

# **Policy Alternatives to Address the Problem of Low Compliance with Colorectal Cancer Screening Guidelines in Massachusetts**

## **Presented to:**

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## Executive Summary

**The Problem:** If detected early, colorectal cancer (cancer of the colon and/or rectum) has a 90 percent cure rate (National Colon Cancer Research Alliance 2011), but because of low rates of screening compliance it remains the second leading cause of cancer-related deaths in the nation, accounting for 10 percent of cancer deaths overall (Ziegler et. al. 2010). The present report examines the reasons behind the lack of adherence to CRC screening guidelines and explores policy alternatives for increasing compliance with these guidelines in Massachusetts, including best practices used in other states.

**Policy Alternatives:** The following policy alternatives for improving compliance are proposed in this report: 1) The passage of “An Act Ensuring Access to Life-Saving CRC Screenings” (H.B. 2185) which would mandate that insurance companies cover colorectal cancer screening in Massachusetts according to national guidelines; 2) state initiatives to educate the public including social media marketing and the internet; 3) tracking appointment-keeping behavior to predict which patients need additional follow-up; 4) improved communication between patients and physicians using a “peer coach” model such as the Patient Navigator Program at Massachusetts General Hospital; 5) continuing education programs for physicians; and 6) enhancing free screening programs in Massachusetts.

**Criteria for Evaluation:** The above policy alternatives are evaluated on the basis of three criteria: 1) Economic efficiency; 2) fairness and equity; and 3) feasibility. We conclude that mandating coverage is the most economically efficient policy alternative. Tracking patients’ appointment-keeping behavior and implementing a comprehensive CRC screening program that offers free screening for those who cannot afford it are the most equitable alternatives. A coverage mandate and the use of social media are the most feasible. (Please see Appendix B for a breakdown of the ratings for these criteria).

**Projected Outcomes:** We discuss expected opposition to our policy alternatives (particularly economic cost) as well as expected support and positive externalities including the diagnosis of other diseases that can be detected through CRC screening.

**Policy Recommendation:** Our recommended policy solution is to implement a comprehensive program for CRC education, prevention, and early detection in Massachusetts that incorporates all of our policy alternatives since they each have their unique advantages.

### The Problem

If detected early, colorectal cancer (CRC), cancer of the colon and/or rectum, has a 90 percent cure rate (National Colon Cancer Research Alliance 2011), but it remains the second leading cause of cancer-related deaths in the nation, accounting for 10 percent of cancer deaths overall (Ziegler et. al. 2010). In 2010, the disease claimed over 51,000 lives (American Cancer Society 2011) which could have been saved by a colonoscopy or a combination of other approved screening procedures. Colonoscopies are considered the gold standard for early detection and treatment of CRC and of polyps which can become malignant if not removed. (Please see Appendix A for a list of other approved screening procedures and recommended intervals for screening). The U.S. Centers for Disease Control and Prevention (2010) estimates that as many as 60 percent of CRC- related deaths could be prevented each year if all men and women age 50 and older were screened routinely in accordance with national guidelines. Yet, less than one third of Americans in this age group have ever received a colonoscopy (Brody 2005). Furthermore, a mere 20 percent of doctors follow CRC screening guidelines, either ordering the wrong tests too frequently or the right ones too seldom (Reinberg 2010). Screening is especially important for CRC because this is a “silent cancer” which often has no symptoms until it has metastasized. 75 percent of cases are in people without a family history (Erban et. al. 2001), pointing to the need to increase screening compliance across the board, even among asymptomatic individuals with no apparent risk factors.

The statistics for CRC in Massachusetts are even grimmer than at the national level. Age-adjusted incidence rates of CRC are 9.8 percent higher for males and 8.0 percent higher for females in the Commonwealth than they are nationwide. Age-adjusted mortality rates are 0.9 percent higher for males and 3.8 percent higher for females (Massachusetts Department of Public Health 2010). The fact that more people develop and die from CRC in Massachusetts than in the country as a whole can be attributed to the especially low rates of screening here. In a random sample of adults in Massachusetts, 28 percent had never had any of the recommended screening tests for CRC and a staggering 80 percent had never had a colonoscopy (Erban et. al. 2001). In a state with 75 hospitals

and 33 federally funded and qualified health centers (Henry J. Kaiser Family Foundation 2008), it is unacceptable that so few people are getting screened.

