader
GOAL – Better Value				
SDS Link - KC 1, 3, 5				
Strategy 5	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Develop and adopt a model for Colorectal Cancer Service coordination of care	• Model developed and adopted • Formal links adopted with all SWSAHS Sectors • Formal links developed with other Area Health Services	• Model implemented in all Sectors • Number of referrals to and from SWSAHS services including palliative care • Number of SWS residents referred back to SWSAHS CRC service	December 2002	Tumour Stream Leader / Care Coordinator
GOAL – Fairer Access				
SDS Link – KC 1, 2				
Strategy 6	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Develop a network of credentialled public and private providers	• Directory of providers developed • Strengthen links with providers • Provide specific education programs to providers	• Increase in referrals through network • Number of providers associated with network • Number of providers attending education programs	September 2003	Area Director Medical & Clinical Services / Tumour Stream Leader
GOAL – Healthier People				
SDS Link – KC 1, 2, 3, 5				
Strategy 7	**Action**	**Performance Indicator**	**Timeframe**	**Responsibility**
Develop targeted community education programs including for GPs	Undertake a needs assessment for specified population and disease groups as identified by each Sector	• Needs assessments complete and strategies developed • Education programs scheduled and delivered in all Sectors	June 2003	Care Coordinator / Stomal Therapy CNC

Appendix II - Colorectal Cancer Plan Steering Committee

Dr Cyril Wong	-	Surgeon
Dr Andrew Kneebone	-	Radiation Oncologist
Dr Stephen Fulham	-	Surgeon
Dr Andrew Gatenby	-	Surgeon
Dr Matthew Morgan	-	Surgeon
Dr Priyan Wikramanayake	-	Surgeon
Dr Chris Henderson	-	Anatomical Pathologist
Dr Alison Colley	-	Geneticist
Dr Eva Segalov	-	Research Director
Dr Brett Jones	-	Gastroenterologist
Ms Ann-MareeMcDonald	-	Nursing, Stomal Therapist
Dr Bin Jalaludin	-	Epidemiologist, CRC Database Coordinator
Ms Angela Berthelsen	-	Data Manager
Ms Sheri Nixdorf	-	Research Officer, Tumour Bank
Ms Najah Nassif	-	Research Officer, Tumour Bank
A/Prof Michael Barton	-	Director, CCORE
Ms Merran Lethbridge	-	Senior Planning Officer

Appendix III - SWS Projected Population

Table 8 - SWS Population Projections 2006-2016

2006	0-4	5-15	15-24	25-44	45-64	65+	Total
Bankstown	11390	23990	23190	48100	39220	23510	169400
Fairfield	13400	27710	29430	56340	46480	20320	193680
Liverpool	15420	27630	24920	59900	35550	13180	176600
Camden	5150	9540	7820	20530	11130	4030	58200
Campbelltown	12580	24340	24970	44860	38700	11390	156840
Wollondilly	2890	6290	5780	11490	10860	3580	40890
Wingecarribee	2720	6300	5460	10350	12620	7620	45070
Total	63550	125800	121570	251570	194560	83630	840680
2011							
Bankstown	10870	23100	23990	46520	41590	23420	169490
Fairfield	12800	26170	28440	53650	49740	22660	193460
Liverpool	15860	30750	28540	62870	44580	15110	197710
Camden	5560	10910	9960	22580	14100	4930	68040
Campbelltown	11740	22920	23080	44950	41060	14670	158420
Wollondilly	3040	6200	5830	12290	12160	4600	44120
Wingecarribee	2820	6110	5600	10210	14240	8950	47930
Total	62690	126160	125440	253070	217470	94340	879170
2016							
Bankstown	10450	22140	24020	45190	42860	24830	169490
Fairfield	12310	25000	27340	51720	49380	26850	192600
Liverpool	16150	32610	31550	64380	53460	18960	217110
Camden	5930	12020	11300	24490	17110	6640	77490
Campbelltown	11510	21860	21170	45140	39100	20750	159530
Wollondilly	3200	6420	5570	13580	12370	6440	47580
Wingecarribee	3000	6250	5380	10510	14970	11130	51240
Total	62550	126300	126330	255010	229250	115600	915040

