

Risk of interval Colorectal Cancer in patients with Lynch Syndrome undergoing surveillance in New Zealand: results from the NZFGCS registry

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Introduction

- NZFGCS maintains registry of all confirmed LS carriers in New Zealand
- Surveillance colonoscopy is provided peripherally across regional public hospitals
- All surveillance colonoscopies are coordinated and monitored centrally by the NZFGCS



Aims and Methods

- Primary Aim: To assess overall and mutation-specific risk of interval CRC in LS carriers undergoing surveillance colonoscopy
- Secondary Aim: Identify endoscopic risk-factors potentially associated with development of interval CRC

Inclusion criteria

- Presence of a germline mutation in MMR or EPCAM gene
- At least 2 colonoscopy until 31/12/2017

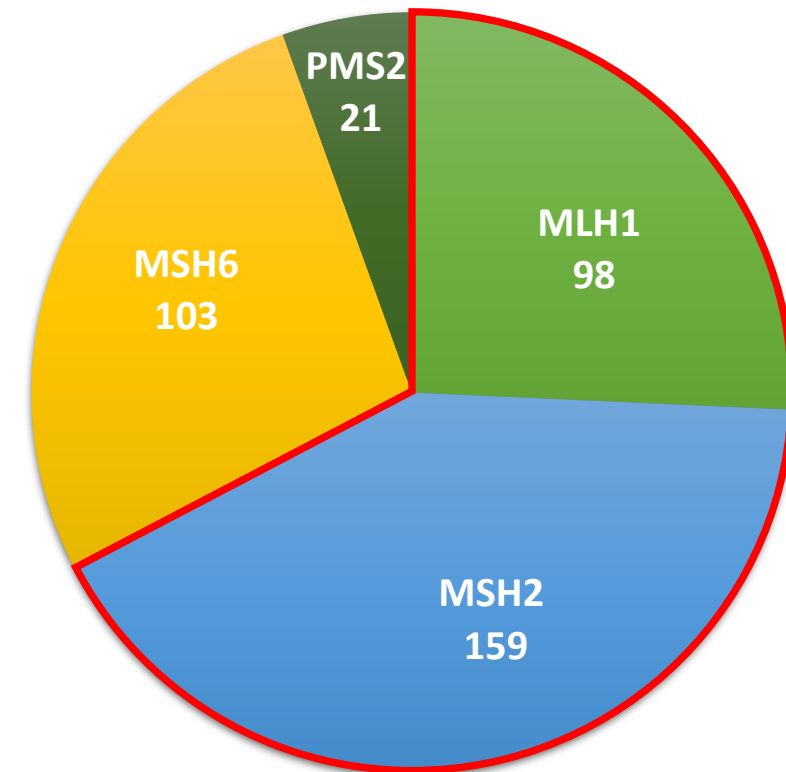
Exclusion criteria

- History of CRC or CRC diagnosed at first colonoscopy
- Previous partial colonic resection

Results

381 LS carriers met the study criteria

Average age (IQR)	43 years (32-54)
Male	40%
Median colonoscopy (range)	5 (2-17)
Median Observation period (range)	4.4 years (1-28)
Average colonoscopy interval (IQR)	16.3 months (13-18)