The present report examines the reasons behind the lack of adherence to CRC screening guidelines and explores policy alternatives for increasing compliance with these guidelines in Massachusetts, including best practices used in other states. We then evaluate these policies based on a set of criteria, discuss their projected outcomes, and recommend a policy solution.

### **Policy Alternatives: Strategies for Compliance**

#### *Mandate Insurance Coverage of Colorectal Cancer Screening*

Despite the 2006 Massachusetts health reform law which makes health insurance mandatory, lack of comprehensive coverage is one of the barriers to CRC screening faced by Massachusetts residents and people across the nation. In Massachusetts, the cost of a diagnostic colonoscopy averages between \$1,081 to \$2,017 and if polyps need to be removed, the cost may be as high as \$2,505 (Harvard Pilgrim Health Care 2011). Only 72 to 78 percent of fully insured commercial health insurance plans in Massachusetts voluntarily cover CRC screening according to the recommended guidelines, making the cost prohibitive for many people (Massachusetts Division of Health Care Finance and Policy 2010). Access to CRC screening is a problem not only for the uninsured, but for the underinsured as well.

In its 2001 CRC Report Card, the National Colon Cancer Research Alliance (NCCRA) gave Massachusetts and 17 other states a grade of “F” because they do not currently have any legislation that requires insurance providers to cover CRC screenings. Another three states received a “D” and only 25 states received an “A.” In contrast, all 50 states have laws mandating coverage for breast cancer screening which claimed 111,140 fewer lives than CRC in 2010. In 2009, Vermont was added to the “A list” of states and even states such as Louisiana with much lower incomes per capita than Massachusetts have earned A’s as well (NCCRA 2011). It is shameful that Massachusetts, which is generally a trend-setter in matters pertaining to health care, has received the lowest rating possible for CRC screening.

Beginning in 2014, President Obama's Affordable Care Act (ACA), passed in March 2010 will ensure that "all Americans have access to evidence-based prevention, early detection, and treatment services critical to CRC patients" (ACS, CRC Facts and Figures, 2011). Yet, in the interim, legislation needs to be passed in Massachusetts to save lives during the next three years until the ACA takes effect. We commend the Joint Committee on Public Health and Joint Committee on Ways and Means for sponsoring "An Act Ensuring Access to Life-Saving CRC Screenings" (H.B. 2185) which would mandate coverage of CRC screenings by health insurance plans regulated by the Commonwealth. We hope that the present report will add support to your current efforts to seek passage.

*State Initiatives to Educate the Public: Social Media Marketing and the Internet*

Even when health insurance plans offer coverage for CRC screening, there are other factors that prevent people from following through with these preventive measures. Lack of education about colonoscopies on the part of both patients and physicians as well as patient anxiety about the procedure itself are key reasons for low compliance with screening guidelines. These two reasons are inter-related because patient anxiety is often caused by a lack of knowledge or misguided information. The fact that there are so many screening procedures with different recommended intervals may confuse people, so they simply forego screening altogether.

Other states offer excellent models for using social media marketing and the internet to educate the public about CRC and thus increase compliance with screening guidelines. One of the best state models is Utah's CRC Social Marketing Campaign. Implemented in 2003, the campaign used a combination of old and new media including television, newspapers, magazines, billboards, and the internet. The campaign emphasized that there are no physical symptoms or warning signs of CRC in its early stages and that everyone age 50 and older should get screened regularly. Three years later, Utah saw a 10 percent increase in screening rates across the state. The state's evaluation of the campaign revealed that more than 80 percent of survey respondents recalled seeing the colon cancer spots with nearly 10 percent indicating they had a colonoscopy or other type of screening procedure as a result of seeing the campaign. Utah paid for this initiative with federal funds from the U.S. Centers for

Disease Control and Prevention (CDC) in addition to resources from private sector partners who provided a three-to-one match for every media dollar spent (Hsieh 2008).

While marketing campaigns are useful for providing heightened awareness of an issue within a limited time period, there is also a need for ongoing programs that provide information about CRC screening to the public. Colorado's Cancer Resource Guide provides a central online location for cancer resources including treatment options and financial assistance. The Guide is a non-profit collaborative effort between the Metro Denver Oncology Nursing Society and the Comprehensive Cancer Prevention and Control Program (funded through the CDC) with the Colorado Department of Public Health and the Environment (Colorado Cancer Resource Guide 2011).