Source: Department of Health Population Projections for NSW Area Health Services March 2000

Appendix IV - Colorectal Surgery Activity

The following table has been provided as an indication of the type and level of complexity carried out at each of the hospitals shown in the table. Cost weighted separations (CWT) are used as an indication of the complexity of a procedure and the row *"$ CWT Activity'* is presented as an indicator of the amount of work each listed DRG accounts for relative to the whole Service Related Group (SRG) of Colorectal Surgery.

As can be seen from the table some hospitals undertake a larger percentage of total activity in specific DRGs that can also be interpreted as particular areas of expertise of local surgeons.

Table 9 – Colorectal Surgery DRG Activity in Selected Hospitals

	Lpool	Btown	Ctown	Ffield	Bowral	RPA	St Geo	Concord	Wmead
TOTAL CWT	1051	1029	622	514	160	1827	1407	2269	1693
DRG G11B - Anal and stomal procedures w/o catastrophic or severe complications									
EOC	209	203	322	218	73	298	157	271	155
Bddays	315	293	407	376	90	577	300	408	257
CWT	116	112	179	121	40	178	88	151	87
% CWT Activity	11.0%	10.9%	28.8%	23.5%	25.0%	9.7%	6.3%	6.7%	5.1%
DRG G02B – Major small and large bowel procedures w/o catastrophic complications									
EOC	63	61	43	23	19	115	74	111	80
Bddays	548	663	383	211	132	1241	796	1020	850
CWT	222	223	153	80	59	438	264	402	307
% CWT Activity	21.1%	21.7%	24.6%	15.6%	36.9%	24.0%	18.8%	17.7%	18.1%
DRG G02A – Major small and large bowel procedures w catastrophic complications									
EOC	53	47	15	18	4	68	62	93	82
Bddays	942	911	242	277	67	1445	1481	1530	1489
CWT	409	361	108	138	31	570	521	717	643
% CWT Activity	38.9%	35.1%	17.4%	26.8%	19.4%	31.2%	37.0%	31.6%	38.0%
DRG J09Z – Perineal and pilonidal procedures									
EOC	38	41	46	36	8	33	32	31	21
Bddays	60	48	96	65	22	67	63	59	33
CWT	23	25	28	22	5	22	20	20	13
% CWT Activity	2.2%	2.4%	4.5%	4.3%	3.1%	1.2%	1.4%	0.9%	0.8%
DRG G11A – anal and stomal procedures w catastrophic or severe complications									
EOC	27	18	12	27	4	48	31	35	23
Bddays	146	84	39	52	13	390	307	167	141
CWT	43	25	15	34	4	100	71	56	35
% CWT Activity	4.1%	2.4%	2.4%	6.6%	2.5%	5.5%	5.0%	2.5%	2.1%
DRG G01B – Rectal resection w/o catastrophic complications									
EOC	21	27	16	10	4	51	32	69	41
Bddays	241	313	181	107	43	570	438	719	513
CWT	96	123	75	45	18	236	147	311	211
% CWT Activity	9.1%	12.0%	12.1%	8.8%	11.3%	12.9%	10.4%	13.7%	12.5%
DRG G01A – Rectal resection w catastrophic complications									
EOC	15	16	5	8	0	21	31	64	42
Bddays	268	404	109	124	0	481	803	1047	851
CWT	113	131	40	58	0	162	256	483	315
% CWT Activity	10.8%	12.7%	6.4%	11.3%	0.0%	8.9%	18.2%	21.3%	18.6%
DRG G05A – Minor small and large bowel procedures w complications									
EOC	7	1	4	1	1	20	5	18	12
Bddays	67	21	20	21	12	316	58	134	108
CWT	20	3	12	3	3	80	16	52	35
% CWT Activity	1.9%	0.3%	1.9%	0.6%	1.9%	4.4%	1.1%	2.3%	2.1%
DRG G05B – Minor small and large bowel procedures w/out complications									
EOC	6	13	6	6	0	21	10	30	11
Bddays	33	77	33	58	0	105	58	159	76
CWT	9	24	12	13	0	41	21	57	25
% CWT Activity	0.9%	2.3%	1.9%	2.5%	0.0%	2.2%	1.5%	2.5%	1.5%
DRG G43Z – Complex therapeutic colonoscopy									
EOC	0	3	0	0	0	0	4	21	23
Bddays	0	4	0	0	0	0	4	45	48
CWT	0	3	0	0	0	0	4	19	20
% CWT Activity	0	0.3%					0.2%	1.4%	0.9%

