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Activity description	Practicing evidence-based medicine (EBM) is important in today's health care environment. This model of care offers clinicians a way to enrich quality, provide patient satisfaction, reduce costs and improve outcomes. A common implementation of EBM involves the use of clinical practice algorithms during medical decision-making to encourage optimal care. This widely recognized practice is designed to address the persistent problem of clinical practice variation with the help of actionable information at the point of care. These e-newsletters enable health care professionals to put new EBM into practice.
Learning objectives	• Critically evaluate emerging clinical evidence and assess how new data may inform, refine or challenge existing standards of care across multiple therapeutic areas. • Apply principles of evidence-based patient-centered decision-making by weighing clinical benefits, risks, costs and patient preferences when considering diagnostic, surveillance or treatment strategies. • Identify opportunities to modify or avoid low-value clinical practices, including situations involving overdiagnosis, overtreatment or unnecessary interventions, in order to improve quality and reduce potential patient harm.

Accreditation statement

In support of improving patient care, this activity has been planned and implemented by Optum Health Education and Optum Health. Optum Health Education is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE) and the American Nurses Credentialing Center (ANCC), to provide continuing education for the health care team.



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The American Academy of Nurse Practitioners Certification Program (AANPCP) accepts credit from organizations accredited by the ACCME and ANCC.

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Commercial support

No commercial support was received for this activity.

How often should patients with a history of 1–2 small polyps undergo colonoscopy?

One of the most significant concerns with colonoscopy is the high rate of detection of unimportant polyps, including hyperplastic polyps and small tubular adenomas (< 10 mm). Over the past decade, the detection of small tubular adenomas has increased such that they are currently found in a mean of 38% of all patients being screened, with some studies suggesting rates as high as 60%.¹ Of all resected polyps, 88.4% are less than 10 mm.² These patients are then typically placed on an accelerated surveillance regimen, most often at 5 years. A substantial proportion of colonoscopies are performed for polyp surveillance, contributing to overall healthcare utilization. Most of these patients have 1–2 small adenomas. As noted below, the literature does not suggest an increased colorectal cancer (CRC) risk in these patients. This is a concern given the cost and the potential complication rate of colonoscopy, particularly in those over age 75, where up to 6.8% of seniors will have an emergency department visit or hospitalization within 30 days of a colonoscopy.³

To estimate the risk of cancer in small polyps, the largest single center study examined over 42,000 polyps that were less than 10 mm in size, which were resected from over 15,000 patients undergoing colonoscopy.²

- Of over 23,000 conventional polyps, 97.6% were tubular adenomas
- Of over 14,000 serrated lesions, 95% were hyperplastic
- No cancers were identified among the 42,000 polyps

This study also reviewed the literature of similar smaller studies. In a pooled analysis of over 30,000 polyps, the incidence of cancer was under 1 in 5,000. With respect to polyp histology, studies have shown that interpretation of villous elements and dysplasia grade in small polyps is subject to extreme interobserver variation and poor agreement even among experts.² These features have caused the British Society of Gastroenterology to ignore villous elements and dysplasia grade in their post-polypectomy surveillance guidelines.

To help determine if there is value in continuing colonoscopy surveillance for polyps in those over age 75, an important study was just published in *JAMA*.¹ It looked at the incidence and mortality of CRC in 92,000 seniors over 75 years of age, divided into two cohorts: one with and one without a prior polyp history, with both cohorts having a colonoscopy.¹

- After 10 years of post-colonoscopy follow-up, the difference between the two cohorts in CRC incidence was 0.4% (0.7% in the no polyp history cohort and 1.1% in the polyp history cohort).
- The difference in CRC death between the two cohorts was much smaller at 0.1% (0.4% vs. 0.5%, respectively), which was not statistically significant or clinically meaningful.
- Patients with a prior polyp history were 97 times more likely to die from other causes than to die from CRC.

In summary, the incidence of CRC and CRC-related death was very low in both cohorts of patients, and only minimally higher in the prior polyp cohort, which contributed negligibly to the overall mortality of that cohort. As the authors stated: “These findings raise major questions about the clinical relevance of surveillance colonoscopy in older adults with prior adenomas after reaching 75 years.”

Ultimately, the important question to be addressed is: How often is repeat colonoscopy indicated in patients with one or two small tubular adenomas?