Even if a person has insurance coverage and has decided to get screened, there is the additional hurdle of finding a facility that will perform the desired procedure. The Wyoming Comprehensive Cancer Control Consortium (WCCCC) has used the internet to simplify this process through its website which includes an interactive map that allows users to click on a county and find out where cancer screening is available in that county and what types of screening are available at a specific facility. The website also provides information about different types of cancers in the form of toolkits, resource guides, and reports (WCCCC 2011). Programs such as Wyoming's perform an important public service and require no state funds aside from the personnel cost of updating the website.

#### *Track Appointment-Keeping Behavior to Predict Which Patients Need Extra Follow Up*

Poor patient attendance to scheduled colonoscopies is a key reason for low compliance with screening guidelines. Using computerized scheduling data for 23 sites performing endoscopic procedures in the University of Pennsylvania health system, Barbara J. Turner et. al. found that "physician appointment-keeping behavior predicted attendance to colorectal endoscopic studies and may help identify persons who need interventions to promote adherence" (Turner et. al. 2004, p. 528). In Turner's study, almost 40 percent of nearly 12,000 patients did not keep their first scheduled colonoscopy or sigmoidoscopy. Roughly 1,000 persons in this cohort failed to keep two sequential appointments, and nearly 18,000 additional patients did not reschedule. Consistent with other

literature, women, blacks, those with incomes below \$25,000 and those with Medicaid or unknown insurance were less likely than whites, males, those with higher incomes and those with private insurance to keep their first or reschedule their colon study appointment. The authors suggest that patients are reluctant to keep colonoscopy appointments because they find them to be “violating” and “painful” and that patients do not appreciate the risk for colon cancer (p. 530). Socioeconomic barriers are another reason why patients may not show up for appointments.

The fact that so many patients fail to keep their colonoscopy appointments has implications for non-compliance not just for the no-shows, but for other patients who are on waiting lists and cannot receive a colonoscopy because slots have been claimed by people who are missing appointments (Sola-Vera 2008). Colonoscopies require considerable resources including equipment, a physician, anesthesiologist, and other hospital staff, so missed appointments contribute to the rising cost of health care which in turn makes colonoscopies more inaccessible for those who need and want them.

The Massachusetts Legislature can address this problem of no-shows by funding a replica of Turner’s study at one of the major hospitals in Boston to see which colonoscopy patients are not keeping their scheduled physician appointments. The benefits of such a study would be reaped quickly by patients on waiting lists to receive colonoscopies and over time by insurance companies in the form of lower claims as more people get screened and fewer are diagnosed with advanced stage cancer.

#### *Improved Communication Between Patients and Physicians: The “Peer Coach” Model*

Many studies have compared the impact of one communication tool over another on compliance once patients have made the decision to get CRC screening. In a follow up to her earlier study on patients who miss scheduled colonoscopy appointments, Turner used the same health systems data to conduct a randomized control trial to see if receiving an educational brochure in the mail or peer coach support was a more effective intervention for improving attendance (Turner et. al. 2007). 275 patients were randomly assigned to a control group which did not receive any intervention or one of two “treatment groups,” where they either received a

brochure or a call from a coach.<sup>1</sup> In a model with the groups that received support, the peer coach group had over two-fold higher adjusted odd-ratios of keeping the colonoscopy appointment compared with the brochure group. These findings also held true in a model of all patients including those in the control group. The peer coach was endorsed by 80 percent as “very helpful.” Patients in that group appreciated being able to hear about another person’s experience with colonoscopy and cited dissatisfaction with their doctor for not addressing their concerns. Turner’s study reveals the importance of interpersonal communication in changing behavior. A brochure can easily be thrown away, but an engaging conversation with a well-trained coach who can empathize with the patient’s anxiety may be more influential.

Massachusetts could use state and federal Medicaid dollars to train and hire peer coaches across the Commonwealth who will contact low income patients to counsel them about what to expect from a colonoscopy. This will create jobs in addition to improving screening compliance. MGH already has a “CRC Screening Navigator Program,” which is very similar to a peer coach program and is targeted at reducing disparities in screening rates among minority patients (MGH Cancer Center News 2011). This existing infrastructure can be used as a foundation for replication at other hospitals and physician offices across the state. Delaware’s statewide Patient Navigator Program has resulted in screening rates as high as 74 percent (Hsieh 2008).