Source: FlowInfo ver 4.2Q3

Appendix V - Potential Life Years Lost

The following tables provides data on the distribution of Potential Life Years Lost (PYLL) in NSW and SWSAHS 1994-98 due to Colon and Rectal cancer related deaths (assumed persons died before age 75 years).

Table 10 – Potential Life Years Lost

		Causes of Death and PYLL			
		Colon	**Rectal**	**All Other**	**Total**
NSW 1994-98					
Male	Mean PYLL	11.5	12	17.7	17.4
	Total PYLL	22917	8196	1065254	1096367
	% of PYLL	2.1	0.7	97.2	100
Female	Mean PYLL	12.6	12.3	16.4	16.2
	Total PYLL	18531	4451	562507.1	585489.1
	% of PYLL	3.2	0.8	96.1	100
Total NSW	**Mean PYLL**	**12**	**12.1**	**17.3**	**17**
	Total PYLL	**41448**	**12647**	**1627761**	**1681856**
	% of PYLL	**2.5**	**0.8**	**96.8**	**100**
SWSAHS 1994-98					
Male	Mean PYLL	12.3	12.1	20	19.7
	Total PYLL	1936	856	121250.6	124042.6
	% of PYLL	1.6	0.7	97.7	100
Female	Mean PYLL	11.5	15.8	18.5	18.2
	Total PYLL	1481	520	66966	68967
	% of PYLL	2.1	0.8	97.1	100
Total SWSAHS	**Mean PYLL**	**11.9**	**13.2**	**19.4**	**19.1**
	Total PYLL	**3417**	**1376**	**188216.7**	**193009.7**
	% of PYLL	**1.8**	**0.7**	**97.5**	**100**

Source: NSW HOIST Mortality Data 1994-98, NSW Health Department

Appendix VI - Level of Evidence Table

Level 1	Evidence obtained from systematic review of all relevant randomised controlled trials
Level 2	Evidence obtained from at least one properly designed randomised controlled trials.
Level 3	Evidence obtained from a well-designed controlled trial without randomisation; or from well-designed cohort or case-control studies, preferably from more than one centre; or from multiple time-series with/without intervention.
Level 4	Evidence from descriptive studies or reports of expert committees; this level signifies the need for further research.

Appendix VII - Draft Colorectal Coordinator Job Description

SOUTH WESTERN SYDNEY AREA HEALTH SERVICE

Job Description & Statement of Duties

Section One – Job Description

Position Title Colorectal Cancer Coordinator of Care

Reporting and Organisational Context

This position reports to the Nurse Manager, Cancer Services and also has professional links to the Nursing Director, Division of Surgery.

