

## 1. Background

The Victorian Department of Health performed a state-wide analysis of 2010/11 colorectal cancer surgical episodes. The following risk factors were identified as impacting on patient outcomes:

- Emergency presentation
- Age over 80 and
- Multiple comorbidities.

North Eastern Melbourne Integrated Cancer Service (NEMICS) undertook an exploratory audit to investigate colorectal cancer surgery after emergency presentation.

## 2. Aim

To identify key determinants influencing emergency presentation leading to colorectal cancer surgery.

## 3. Methods

- Retrospective exploratory audit on five campuses from three public health services in the NEMICS region.
- 44 cases were audited from 103 eligible 2011/12 inpatient separations: a random sample of 10 cases from each of the four larger campuses together will all four from the smaller campus were selected.
- VAED extract was used for baseline data followed by a comprehensive audit of clinical records. The audit involved abstracting the entire clinical record for evidence of prior contact with the health service for symptoms related to colorectal cancer.
- Data collected included: patient characteristics, symptoms, relevant events preceding the surgical episode, prior medical consultations, investigations and treatment, point of colorectal cancer diagnosis and details of the surgical episode.

## 4. Results

### 4.1 Characteristics of audit population

65.9% (29/44) of the audit population were aged between 70 and 89 years with 40.9% 80+. This together with 20.5% (9/44) living at home alone is representative of the pockets of aging population that sit within the NEMICS catchment.

Table 1: Summary of audit characteristics

Characteristic	Patients (n=44)	Percent
Male	23	52.3%
Age: range (median)	41-91 (74.5)	
Age 80+	18	40.9%
Charlson comorbidity (any)	26	59.1%
Charlson Comorbidity Index ≥2	12	27.3%
Emergency presentation	44	100.0%
Emergency colorectal cancer surgery	32	72.7%
Colon primary	43	97.7%
Stage III/IV	29	65.9%
Length of stay: range (median)	1-62 (11)	

### 4.2 Prior clinical contact

77.3% (34/44) had clinical contact for symptoms related to colorectal cancer prior to the index emergency presentation.

For 36.4% (16/44) patients the index emergency presentation was a re-presentation; that is they had presented to or had a prior hospital admission for colorectal-cancer related symptoms in the previous six months. An additional patient had a related admission within the previous two years. Nine patients had multiple re-presentations with one patients presenting on four occasions.

61.4% (27/44) had consulted a GP. 29.5% (16/44) saw a GP more than once for colorectal cancer-related symptoms. The time from first GP consult to index emergency presentation range (median): 0-168 (11) days.

### 4.3 Pre-admission investigations

- 50% (22/44) patients had relevant imaging prior to the index emergency presentation
- 15.9% (7/44) had a relevant investigation but not imaging
- 34.1% (15/44) had not had any investigation performed
- Only one patient had had a faecal occult blood test (FOBT)

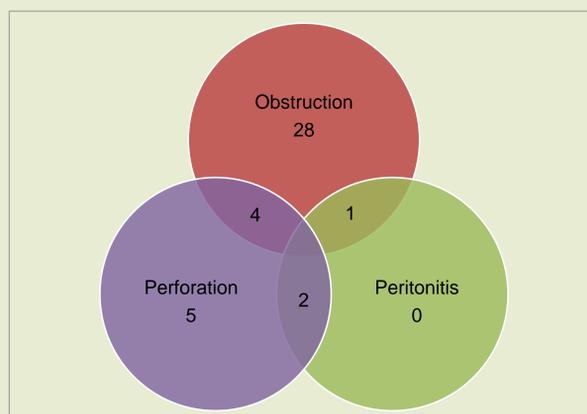
Table 2: Summary of pre-admission investigations

Investigation	Patients (n=44)	Percent
Any relevant investigation	29	65.9%
Imaging (abdominal)	22	50.0%
CT involving abdomen	17	38.6%
AXR	8	18.2%
Ultrasound (abdomen, pelvis or groin)	4	9.1%
Colonoscopy +/- sigmoidoscopy	12	27.3%
Other (FOBT/iron studies/rectal examination)	2	4.5%

### 4.4 Presenting conditions

75% (33/44) cases were found to have a bowel obstruction. Two additional patients presented with rectal bleeding and sepsis respectively. One developed rectal bleeding during an emergency presentation for another condition.

Figure 1: Overlap between bowel obstruction, perforation and peritonitis

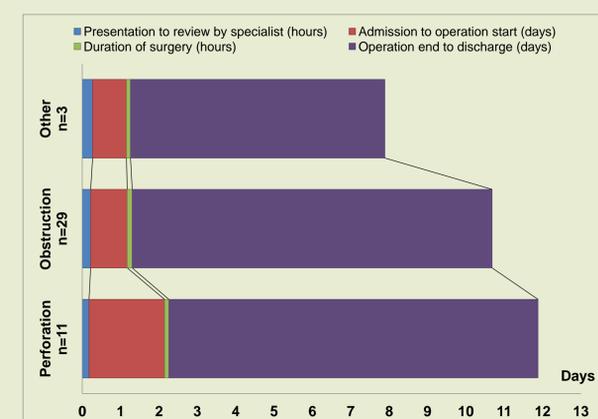


### 4.5 Timeliness of care

Median time of key periods:

- Presentation to review by a specialist = 5 hours 5 minutes
- Presentation to operation start = 1.3 days
- Duration of operation = 2 hours 55 minutes
- Operation end to discharge = 9.4 days

Figure 2: Surgical timeline: median times of key periods



Where perforation was present with obstruction or peritonitis it was grouped to perforation to reflect the severity of the condition.

## 5. Discussion

The audit validated that all presentations were genuine emergencies. All cases presented with significant, acute morbidity. They all went on to have colorectal cancer surgery, during the same admission, almost 75% on an emergency basis.

36% had previously presented or had an admission for colorectal cancer-related symptoms and 61% had consulted a GP. 23% of patients had not sought prior clinical advice which indicates health literacy as an issue.

Cases with perforation took twice as long as other cases to get to theatre (median time of two days compared with one). Conversely those with a perforation were seen by a specialist the soonest after presentation.

## 6. Conclusion

Nearly 40% of patients were re-presenting to the hospital at the time of the index emergency presentation. This is a significant finding and further analysis will be conducted on audit data.

Variation in time from presentation to colorectal cancer surgery between presenting conditions warrants investigation as does the post operative length of stay. Key stakeholders will be engaged to assist in investigating the difference.