#### *Continuing Education Programs for Physicians*

As previously noted, many physicians are unaware of CRC screening guidelines and either order tests too frequently or too seldom. In a study looking at primary care physicians’ familiarity of CRC screening guidelines, Ami Schattner et. al. found that only eight percent of these physicians recommended colonoscopies and sigmoidoscopies at the proper intervals. Schattner concludes that primary care physicians endorse screening, but are unaware of the guidelines and do very little to implement them (Schattner et. al. 2002). In a study of 155 VA primary care clinics, Elizabeth Yano et. al. found that nearly one third of primary care physicians rely on single sample, in-office FOBT tests to determine if a patient is at risk for colon cancer, even though this is the least accurate method of CRC screening. Another third only recommend repeat FOBT after a positive test (Yano et. al.

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<sup>1</sup> The peer coaches were patients themselves who had previously undergone a colonoscopy and were nominated by their physicians on the basis of being strong communicators. All coaches received training which included viewing Katie Couric’s colonoscopy video.



2006). Over-referral is just as much of an issue as under-referral because patients who do not need colonoscopies are taking appointment slots that could be used by patients who need them, resulting in the same problem created by no-shows. At the same time, many patients who need colonoscopies are uneducated about the screening guidelines and are not being informed by their doctors.

In a National Cancer Institute survey of 1,266 primary care physicians in the U.S., Robin Yabroff et. al. found that physicians in single-specialty or multi-specialty practices were more likely to follow guidelines than those in solo practices. This could be because physicians who work with others are exposed to sources of medical information from their colleagues. Therefore, the Legislature could work with the Massachusetts Medical Society to hold more conferences that encourage dialogue between physicians with a focus on preventive measures. Another policy solution is for the Massachusetts Board of Registration in Medicine to require that physicians take a course or workshop on preventive screening guidelines every few years. Since the problem is mostly among physicians over 40 (Yabroff et. al. 2007), programs should be targeted toward physicians who have been out of medical school for at least five years. UMass Medical School could require similar training for students entering primary care or gastroenterology so that new physicians are informed of the proper guidelines.

#### *Enhance Free Screening Programs in Massachusetts*

The Massachusetts Comprehensive Control Coalition Plan (MCCCCP) for 2006-2011 had a goal of increasing the percentage of adults age 50 and over who had received FOBT, sigmoidoscopy, or colonoscopy from 67.4 percent in 2003 to 85 percent in 2011 (MCCCCP 2006), but screening rates in the Commonwealth have remained stagnant since the Plan's publication (MGH 2011). The Massachusetts CRC Working Group has made some strides in raising awareness of screening and making it available for underserved populations, but there is much room for improvement.

The Colorado CRC Screening Program provides free screening for low income residents with a focus on those in rural areas. Participating providers are reimbursed at Medicare-allowable rates for their services. Since its inception in 2006, the Program has screened 2,000 people with 14 diagnoses of CRC and nearly 1,000 polyps removed. 450 of these polyps were the adenomatous kind, most likely to develop into cancer. As an incentive to

rural health care facilities providing screening, the Colorado Cancer Consortium reimburses these facilities \$55 for each screened patient. Funding for the Program comes from the state's tobacco settlement funds (Hsieh). A similar program in Massachusetts could provide free screening for underserved populations with a special effort to increase screening rates in Plymouth and Berkshire counties which have the highest CRC death rates in the Commonwealth at 19.3 and 19.7 percent respectively as of 2007 (National Cancer Institute 2007). Both of these are rural counties with a limited number of hospitals.

### **Criteria for Evaluation**

#### *Economic Efficiency*

Noted political scientist Deborah Stone defines "efficiency" as "getting the most out of a given input" or "achieving an objective for the lowest cost" (Stone 1988, p. 61). If the objective is to increase compliance with CRC screening guidelines in order to reduce mortality from CRC, the economic input is the dollars spent to raise awareness of screening and to make screening available for those who cannot afford it. The output is the number of screenings performed as a result of a given intervention and the number of lives saved (based on the number of people who have polyps removed). If benefits exceed costs, the intervention can be deemed efficient (Weimer and Viding 1989). The Massachusetts Legislature must take into account not just how public dollars are being used, but also how its decisions impact the fiscal sustainability of individual patients, hospitals, insurance companies, and other stakeholders.

