

EXAMINING PREVENTATIVE COLORECTAL CANCER SCREENING TRENDS: PROVIDER PRICE VARIATION AND COST DRIVERS

LYDEN MARCELLOT, MA; DAVID AUERBACH, PhD



INTRODUCTION

Cancer is second to cardiovascular disease as a leading cause of death in the U.S., and colorectal cancers (CRC) account for the second-largest share of U.S. cancer deaths. The lifetime risk of death from CRC is roughly 1.45%.¹ Both incidence of, and mortality from, CRC declined by roughly half in the U.S. over the past several decades.²

Screening of healthy, asymptomatic patients can detect certain indicators associated with CRC, and several screening methods have been recommended at various intervals by the U.S. Preventive Services Task Force (USPSTF) for all individuals aged 45 to 75 (moderate or substantial net benefit from screening).³

OBJECTIVES

The USPSTF recommends a variety of modalities and strategies to screen for colorectal cancer. This includes both stool/DNA-based methods (e.g., Cologuard) and more invasive direct visualization techniques (e.g., colonoscopy). When receiving a direct visualization screening, patients may also receive varying levels of anesthesia (i.e., moderate or heavy sedation) and/or require certain additional supplies or services, such as polyp removal, biopsy, or pathology to examine any removed tissue.

Given the vast cost differences across these methods, recent controversy surrounding use of full sedation for colonoscopy, and the substantial aggregate expenditure and tradeoffs of CRC screening, the Massachusetts Health Policy Commission (HPC) examined trends and provider variation in CRC screening methods.