In 2022, the U.S. Multi-Society Task Force on CRC updated their polyp surveillance guidelines.⁴ That document, as well as the European Society of GI Endoscopy update,⁵ form the basis for the following recommendations.

Advanced adenomas (defined as size $\geq$ 10 mm [1 cm] with villous or tubulovillous histology, and/or high-grade dysplasia) are associated with an increase in CRC incidence and require surveillance colonoscopy at designated intervals, based on polyp size and number.⁴ However, in patients with 1–2 small adenomas, these are referred to as “non-advanced adenomas.”

Several studies that examined future CRC risk in these patients found the same or up to 32% lower risk in these patients compared to the general population. This reduced risk is likely because these individuals have had a colonoscopy exam that did not reveal a CRC or advanced adenoma, and therefore this may selectively represent a “lower-risk population.” The updated U.S. American Gastroenterology Association guidelines therefore state that:

“New evidence suggests that most adenoma patients (such as those with 1-2 small adenomas) are at lower-than-average risk for subsequent CRC than the general population after baseline polypectomy.”

Nonetheless, despite the above statement of equal to or lower than average risk, the consensus guideline then goes on to state:

“For patients with 1-2 tubular adenomas < 10 mm in size completely removed at a high-quality examination, we recommend repeat colonoscopy in 7-10 years (strong recommendation, moderate quality of evidence). We suggest that physicians may reevaluate patients previously recommended an interval shorter than 7-10 years and reasonably choose to provide an updated recommendation for follow-up between 7 and 10 years after the prior examination that diagnosed 1-2 adenomas, < 10 mm.”

It therefore appears we have finally gotten over the hurdle of every-5-year surveillance in these individuals, and we should no longer be recommending this for our patients with 1-2 small adenomas. Unfortunately, when considering a recommendation for 10-year rather than 7-year surveillance, the guideline states:

“We considered a recommendation of 10 years alone rather than a range of 7- to 10-year follow-up after removal of 1-2 adenomas, < 10 mm in size, given that evidence supports that these patients are at lower-than-average risk for CRC. The 7- to 10-year range was chosen because of ongoing uncertainty regarding whether the observed lower-than-average risk for CRC could be reduced further by exposure to surveillance, and also because we cannot rule out the possibility that exposure to surveillance colonoscopy in some studies contributed to the low risk of CRC observed in these patients.”

Based on available evidence, addressing a group of patients with a lower-than-average risk of CRC and subjecting them to more intense surveillance than the general population in hopes of further reducing that risk would not be cost-effective. It also has the potential to cause harm from unnecessary colonoscopies. These findings would also support prioritization of screening among unscreened populations. Interestingly, in contrast to the U.S. guideline, the European guideline now recommends a return to a 10-year interval for patients who are found to have 1-4 small adenomas, < 10 mm in size, or one sessile serrated polyp < 10 mm in size, irrespective of histology unless high-grade dysplasia is present. These differences reflect ongoing uncertainty and variation in interpretation of long-term risk data. The more conservative European guideline is based on a 13-year follow-up study of 16,000 post-polypectomy patients showing that those with 3 or more non-advanced adenomas had no increased risk of CRC incidence compared to those without adenomas.⁶

In conclusion, evidence-based recommendations for polyp surveillance, which would still comport with the AGA guideline, include the following:

1. Patients with advanced adenomas should continue surveillance as recommended by their gastroenterologist.
2. Based on the available literature showing no increased (and possible decreased risk), as well as the 10-year surveillance recommendation of the European Society of GI Endoscopy guideline and the 7-10-year accepted range in the new U.S. guideline, we should feel comfortable recommending 10-year surveillance in our patients with 1-2 small adenomas.
3. In those individuals over age 75 with or without a prior polyp history, the literature suggests a minimal reduction in CRC mortality with continued screening and a significant incidence of harm from colonoscopy. These individuals have 2 reasonable options:
 - a. Those with a greater than 10-year life expectancy, with or without a prior history of 1-2 small adenomas can reasonably decide to discontinue screening. Those who elect to continue screening should consider stool-based testing as an alternative to colonoscopy to reduce procedural risk.
 - b. Those who are frail or have a less than 10-year life expectancy should discontinue screening.