Abundant evidence exists to support the economic efficiency or cost-effectiveness of legislation requiring insurance coverage of CRC screenings for people starting at age 50 and for younger individuals with a family history of the disease. The U.S. Preventive Services Task Force (USPSTF), American Cancer Society (ACS), and American Gastroenterological Association (AGA) all recommend universal screening in this population because numerous studies have shown that one's chances of developing CRC significantly increase with age. 80 percent of diagnosed cases of CRC occur in patients older than 55 years (USPSTF 2008).

The above organizations endorse colonoscopies over other types of screening such as FOBT and sigmoidoscopy. While these screening options are less expensive than colonoscopies, they save fewer life years

(Berhane and Denning 2009). Over time, colonoscopies are also the most cost-effective. In a study comparing the cost-effectiveness of 22 screening protocols, A. Lindsay Frazier, M.D., a physician at Harvard Medical School found that colonoscopy every 10 years is actually cheaper than annual FOBT along with 5-year sigmoidoscopy over time, assuming a person gets three to four colonoscopies over a lifetime instead of annual FOBTs and more frequent sigmoidoscopies at age 50 (Newman 2011).

Mandating insurance coverage of CRC screening is the most efficient strategy for improving compliance with screening guidelines. Given that coverage is the gateway to preventive care for the vast majority of Massachusetts residents, this policy change will impact the most people and will not cost the state any money directly. The cost of this intervention lies on insurers in the form of claims and potentially on individuals and employers in the form of increased premiums. Yet, insurance companies will save money in the long run, many lives and families will be saved, and the Commonwealth will have a healthier, more productive workforce. Other states with coverage mandates have seen considerable improvements in screening rates (NCCCA 2001). Without coverage, it makes no difference how many media campaigns or communication initiatives we implement. Many people who want and are eligible for screening will not be able to afford it.

With the cost of chemotherapy on the rise, screening is becoming increasingly cost-efficient. One study found that “compared with no screening, the treatment savings from preventing advanced CRC and CRC deaths more than doubled with the widespread use of new chemotherapies.” Furthermore, “the lifetime average treatment savings were larger than the lifetime average screening costs” for a range of screening modalities” (Lansdorp-Vogelaar et. al. 2009). Compared with no screening, the incremental cost-effectiveness ratio of a single or repeated colonoscopy amounts to \$2,891 or \$10,983 per life year saved, respectively (Sonnenberg and Delco 2002). When detected early, the cost of treatment for CRC is estimated at \$30,000 compared to upwards of \$120,000 to treat a patient in the last stages of the disease (NCCRA 2001). These statistics support the fact that a coverage mandate is in the long term best interest of insurance companies.

Social media marketing has the least expensive inputs of our suggested policy alternatives because it offers a cost-free, instantaneous means of communicating messages to the public and influencing consumer

behavior including the pursuit of preventive care. Yet, outputs are more difficult to measure. Utah saw a 10 percent increase in screening rates across the state as a result of its marketing campaign (which also included non-social media), but there is no way to prove causation between the optimistic results of the post-campaign survey and the interventions. Colorado and Wyoming's web-based initiatives provide cancer resources and information on where screening is available respectively, but the states did not track how many users viewed the sites or received screening as a result.

Tracking the appointment-keeping behavior of patients in Massachusetts as Turner did in Pennsylvania would require considerable resources including public dollars and possibly funds from a charitable grant and any participating hospitals. Turner does not indicate the upfront cost of her study (inputs) and she does not provide data on the number of appointment-delinquent patients who might receive screening if they did receive a follow up brochure or phone call, making the outputs uncertain. The same problem with inputs holds true for Turner's study on physician-patient communication; however, for outputs, she does provide data on the number of patients who responded positively to the peer coach intervention. To accurately assess the efficiency of such an intervention in Massachusetts, a study needs to be conducted of the Patient Navigator Program at MGH to see how many patients receive colonoscopies after a conversation with a "coach."

Continuing education programs for physicians would require minimal resources (inputs) from the Commonwealth and the outputs could be substantial. Working with local organizations to hold more medical conferences and requiring that physicians take courses every few years could improve appropriate referrals for screening and pour money into medical societies and medical schools in the form of registration fees. Implementing a free-screening program like Colorado's with an emphasis on rural counties would require considerable state funds and only benefit a small percentage of the population. With high inputs and low outputs, this program yields the least efficient cost-ratio of all our policy alternatives.