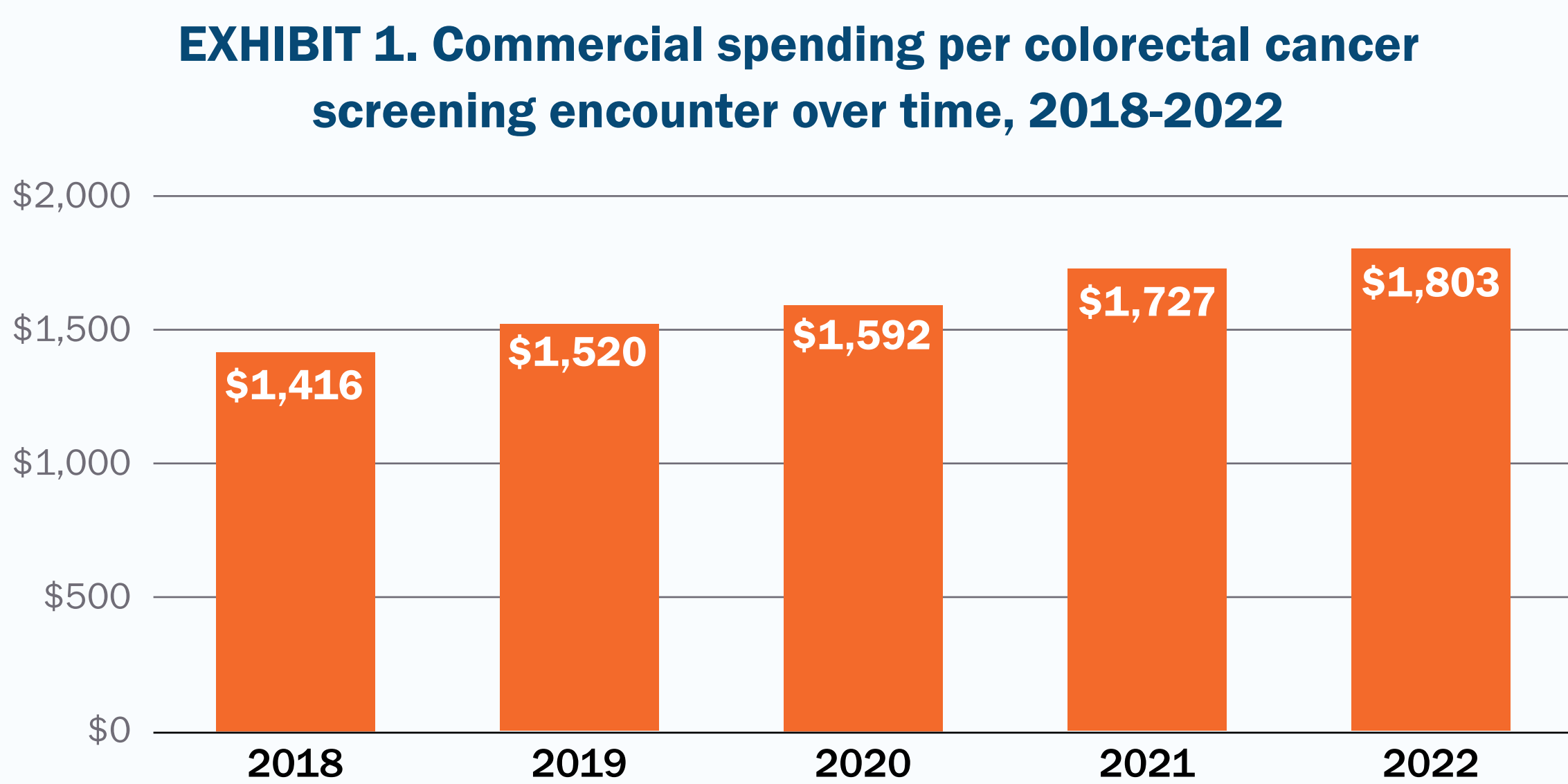
STUDY DESIGN

The HPC used outpatient medical claims from the Massachusetts All-payer Claims Database (APCD) from 2018 to 2022 for members aged 45 to 64 with commercial insurance. These claims came from the six largest commercial payers in the Commonwealth. Claims provided to the same member and on the same day were grouped into CRC screening encounters. Provider-level analyses included members attributed to a provider organization based on their primary care visits.

CRC screening modalities examined include stool-based methods (Cologuard, gFOBT, FIT) and direct-visualization (colonoscopy, sigmoidoscopy, and CT colonography). For simplicity, direct visualization techniques were grouped together as colonoscopy and characterized by level of sedation for the procedure (full versus moderate sedation). Direct visualization procedures where the type of anesthesia could not be determined were included in spending but excluded from exhibits by screening modality. Procedures, supplies and services were identified through a combination of HCPCS/CPT procedure codes, ICD-10 diagnosis codes, revenue codes and procedure modifiers.⁴

CRC screening encounters were defined as ambulatory encounters involving patients of average risk (e.g., previous personal or family history of CRC), related chronic conditions (e.g., irritable bowel disease, ulcerative colitis), or symptoms such as bleeding (diagnostic or surveillance). Screening encounters occurring in inpatient, emergency department, observation or urgent care settings were excluded, as were incomplete procedures or those with reduced services.

