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# Barriers to Completing Colonoscopy Screenings

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## Background

Colon cancer is the second leading cause of cancer death in the United States and the third leading cause of cancer death in Vermont.

Colon cancer progression may be prevented by removing precancerous polyps found on colonoscopy screening.

Vermont ranks among the states with the best colon cancer screening rates, but there is room for improvement. In 2006, 55.5% of Vermonters over 50 years of age had undergone a sigmoidoscopy or colonoscopy within the last 5 years. Vermont's public health goal is to raise this percentage of screened individuals to 65% by 2010.

Vermont medical institutions have the resources to perform screening colonoscopies on all Vermonters over 50 years of age.

Although primary care physician (PCP) recommendations increase the likelihood of a patient completing a colonoscopy screening, a substantial number of patients referred for screening colonoscopies do not complete their appointments.

## Objective

The objective of this study was to determine the factors that increase patient compliance with primary care referrals for colonoscopy and attendance to scheduled colonoscopy appointments.

## Methods

Written surveys were administered to patients prior to undergoing colonoscopy at a gastroenterology office in Chittenden County, Vermont.

Phone surveys were conducted with patients who had missed their scheduled colonoscopy appointments in Chittenden County, Vermont or had not scheduled a colonoscopy appointment following primary care physician referral. A total of 226 people were attempted to be contacted. Of the 101 people reached, 61 chose to participate.

Surveys inquired about motivations for making appointments and obstacles to adhering to scheduled appointments.

Data from patients over the age of 50 undergoing or referred for a screening colonoscopy were included. Under these criteria, written office surveys were obtained from 290 patients and phone surveys were obtained from 61 patients.

Two tailed Fisher's exact tests were performed for analysis of data using GraphPad QuickCalcs. Patients undergoing colonoscopy were compared against patients with missed appointments or unscheduled appointments for colonoscopy.

## Results

**Table 1 – Survey Responses**

	% Completed (Actual Number) n=290	% Missed (Actual Number) n=61	Statistical Significance
<b>Demographic Information</b>			
Male	53 (153)	44 (27)	NS
Female	47 (137)	56 (34)	NS
Spouse/Partner	74 (216)	67 (41)	NS
Single	20 (57)	33 (20)	P<0.03
Age < 50 years	0 (0)	0 (0)	ND
Age 50-55 years	44 (127)	49 (30)	ND
Age 56-60 years	23 (66)	18 (11)	ND
Age 61-65 years	15 (44)	20 (12)	ND
Age 66-70 years	6 (18)	7 (4)	ND
Age > 70 years	12 (35)	7 (4)	ND
First colonoscopy	60 (115)	82 (50)	P<0.001
Not first colonoscopy	40 (115)	18 (11)	P<0.001
<b>Appointment Scheduling</b>			
By Primary Care Physician	72 (209)	85 (52)	P<0.04
By Patient	23 (67)	12 (8)	P<0.09
By Family Member	1 (4)	0 (0)	ND
By Other	4 (12)	0 (0)	ND
<b>Barriers to Completing Appointment</b>			
Any	27 (77)	69 (42)	P<0.0001
Fear or Embarrassment	7 (20)	34 (21)	P<0.0001
Cost	4 (12)	28 (17)	P<0.0001
Family Commitments	1 (4)	10 (6)	P< 0.03
Time Off from Work	10 (30)	21 (13)	P<0.03
Transportation	7 (20)	11 (7)	NS
Waiting Time before Appointment	7 (21)	7 (4)	NS
Child/Family Care	1 (4)	2 (1)	NS
Other	4 (12)	20 (12)	P<0.0001
<b>What Prompted Appointment</b>			
Primary Care Physician Suggested	78 (227)	90 (55)	P<0.03
Health Concerns/Other	41 (118)	15 (9)	P<0.0001

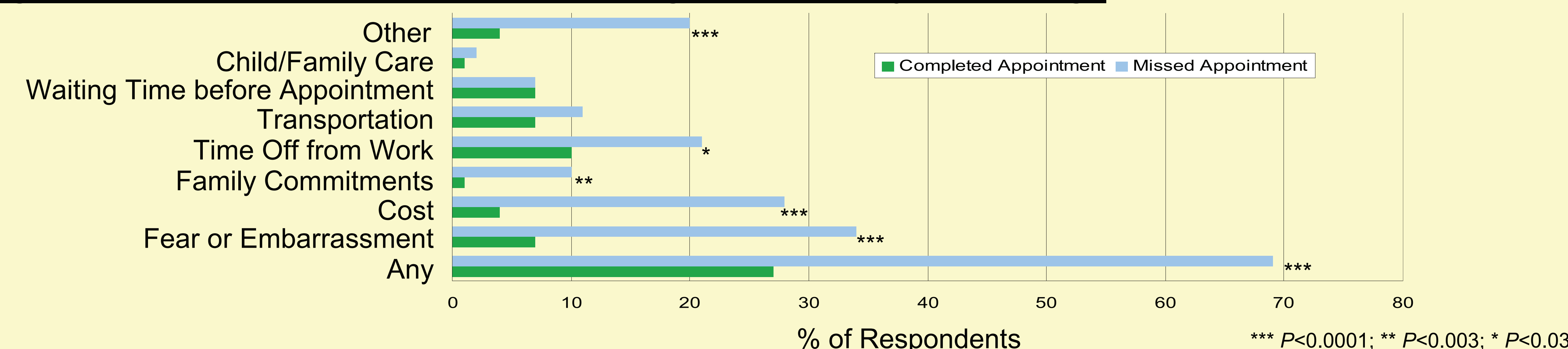
Any: one or more barriers reported

Other: includes poor office interactions, not perceived as needed, pre-operative preparation

ND – Not Determined

NS – Not Significant

**Figure 1 – Reported Barriers to Completing Colonoscopy Screenings**



## Limitations

Medical records were not reviewed to confirm screening status.

Surveys conducted by phone may have variability among different interviewers.

Survey respondents were limited to patients who had been referred for colonoscopy screening in Chittenden County, VT.

## Conclusions

Patients who did not complete their colonoscopy appointment were more likely to report a barrier to attending the appointment.

The greatest barriers to having a colonoscopy were time off from work, cost, family commitments, fear or embarrassment, and other self-reported issues, which included poor interactions with office staff.

Transportation, child/family care, and waiting time before the appointment were not significant barriers to attending colonoscopy appointments.

A significant percentage of patients undergoing colonoscopy identified health/other concerns as reinforcing factors beyond PCP referral for attending their appointments.

Patients who are single or are undergoing their first colonoscopy are statistically more likely to miss their appointment.

In order to improve colonoscopy screening rates, we recommend specific education for patients in the areas of cost and fear/embarrassment both in physicians' offices and through mass media social marketing approaches.

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