This position has the following positions reporting to it:
- Nil

The key strategic objectives for your Department of Division are:
- Working with our community and staff to develop a shared sense of direction
- Collaboration with other health care professionals/service partners to ensure continuity of care/service for consumers
- Ensuring that people in SWS access health services according to need
- Developing effective and efficient health care delivery that focus on colorectal cancer and position health outcomes
- Coordination of services in conjunction with surgeons for patients diagnosed with colorectal cancer, from diagnosis through to post discharge
- Liaise with the Stomal Therapy service for stoma care
- Cultivate the development of staff to achieve a learning and teaching organisational culture
- Enhance the medical assessment of patients presenting to hospital with colorectal cancer
- Efficient and effective utilisation of unit/service resources in the provision of consumer focused health care to the community
- Acquire and use appropriate research methods to improve patient outcomes
- Involvement in protocol development in conjunction with multidisciplinary team
- Facilitate development and monitoring of care plans/clinical pathways in conjunction with the multidisciplinary team
- Education of patients, careers and provision of information
- Identify appropriate patients into clinical trials
- Liaison with appropriate community services and support agencies
- Collect relevant clinical indicator data and provide reports as required
- Maintain data base on occasions of service and provide monthly reports
- Identify opportunities to enhance personal and professional development
- Participates in appropriate committees and provides reports to line manager

The purpose of South Western Sydney Area Health Service is **"Better Health, Good Health Care"**. In support of this purpose your Team/Unit/Division purpose is in accordance with the mission statement. The mission statement of the South Western Sydney Area Health Service is to improve the health of the people residing in the Bankstown, Camden, Campbelltown, Fairfield, Liverpool, Wingecarribee and Wollondilly Local Government Areas.

Individual Knowledge and Skills for this Position

Essential Criteria

- Current Authority to Practise with NSW Nurses Registration board List A
- Demonstrated clinical experience in caring for patients with colorectal cancer
- Demonstrated effective verbal and written communication skills
- Good interpersonal and time management skills
- Ability to work in a multidisciplinary team
- Experience in the education of patients and staff
- Demonstrated ability to delivery high quality patient care
- Effective counselling skills
- Understanding of the principles of case management
- Computer literacy

Desirable Criteria

- Post graduate qualifications in oncology, surgery or stomal therapy

In addition to the core competency standards for this position you are expected to comply with/achieve the following:

- The Area's Performance Management policy
- Your OH&S responsibilities an as employee
- The Area's Code of Conduct
- Your Sector's quality initiatives

Performance Management

Your work performance will be managed in consultation with your immediate manager on a continual basis. You will need to actively participate in this process.

In addition to regular and ongoing support, coaching, guidance and feedback you will participate in at least two formal performance management interviews. The first will take place about three months after you commence employment and then at least once every year. You and/or your manager may wish to formally meet more frequently. The standard of performance required for this position is determined by the relevant competency standards this job description and any other agreed activities.

Key Performance Areas for this Position

DOMAIN: Professional and Ethical Practice

UNIT OF COMPETENCY	ELEMENT OF COMPETENCY
1. Functions in accordance with legislation and common law affecting nursing practice	• Demonstrates knowledge of legislation and common law pertinent to nursing practice • Fulfils the duty of care in the course of practice • Demonstrates knowledge of policies and procedural guidelines that have legal implications for practice • Identifies unsafe practice and responds appropriately to ensure a safe outcome • Recognises and acts upon breaches of law relating to practice
2. Conducts nursing practice in a way that can be ethically justified	• Practices in accordance with the profession's code of ethics • Demonstrates knowledge of contemporary ethical issues impinging on nursing • Engages effectively in ethical decision making • Ensures confidentiality of information

3. Protects the rights of individual sand groups in relation to health care	• Acknowledges the rights of individuals/groups in the health care setting • Acts to ensure that ht rights of individual/groups are not compromised • Involves the individual/group as an active participant in the process of care • Respects the values, customs, spiritual beliefs, and practices of individuals and groups • Provides for the spiritual, emotional and cultural needs of individuals/groups • Provides relevant and current health care information to individuals and groups in a form which facilitates their understanding • Encourages and support individuals/groups in decision making
4. Accepts accountability and responsibility for own actions within nursing practice	• Recognises own knowledge base/scope of competence • Consults with an experienced Registered Nurse when nursing car requires expertise beyond own scope of competence • Consults with other health care professionals when individual/group falls outside the scope of nursing practice