Risk of hyponatremia with the use of thiazide diuretics⁷

Thiazide diuretics are commonly used as first-line treatment for hypertension or are added to anti-hypertension regimens if a patient does not reach their personalized blood pressure goal. Thiazides are typically inexpensive and well-tolerated, but there is a risk of hyponatremia, particularly in women, which increases with age.

Methods

This propensity score-matched cohort study included nearly 160,000 patients ages 18 and older in the Stockholm Sodium Cohort between 2006 and 2018 with statistical analysis performed between January 2025 and January 2026. A total of 79,540 individuals initiating thiazide diuretics (hydrochlorothiazide and bendroflumethiazide) were propensity score matched with 79,540 individuals receiving calcium channel blockers (CCB). The primary outcome evaluated was profound hyponatremia, defined as a sodium concentration <125 mEq/L. Secondary outcomes included sodium concentrations <130 mEq/L and <135 mEq/L.

Key findings

The incidence of profound hyponatremia was more common in women and in those over the age of 80. Incidence rates were generally higher during the first weeks to months of treatment and then stabilized at a lower level thereafter.

- The cumulative incidence of profound hyponatremia over 2 years with thiazide treatment was 0.80% compared to 0.46% in those treated with a CCB.
- The absolute risk difference over 2 years between thiazide and CCB use was 0.34% among all individuals, 0.54% for women 65–79 years and 1.92% for women ≥ 80 years.
- The cumulative incidence rate of profound hyponatremia was 1.04% in women compared to 0.57% in men.
- The cumulative incidence rate of profound hyponatremia was 0.40% for those < 65 years, 1.05% for those 65–79 years and 2.40% for those ≥ 80 years.
- The number needed to harm (NNH) for profound hyponatremia in women ≥ 80 years was 53 compared with a NNH of 186 and 790 in women ages 65–79 and < 65 years, respectively.
- The NNH for developing a sodium concentration <130 mEq/L and <135 was 28 and 16, respectively, for women ages 80 and older, compared to 818 and 120, respectively, for women under 65.
- The relative risk (RR) of profound hyponatremia at 14 days for all individuals was 3.57 compared to 1.74 at 2 years. For those over 80 the RR was 6.0, at 14 days compared with 2.81 at 2 years.

Implications for primary care

Primary care providers commonly prescribe thiazide diuretics to treat hypertension. While in most patients this medication class is quite safe, PCPs should closely monitor sodium concentrations in the first 2 weeks of treatment since the highest likelihood of developing hyponatremia occurs shortly after initiation of the medication. Certain patient populations warrant closer monitoring throughout treatment, such as women over the age of 65 and, most important, women over the age of 80.

Delay in achieving 4-pillar, guideline-directed medical therapy for heart failure with reduced ejection fraction⁸

There is an abundance of data proving that patients with heart failure with reduced ejection fraction (HFrEF) who are treated with all 4 pillars of guideline-directed medical therapy (GDMT) (ACEI/ARB/ARNI, beta-blockers, mineralocorticoid receptor blockers and SGLT2 inhibitors) have better outcomes. Studies have shown that life expectancy increases by 6 years in patients transitioned from ACEI/ARB and beta blocker alone to a 4-pillar regimen⁹ and cardiovascular death or hospitalization is reduced by 62% in patients treated with a 4-pillar regimen compared to an ACEI/ARB and beta blocker alone.¹⁰ Despite these outcomes, only a minority of patients with HFrEF ever achieve 4-pillar GDMT regimens, and those who do take months, if not years, to get there.

Methods

This was a retrospective cohort study that included 52,850 patients with HFrEF from the Veterans Health Administration database between 2020 and 2023. The primary outcomes being studied were the percentage of patients who achieve 4-pillar GDMT (quadruple therapy) and the time it took to get there (TTQ). Pharmacy fill data was collected and TTQ was defined as the first date that all 4 medication classes overlapped.

Key findings

Most patients in the United States who would benefit from quadruple therapy for HFrEF never achieve this goal. In patients where quadruple therapy is achieved, it is a slow process due to a variety of barriers on the part of both the provider and the patient.