### *Fairness and Equity*

Stone defines "equity" as "the study of who gets what, when, and how" (Stone 1988, p. 39). In order to get CRC screening at recommended intervals, one must be educated about the guidelines in the first place and

screening needs to be affordable. Technically, all Massachusetts residents have *equal opportunity* to colonoscopies, but not everyone has *equal access*.

Tracking patients' appointment-keeping behavior, expanding the Patient Navigator Program at MGH, and implementing a comprehensive CRC screening program that offers free screening for those who cannot afford it are the three most equitable policy alternatives because they target underserved populations in the inner city and rural areas who otherwise would not have access to screening or would fail to follow through with it. While they may be economically inefficient, some may argue that these interventions place public dollars where they are needed most.

Social media marketing strives to address the problem of “equal slices, but unequal invitations” of the economic pie (Stone 1988, p. 40). In theory, the internet makes information readily available to “everyone,” so a media campaign would tell “all Massachusetts residents” to get screened and people could no longer say “I would have gotten a colonoscopy if only I had known.” At the same time, social media marketing may be the least equitable policy alternative because it does not solve the problem of “vertical equity” or “unequal treatment of people in different ranks” (Stone 1988, p. 44). People who cannot afford a computer or internet access will not be able to take advantage of online resources. Likewise, regulating continuing education programs for physicians will only impact Massachusetts residents who can afford to see a physician in the first place.

Mandating coverage of CRC screening also does not solve the problem of “vertical equity” even though it would supposedly make screening available to everyone in the Commonwealth. As of the 2006 health reform law, all Massachusetts residents are required to have health insurance, but deductibles and co-insurance often apply both for private insurance plans and for Medicare. The latter covers CRC screening according to the guidelines, but a deductible is applied if polyps need to be removed during a colonoscopy (U.S. Department of Health and Human Services 2011). For low or middle income seniors without supplemental (Medicare Advantage) plans, this could be a deterrent from seeking screening. Transportation may also be an issue for low income individuals who have MassHealth or other insurance that covers CRC screening, but do not have the social support network or financial resources to travel to or from the appointment. The bottom line is that requirements for insurance

coverage should be consistent with national screening guidelines endorsed by the USPSTF, ACS, and AGA. Otherwise, the guidelines merely represent a recommendation that is unattainable for many people.

### *Feasibility*

Mandating insurance coverage of CRC screening is the most politically feasible way of addressing the problem of noncompliance for reasons that can be made clear using John Kingdom's agenda setting model. Kingdom identifies "three streams or dynamic processes that must be moving at the same time" for any major policy to occur. These include the *problem stream*, *political stream*, and the *policy stream*. The most important stream for feasibility is the *political stream*, "the sense among those with the power to act that the timing for action is right in relation to public sentiment and consistency with other policy objectives" (McDonough 240).

Many interest groups have expressed support for insurance coverage of CRC screenings in the Commonwealth. The ACS has made passage of H.B. 2185 a legislative priority this year (ACS 2011-2012 Legislative Priorities 2011). The Massachusetts Public Health Association (MPHA) has voiced concern that Governor Patrick's elimination of the Health Promotion and Disease Prevention Program will result in a the loss of free screenings for "hard-to-reach" individuals. In FY 2011, this program provided CRC screenings for 1,500 people in addition to many other services (MPHA 2011). The presence of other bills related to illness prevention indicate that now is a prudent time to act. For example, S.1105 would establish a State Health Service Corps to provide comprehensive team-based health care at community health centers for the medically underserved (Massachusetts Legislature 2011). The fact that so many other states have successfully mandated CRC coverage and the wealth of data supporting national screening guidelines signifies that passage of H.B. 2185 is more than just a feasible goal in Massachusetts.

Our other policy alternatives vary in feasibility. The cost of tracking patient appointment-keeping behavior or assessing the effectiveness of the Patient Navigator Program at MGH and expanding it statewide may make these interventions politically unpopular since the outputs are difficult to define. In the current fiscal climate, implementing a comprehensive screening program similar to Colorado's will also be challenging. Mandating continuing education programs for physicians may result in a backlash from the American Medical

Association which has historically resisted regulation of its members. Social media marketing is low cost and very feasible, but it is hard to track how many people respond to it. In contrast, with a coverage mandate, the state can track how many residents receive screening who were previously not eligible.