DOMAIN: Professional and Ethical Practice

UNIT OF COMPETENCY	ELEMENT OF COMPETENCY
5. Acts to enhance the professional development of self and others	• Uses professional standards of practice to assess the performance of self • Recognises the need for and participates in professional development of self • Recognises the need for care of self • Contributes to the learning experiences and professional development of others
6. Values research in contributing to developments in nursing and improved standards of care	• Acknowledges the importance of research in improving nursing outcomes • Incorporates research findings into nursing practice • Contributes to the process of nursing research

DOMAIN: Management of Care

UNIT OF COMPETENCY	ELEMENT OF COMPETENCY
7. Carries out a comprehensive and accurate nursing assessment of individuals and groups in a variety of settings	• Uses a structured approach in the process of assessment • Collects data regarding the health and functional status of individuals and groups • Analyses and interprets data accurately
8. Formulates a plan of care in collaboration with individuals and groups	• Establishes priorities for resolution of identified health needs in consultation with the individual/group • Identifies expected outcomes including a time frame for achievement in collaboration with individuals and groups • Develops and documents a plan of care to achieve optimal health, habilitation, rehabilitation or a dignified death
9. Implements planned nursing care to achieve identified outcomes within scope of competence	• Provides planned care • Plans for continuity of care as appropriate • Educates individuals or groups to maintain and promote health
10. Evaluates progress toward expected outcomes and reviews and revises plans in accordance with evaluation data	• Determines the progress of individuals or groups towards planned outcomes • Reviews and revises nursing intervention in accordance with evaluation data and determines further outcomes

DOMAIN: Enabling

UNIT OF COMPETENCY	ELEMENT OF COMPETENCY
11. Contributes to the maintenance of an environment, which promotes safety, security and personal integrity of individuals and groups	• Acts to enhance the safety of individuals and groups at all times • Provides for the comfort needs of individuals and groups • Establishes, maintains and concludes caring therapeutic and effective interpersonal relationships with individuals or groups • Applies strategies to promote individual/group self esteem • Acts to maintain the dignity and integrity of individuals/groups
12. Communicates effectively with individuals and groups	• Communicates using formal and informal channels of communication • Ensures documentation is accurate and maintains confidentiality
13. Manages effectively the nursing care of individuals and groups	• Organises workload to facilitate planned nursing care for individuals and groups • Delegates to other activities commensurate with abilities, scope and practice • Uses a range of supportive strategies when supervising aspects of care delegated to others • Responds effectively in unexpected or rapidly changing situations
14. Collaborates with other members of the health care team	• Recognises the role of members of the health care team in the delivery of health care • Establishes and maintains collaborative relationships with colleagues and members of the health care team • Participates with other members of the health care team and the individual/group in decision making
15. Develop and maintain a safe workplace and environment in accordance with Occupational Health and Safety	• Promote safe quality practices within the guidelines of OH&S legislation • Provide and maintain a comfortable, healthy, clean and safe environment for clients, visitors and staff by taking corrective action where necessary to maintain high environmental controls and safety standards
16. Equal Employment Opportunity	• Be aware of and act within the bounds of the EEO Policy of SWSAHS • Be aware of and act within the bounds of the Anti Discrimination Policy of SWSAHS • Be aware that sexual harassment will not be tolerated in any form, ie behaviour, verbal or physical, which is unwelcome, persistent and/or offensive

As the incumbent of this position, I have read this Job Description, understand its contents and agree to work in accordance with the requirements of the position. I understand and accept that I must also comply with the policies and procedures of the South Western Sydney Area health Service and can be required to work in any location under the jurisdiction of South Western Sydney Area Health Service.

Employee's Signature:…….. Date:……..

Employee's Name:…….

Manager's Signature:…… Date:……..

Manager's Name:…….

Adopted from Australian Nursing Council National competencies for the Registered and Enrolled Nurse in recommended Domains (1994) pp 3-48.

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