- Only 21.2% of patients (11,217/52,850) achieved quadruple therapy over a median follow-up of 2.9 years.
- Only 46.5% of patients (24,575/52,850) achieved triple therapy during the median 2.9-year follow-up period.
- The median TTQ was 197 days with a range of 49–528 days.
- Veterans who were subjected to a copay for their medications had an 8% lower rate of achieving quadruple therapy despite the average copay cost being \$44/month.
- 16,312 patients (30.8%) died during the follow-up period, of whom 91% never achieved quadruple therapy.

Implications for primary care

Despite a plethora of evidence proving that rapid titration to quadruple therapy in patients with HFrEF leads to better clinical outcomes and lower health care costs, most patients never get there. Barriers include clinical inertia, fear of adverse events such as hypotension, and prescription copays. Providers need to address such barriers by partnering with pharmacists or specialists when they are not comfortable prescribing alone and identifying copay assistance programs for patients with financial constraints. With SGLT2 inhibitors scheduled to become generic soon, the out-of-pocket expense for patients should decrease. These findings highlight the importance of optimizing evidence-based therapy for patients with HFrEF to improve clinical outcomes.

A modern, evidence-based approach to rotator cuff disease^{11,12}

Shoulder pain is the third most common musculoskeletal complaint in primary care and affects between 18% and 31% of the general population each month. Rotator cuff (RC) abnormalities account for up to 85% of patients with shoulder pain. It is now understood that nearly all patients over the age of 40 show some degree of RC abnormality on MRI regardless of whether they have symptoms, suggesting that RC abnormalities seen on imaging may simply represent age-related changes and do not necessarily correlate with patient symptoms.

Methods

There are two studies referenced here: an imaging study and a treatment study. The imaging study was a population-based, cross-sectional study among patients ages 41–76 who underwent standardized clinical assessment for shoulder symptoms and an MRI of both shoulders between February 2023 and April 2024 in Finland.¹² MRIs were independently reviewed by three radiologists, who were blinded to clinical symptoms, and the highest-grade abnormality among the tendons was recorded as the representative finding for that shoulder.

The treatment study was a pragmatic, randomized, controlled trial where 417 patients with subacromial pain underwent 3 months of physical therapy and an MRI arthrography for the diagnosis of RC disease.¹² 54% of patients had improvement of their shoulder pain after 3 months of conservative therapy. Of these, 190 shoulders (46%) remained symptomatic after the initial treatment period and were randomized to conservative treatment or surgical repair (subacromial decompression surgery [SAD] for partial-thickness tears [PTT] and rotator cuff repair for full-thickness tears [FTT]). The primary outcome 2 years after randomization was change in the intensity of pain and change in the rating of shoulder function.

Key findings

- RC abnormalities were found in 98.7% of all participants (symptomatic and asymptomatic, combined): 25% were found to have tendinopathy; 62% were found to have PTT; and 11% were found to have FTT.
- RC abnormalities were found in 90.6% of asymptomatic shoulders (1,076/1,204) and 98% of symptomatic shoulders (126/128), a prevalence difference of 1.8%.
- FTTs were more common in symptomatic shoulders (14.6% vs. 8.1%) but this difference disappeared after adjusting for the presence of imaging abnormalities in other shoulder structures and a positive clinical exam for signs of RC disease.
- In the overall treatment cohort, there was not a significant difference in the improvement in pain and function scores between the surgical and conservative treatment cohorts after 2 years.
- In the PTT cohort, there was not a significant difference in the improvement in pain and function scores between the surgical and conservative treatment cohorts after 2 years.
- In the FTT cohort, there was significant improvement in both pain and function scores in the surgical cohort compared to the conservatively treated cohort. However, the magnitude of this improvement just met the criteria for a minimally clinically important difference (MCID).

Implications for primary care

Rotator cuff findings on MRI in patients over the age of 40 should be considered age-related changes and not necessarily indicative of disease. PCPs should therefore only consider orthopedic evaluation for chronic shoulder pain when the history and physical exam support a potential full-thickness rotator tear, and the patient has failed a 3-month course of rehabilitation. Patients with tendinopathy or PTT should be managed conservatively given that improvements in pain and function are similar to those achieved with surgical intervention in these clinical scenarios.

For patients who undergo physical therapy (PT) for their RC symptoms, the greatest predictor of success is patient's expectation that PT will alleviate or significantly reduce their symptoms.¹³ Those with high expectations of improvement rarely require surgery, while those with low expectations frequently progress to more invasive care. Therefore, it is essential that at the time of prescribing PT, primary care providers explain to patients that it can be just as effective as surgery for most RC abnormalities.