### **Projected Outcomes**

#### *Expected Opposition to Policy Alternatives*

Economic cost is usually the first ground on which any policy alternative is contested. In the case of a coverage mandate, insurance companies will claim that the upfront costs of covering colonoscopies will not be offset in the form of lower chemotherapy and hospice costs in the long term. They will also claim that a mandate will result in higher premiums creating more harm than good. We counter-argue that prevention will ultimately pay off even if it is difficult to measure. More to the point, insurance coverage should be consistent with national screening guidelines regardless of cost because it is the right thing to do.

An actuarial review of H.B. 2185 by the Division of Health Care Finance and Policy (DHCFP) shows that the estimated five year fiscal impact of the bill on Massachusetts health care premiums would be an increase in total spending (including both claims spending and administrative expenses) of \$0, \$15 million, and \$30 million for low, medium, and high impact scenarios respectively. As insurance companies will be quick to point out, the Division also notes that the bill will increase the overall cost of the health care delivery system in the Commonwealth; however, actuarial estimates of increased spending *do not* include the estimated impact on cost avoidance from increasing the rate of CRC screenings (DHCFP 2010, p. 28).

We do not anticipate any objection to social media. In fact, insurance companies are likely to support that proposal because it is cost-free and does not require much regulation; however, if CRC screening is not covered, no amount of media attention will make a colonoscopy possible for someone who is underinsured. As with coverage, the projected opposition to our other policy alternatives is cost-based as well. Many of them are targeted toward the most vulnerable members of the population and it is difficult to quantify the anticipated outputs. For a policy to gain widespread appeal, it is best if a large number of people can benefit from it.

### *Expected Support and Positive Externalities*

As suggested from the response of interest groups to H.B. 2185, there is already broad-based support of a coverage mandate for CRC screening in Massachusetts. If the bill becomes law, we expect that money will be saved over the long term and most importantly, lives will be saved. We also anticipate strong public support for our other policy alternatives since they all have their advantages. Social media is on the rise and many patients would feel reassured if they knew that their physician was staying up-to-date on preventive screening guidelines. As evidenced from Turner's 2007 study, people appreciate having a "coach" to speak with about the colonoscopy process and if the economic outputs can be quantified, most people would probably support a comprehensive screening program similar to Colorado's.

Positive externalities are also part of the projected outcomes for getting screened. Other diseases besides CRC may be diagnosed in the process of screening such as Irritable Bowel Syndrome or Crohn's Disease, potentially saving even more lives. Getting CRC screening also encourages physician-patient communication and enables a patient to take a proactive role in their personal health and wellbeing.

### **Recommended Policy Solution**

Based on the above evidence and analysis, our recommended solution is to implement a comprehensive program for CRC education, prevention, and early detection in Massachusetts that incorporates all of our policy alternatives since they each have their unique advantages. At the program's core is the passage of H.B. 2185. A coverage mandate does not solve all problems of fairness and equity, but it receives high marks on efficiency and feasibility. The costs can be economically justified and many other states have already seen positive outcomes from such mandates. Only 37 percent of CRC patients are diagnosed in the early stages of the disease (Colon Cancer Alliance 2011), so making screening accessible through insurance coverage is essential.

Due to their high ratings for fairness and equity, we also recommend (in order of priority) that 1) the Legislature fund a study tracking patient appointment-keeping behavior using data from the Partner's Health Care system, using Turner's 2004 study as a model; 2) fund a study to assess the effectiveness of the Patient Navigator Program at MGH to determine how many patients attend scheduled colonoscopies after being contacted by a "peer coach"; 3) fund an expansion of the MGH Patient Navigator Program statewide once any areas of concern



have been addressed; and 4) fund a free Massachusetts CRC screening program based on the one in Colorado that is targeted to underserved populations, especially those who cannot afford screening because of insurance deductibles. The study on appointment-keeping behavior should be done first so that it can be used as a baseline for determining which patients need extra follow up. Assessment and refinement of the Patient Navigator Program at MGH guarantees that these follow up procedures are based on best practices.