RESULTS

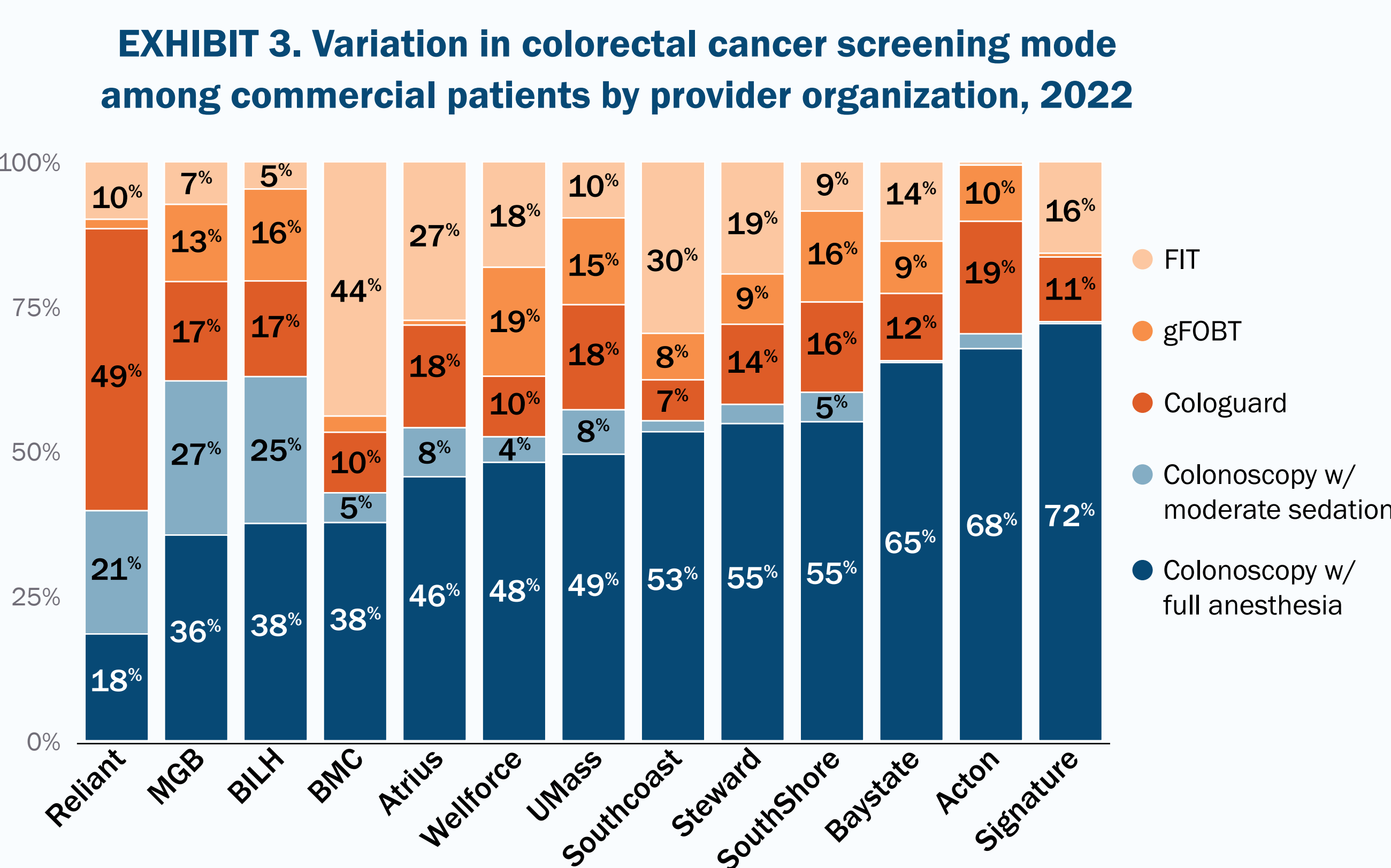
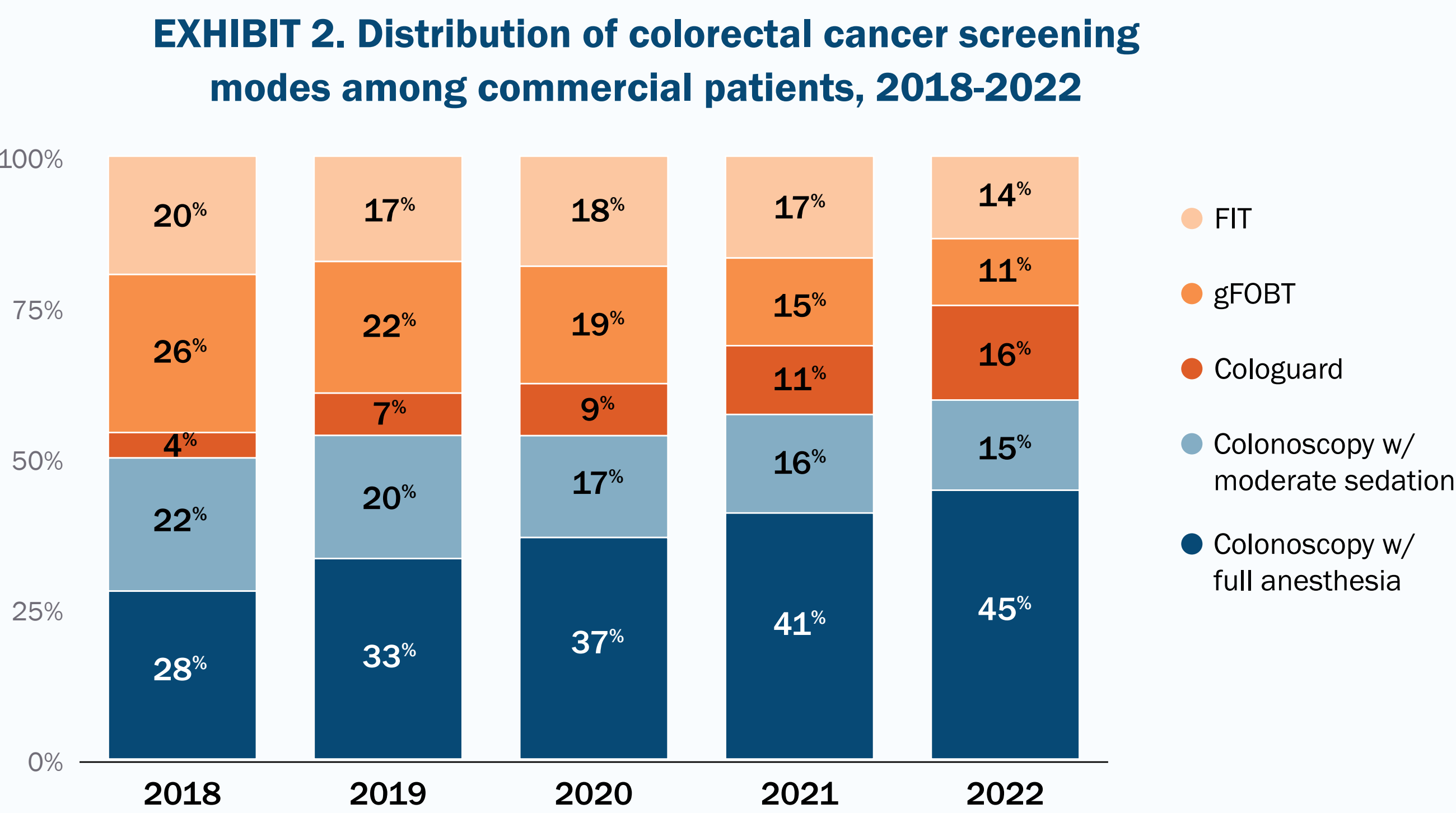