Patients with chronic pain and FTT could consider surgery if conservative therapy has not provided adequate relief, but here the improvements in pain and function in the overall group just met the MCID for improvement, and therefore patients should be made aware of this. Also recall that management is different in patients with acute injury associated with FTT and loss of strength and range of motion (i.e., fall or significant trauma; twisting to reach is rarely associated with FTT). These patients should be referred early for evaluation, as delay in this situation may result in tendon retraction and atrophy that can limit surgical success. However, progression is a slow process that can take months to years, so evaluation is not necessarily urgent.¹⁴

Long-term benefits of early surgery versus conservative care for patients with asymptomatic aortic stenosis¹⁵

The short-term benefit of early surgery in patients with asymptomatic, severe aortic stenosis, defined as an aortic-valve area of $< 0.75 \text{ cm}^2$ and a peak aortic jet velocity of $> 4.5 \text{ m/sec}$, is well defined. However, to date, there is a paucity of research evaluating longer term outcomes. This study has compiled data for up to 10 years following treatment for severe aortic stenosis by either surgery or conservative measures.

Methods

This was a multicenter, randomized, parallel-group, open-label, intention-to-treat trial where 145 patients were randomized to receive early surgery – defined as aortic-valve replacement with either mechanical or biologic valves within 2 months of randomization – or conservative care. Patients were excluded if they were over 80 years old, complained of exertional dyspnea, syncope, presyncope or angina, had an LVEF $< 50\%$, had previous cardiac surgery, or had clinically significant aortic regurgitation or mitral-valve disease. The primary end point was composite of death during surgery or within 30 days after surgery or death from cardiovascular causes during the entire follow-up interval, after a minimum of 10 years. Secondary end points included death from any cause, clinical thromboembolic events, repeat aortic-valve surgery and hospitalization for heart failure.

Key findings

Patients who were randomized to the early surgery cohort had better outcomes than those who were randomized to the conservative treatment cohort over a minimum of 10 years of follow-up.

- The primary end-point event occurred in 3% (2/73) of patients in the early surgery group and 24% (17/72) of patients in the conservative care group.
- After 10 years of analysis, the cumulative incidence of operative mortality or cardiovascular death was 1% in the early surgery group compared to 19% in the conservative care group.
- Death from any cause occurred in 15% of the early surgery group and 32% of the conservative care group.
- Of the 72 patients who were randomized to the conservative care cohort, 85% (61/72) ultimately underwent aortic valve replacement due to the development of symptoms.
- The number needed to treat with early surgical intervention to prevent one death from cardiovascular causes and one death from any cause within 10 years was 6 patients and 7 patients, respectively.

Implications for primary care

This study suggests that there are long-term benefits to referring asymptomatic patients with severe aortic stenosis to surgery prior to the development of symptoms. While other trials looking at shorter follow-up intervals did not show a benefit to early surgery compared to conservative management (i.e., EARLY TAVR trial; 32-month follow-up), this trial includes the longest follow-up period to date and suggests significant benefit to early surgical intervention. Therefore, PCPs should consider referring asymptomatic patients with severe aortic stenosis for cardiology evaluation, particularly if they have a life expectancy of 5 or more years.

Left atrial appendage closure versus medical therapy for atrial fibrillation¹⁶

Catheter-based closure of the left atrial appendage (i.e., WATCHMAN procedure) has been increasing in utilization over recent years as an alternative to oral anticoagulation to prevent strokes in patients with atrial fibrillation. Over 600,000 of these have now been placed in the U.S. Given the invasive nature and cost of this intervention, providers need to consider its risks and benefits prior to broadly recommending this new intervention.

Methods

- This study was designed to determine if left atrial appendage closure was noninferior to medical therapy, defined as a hazard ratio of 1.3.
- This was a multicenter, randomized trial where patients with atrial fibrillation and a high stroke and bleeding risk were randomized to either left atrial appendage closure (device group) or physician-directed best medical care, which could include oral anticoagulation (medical-therapy group). The median follow-up was 3 years.
- Patients in the device group received dual antiplatelet therapy for 3 months while most patients in the medical-therapy group received a DOAC (85.1%).
- The primary end point was a composite of either ischemic or hemorrhagic stroke, systemic embolism, major bleeding, or cardiovascular or unexplained death.
- The mean age was 77.9 +/- 7.1 years; the mean CHA2DS2-VASc score was 5.2 +/- 1.5 (higher score suggests higher stroke risk); and the mean HAS-BLED score was 3.0 +/- 0.9 (higher score suggests higher bleeding risk).