Although its expected outputs are uncertain, we recommend that social media be used to educate the public about the new CRC screening program and to inform people about screening facilities in each county as Wyoming has done. We suggest that when colonoscopy patients sign a consent form for the procedure they also be asked what prompted them to get screened with one of the options being social media. This will help track the success of social media initiatives as well as provide insight into ways to encourage screening. Of lower priority is funding physician education programs. While the economic efficiency rating for this policy alternative is high, the red tape involved would be considerable and there are faster, more immediate ways to encourage screening and make it more accessible.

\$8.4 billion is spent in the United States on CRC treatment every year (Hsieh 2008). If some of that money was spent on prevention instead of treatment, thousands of lives would be saved in Massachusetts and more funds would be available to cover other services in a climate of scarce resources. The above recommendations provide a starting point for making Massachusetts on par with other states that have been more effective in fighting CRC. We applaud the Legislature for recognizing the importance of this issue and are available to testify in support of H.B. 2185.

## **Appendix A**

### **Recommended CRC Screening Guidelines**

Colonoscopies are the preferred method of screening for CRC, but other less invasive methods of screening are available which can indicate whether a colonoscopy is necessary. If used appropriately, these alternate types of screening can bring a patient into compliance with the guidelines. The American Cancer Society (ACS), the U.S. Preventive Services Taskforce (USPST), and the American Gastroenterological Association (AGA) recommend screening beginning at age 50 for average risk individuals (DeBourcy et. al. 2005). Earlier testing is advised for those with a family history of the disease. The ACS (2010) recommends that a flexible sigmoidoscopy, double-contrast barium enema, or CT colonography (virtual colonoscopy) be performed every five years and followed by a colonoscopy if the results are positive, or that a colonoscopy be performed every ten years. All of these tests have the potential to find cancer and detect precancerous polyps, but a colonoscopy is the most thorough procedure since it scans the entire colon. If a colonoscopy reveals polyps or early tumor growth, doctors are advised to schedule a follow up colonoscopy much sooner than the next ten year benchmark. Other tests which primarily find cancer, but cannot detect precancerous polyps include fecal occult blood tests (FOBTs) and fecal immunochemical tests (FITs) which can be performed every year, and stool DNA tests for which screening intervals are uncertain. While many doctors order these tests, the ACS does not recommend them if one of the more comprehensive tests is available.

Electing to get a colonoscopy eliminates the inconvenience of undergoing screening at frequent intervals, assuming results are negative. That said, colonoscopies are the most invasive of the testing options and require considerable preparation on the patient's part. As a result, compliance with colonoscopy screening is much lower than that of other types of screening even though it is the most effective at detecting polyps and cancer.

## Appendix B

### Weighing Criteria for Policy Alternatives

**Table 1: Efficiency**

Policy Alternative	Inputs	Outputs	Efficiency Rating
Insurance Coverage Mandate	High	High in short term; will pay off in long term	<b>Very High*</b>
Social Media	Low	Uncertain	Uncertain
Tracking Appt. Keeping Behavior	High	Uncertain	Uncertain
Peer Coaches	Moderate	Uncertain	Uncertain
Continuing Ed. for Physicians	Low	High	High
Free Screening Program	High	Low	Very Low

\* Cost of chemotherapy is on the rise.

\* Average lifetime treatment savings are higher than average treatment costs.

\* \$30,000 if detected early vs. \$120,000 if detected late.

\* Plenty of evidence to support a coverage mandate.

**Table 2: Fairness/Equity**

Policy Alternative	Equity Rating	Problems
Insurance Coverage Mandate*	Low	Cost of deductibles, transportation
Social Media*	Very low	Many people don't have access to a computer/internet.
Tracking Appt. Keeping Behavior	<b>High</b>	
Peer Coaches	<b>High</b>	
Continuing Ed. for Physicians	Moderate	Only help those who have access to a MD
Free Screening Program	<b>High</b>	

\* Strives to address "equal slices, but unequal invitations"; however, does not solve problem of "vertical equity" or unequal treatment of people in different ranks."

**Table 3: Feasibility**

<b>Policy Alternative</b>	<b>Feasibility Rating</b>	<b>Comments</b>
Insurance Coverage Mandate	<b>Very High</b>	Many other states have done it, current bill pending, interest group support
Social Media	High	Hard to track output
Tracking Appt. Keeping Behavior	Moderate	Hard to track output
Peer Coaches	Moderate	Hard to track output
Continuing Ed. for Physicians	Moderate	Potential backlash from AMA
Free Screening Program	Very Low	Expensive- budget issues

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