Approximately 4.3 percent of the commercial population was screened for CRC in 2022 using any of the CRC screening modalities. This resulted in approximately \$285 million in spending – more than 1 percent of all Massachusetts commercial healthcare spending that year. Colonoscopy accounted for the vast majority of this spending.⁵

From 2018 to 2022, spending per screen increased 27 percent from \$1,416 to \$1,803 (**Exhibit 1**). Approximately half of the increase was due to a shift in screening methods, with increasing use of colonoscopy and decreasing use of FIT and gFOBT (stool-based). From 2018 to 2022, colonoscopy increased from 50 to 60 percent of CRC screenings, with an increasing share of colonoscopies including the use of full anesthesia (**Exhibit 2**).

Screening modes varied extensively by provider organization, with some organizations favoring stool-based methods and some favoring colonoscopy (**Exhibit 3**). Reliant and Boston Medical Center patients were the least likely to use colonoscopy as a screening tool (less than half of patients) and most likely to use stool-based methods, though Reliant patients mostly used Cologuard over FIT (with a ratio of roughly 5:1).

Some organizations favored full sedation (monitored anesthesia care) over moderate sedation for providers who favored colonoscopy. For example, groups such as Signature Brockton, Baystate, and Acton Medical used colonoscopy with full anesthesia as their predominant screening tool.



CONCLUSIONS

From 2018 to 2022 in Massachusetts, spending per person on CRC screening increased. This was driven by a shift in CRC screening modalities favoring increased use of the more invasive direct visualization techniques over stool-based methods. During this time, there was also increasing use of full sedation over moderate sedation for colonos-

copies, which requires additional service providers and leads to greater overall spending. Underlying these trends was provider variation in the mix of screening provided to their attributed members, with some providers increasingly favoring the most expensive screening modalities.

POLICY IMPLICATIONS

Trends in the mix of CRC screening modalities suggest opportunities for payer, provider, and policy communities to better understand the underlying drivers of variation to improve care delivery and patient outcomes. Understanding the value of services is also important, since increasing spending raises premiums for all patients. The use of full sedation

and the more expensive stool/DNA-based methods are part of a trend towards greater intensity of care, despite not showing a clear clinical benefit for patients and posing a small risk of complications. Policymakers should consider payment policies that reduce differences in the profitability between higher-intensity and lower-intensity care.

CONTACT

Lyden Marcellot, MA,
Senior Manager
Research and Cost Trends,
Health Policy Commission
Lyden.Marcellot@mass.gov

David Auerbach, PhD,
Senior Director
Research and Cost Trends,
Health Policy Commission
David.Auerbach@mass.gov



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1. National Cancer Institute: Surveillance, Epidemiology and End Result (SEER) program: <https://seer.cancer.gov/statistics-network/explorer>.

2. Siegel RL, et al. "Colorectal cancer statistics." CA: A Cancer Journal for Clinicians. March 2023.

3. US Preventive Services Task Force. "Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation." Health Affairs. May 2021.

4. A complete listing of codes can be found here: https://masshpc.gov/sites/default/files/2024_cth-technical-appendix.pdf.

5. Screening colonoscopy accounted for approximately \$260 million in commercial spending in Massachusetts in 2022. A national study found that screening colonoscopy accounted for \$23.7 Billion in spending in the U.S. as a whole in 2021, more than half of combined spending for all types of screening for colorectal, breast, cervical, lung and prostate cancer combined. See Halpern et al. (2024), "The Annual Cost of Cancer Screening in the United States." Annals of Internal Medicine (August 6, 2024), <https://www.acpjournals.org/doi/10.7326/M24-0375>.