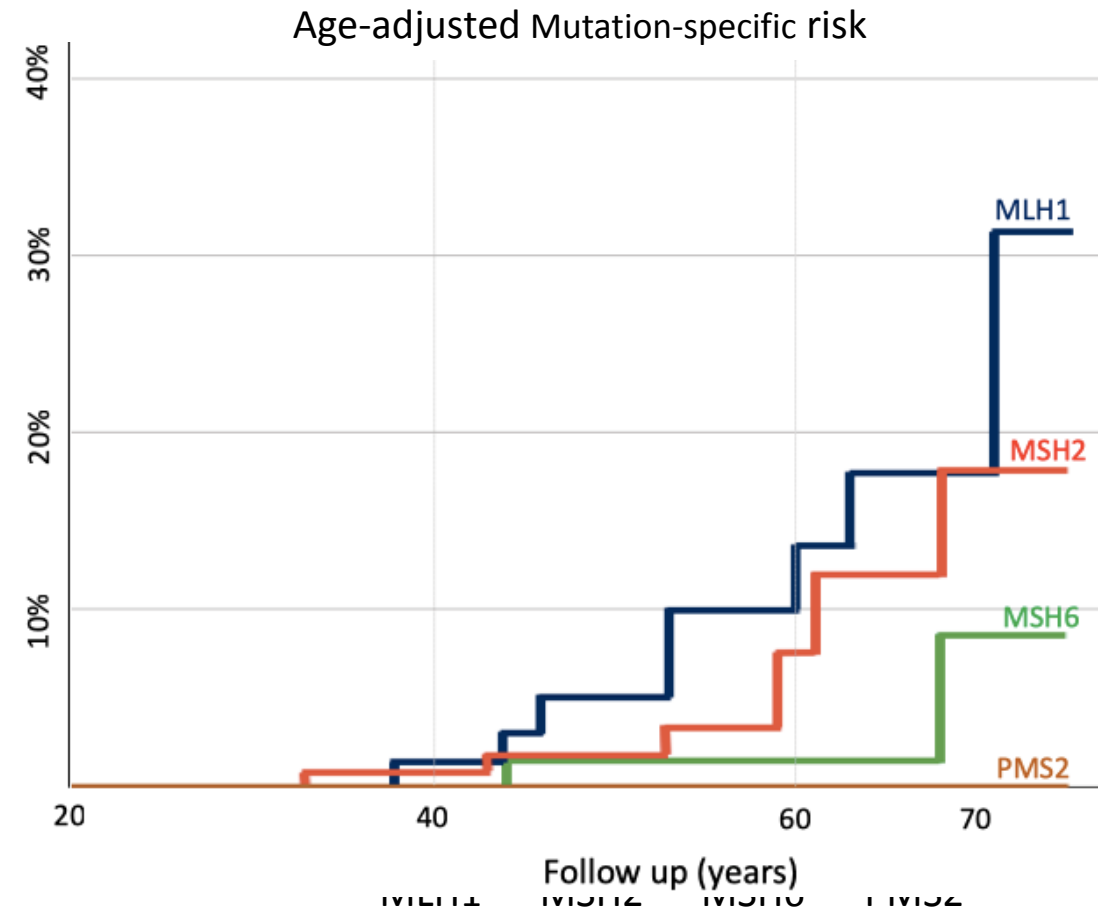


Interval CRC

- Of 381 carriers, 18 developed interval CRC
- 94% of CRC stage 0-II
- No CRC related mortality observed
- Overall 5-yr risk = 2.49% (95%CI 1.18-5.23)

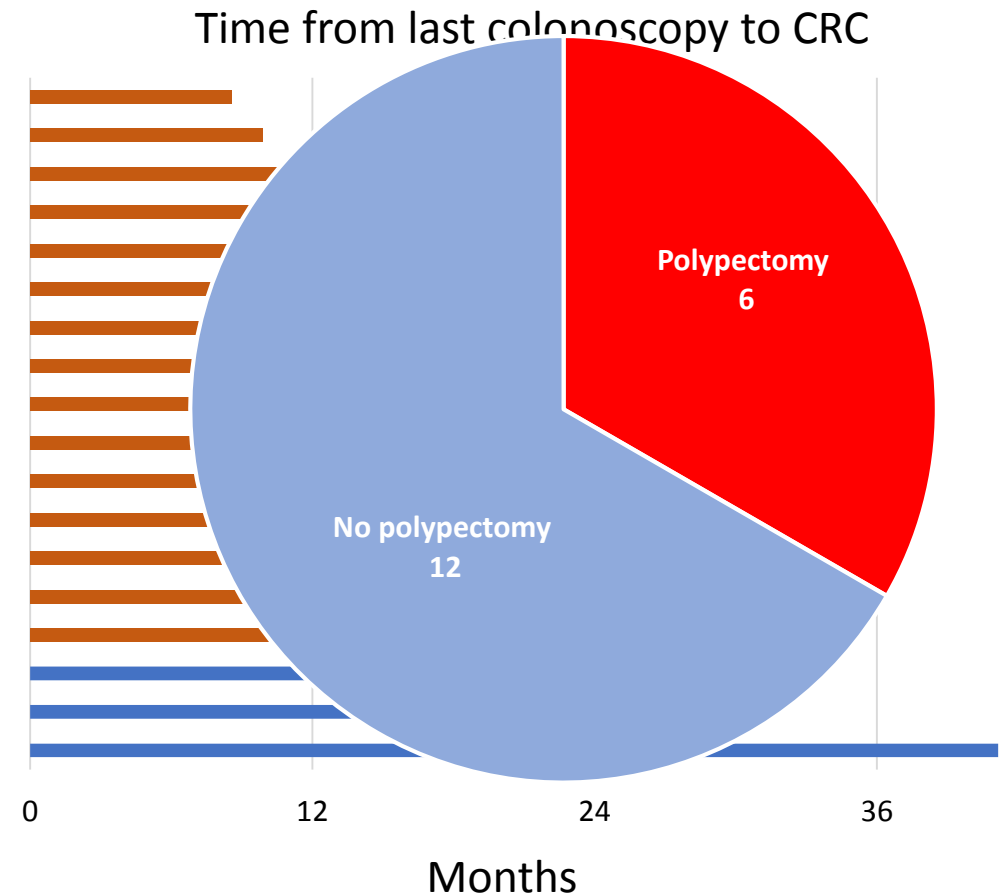
Cumulative risk by 70 years

MLH1	17.7%
MSH2	17.8%
MSH6	8.5%
PMS2	0%



Endoscopic Factors

- 83% had colonoscopy within 24 months of CRC diagnosis
- Bowel prep adequate in 94% colonoscopy
- 33% had polyp removed from same segment at preceding colonoscopy



Conclusion

- 5-year risk of developing interval CRC in LS carriers undergoing surveillance was 2.49%
- MSH6 and PMS2 carriers have lower risk of interval CRC, supporting less intensive surveillance in these mutation carriers
- Majority of interval CRC developed within 24months of last surveillance colonoscopy
- Incomplete polyp resection potentially responsible for up to a third of interval CRC

Baseline Characteristics

Mutation	MLH1	MSH2	MSH6	PMS2
n	98	159	103	21
Age: mean, (IQR)	40 (29-52)	42 (31-53)	46 (35-57)	47 (38-55)
Sex: Male (%)	45%	40%	35%	38%
Total colonoscopy, (median)	619 (6)	888 (5)	455 (4)	99 (4)
Cumulative follow-up (in years)	767	991	443	98
Mean colonoscopy interval (in months)	17.5	16	15.9	15.9
Youngest age at diagnosis of CRC	38	33	53	n/a