Key findings

Among patients considered to have an elevated risk of stroke and bleeding, left atrial appendage closure was found to be inferior to medical therapy over the course of 3 years of follow-up.

- Left atrial appendage closure was associated with a higher risk of a composite primary end-point event when compared to medical-therapy over a median follow-up of 3 years.
- A first primary end-point event occurred in 34.8% (155/446) of patients in the device group and 28.7% (127/442) of patients in the medical-therapy group.
- Stroke occurred in 27 patients in each cohort; systemic embolism occurred in 3 patients in the device group and 1 patient in the medical-therapy group; major bleeding occurred in 70 patients in the device group and 61 patients in the medical-therapy group; and cardiovascular or unexplained death occurred in 99 patients in the device group and 81 patients in the medical-therapy group.
- Death from any cause occurred in 155 patients in the device group and 141 patients in the medical-therapy group (secondary end point).
- Serious adverse events occurred in 82.5% (368/446) of patients in the device group and 77.4% (342/442) of patients in the medical-therapy group.

Implications for primary care

This study suggests that left atrial appendage closure does not lead to fewer strokes, systemic embolisms or major bleeding events when compared to medical therapy. This finding, combined with the cost of the device, suggests that broad use of this procedure may not be appropriate and should be carefully considered in the context of individual patient risk for stroke and bleeding, and contraindications to anticoagulation. Additional studies are necessary to better understand the role of this procedure in the management of atrial fibrillation.

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Kenneth Roy Cohen, MD, FACP

Dr. Kenneth Cohen is an experienced physician leader, practicing internist and researcher who has attained national recognition for health care quality improvement. He was one of the founding physicians of New West Physicians, which is the largest primary care group practice in Colorado and is now part of Optum Care. He served as chief medical officer from 1995 to 2020. He now serves as the executive director of Translational Research for Optum Care and co-leads the Optum Center for Research and Innovation. Dr. Cohen has received awards of recognition and distinction for teaching, including the Lutheran Medical Center Physician of the Year award in 2011. Under his stewardship, New West Physicians was awarded the American Medical Group Association (AMGA) Acclaim Award in 2015 and the CDC Million Hearts Hypertension Champion Award in 2017. He is a clinical associate professor of Medicine and Pharmacy at the University of Colorado School of medicine and school of pharmacy. He is a Fellow of the American College of Physicians and a member of the Phi Beta Kappa and Alpha Omega Alpha honor societies.



Scott Hines, MD

Chief Quality Officer, Optum NY/NJ; Chief Clinical Standards Officer, Optum East Endocrinologist

Dr. Scott Hines is a board-certified endocrinologist who has held multiple executive leadership roles with Crystal Run Healthcare and Optum Health since 2006, including Medical Director of Medical Specialties, Chief Quality Officer and Chief Clinical Standards Officer. In these roles, Scott helped to develop and implement the clinical programs necessary to deliver value-based care such as best practice guidelines, a variation reduction program and various quality improvement initiatives. Dr. Hines is also well known regionally and nationally for his work related to value-based care. Scott has delivered multiple presentations highlighting Crystal Run's value journey for various national organizations including the American Medical Group Association (AMGA), Brookings Institution, ACO World Conference and the Group Practice Improvement Network (GPIN). Scott was a previous board member for AMGA, is the current chair of AMGA's Public Policy Committee and was a past chair of AMGA's Quality Council.

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[Specialty Modules](#): CME-accredited foundational lectures for primary care that distill key evidence in core specialties that is actionable to promote high-value care and decrease low-value care.



[Clinician and Patient Content](#): A collection of evidence-based clinical algorithms and handouts providing actionable decision support and assistance with shared decision-making.



[Grand Rounds](#): An Optimal Care CME-accredited series of live and on-demand sessions focused on aspects of care important to PCPs and their patients.