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Career Guide

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The NEW ENGLAND JOURNAL of MEDICINE

March 24, 2022

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As a primary care physician about to enter the workforce or in your first few years of practice, you may be assessing what kind of practice will ultimately be best for you. The *New England Journal of Medicine* (NEJM.org) is the leading source of information for job openings for physicians in the United States. To further aid in your career advancement, we've also included a couple of recent selections from our Career Resources section. The NEJM CareerCenter website (NEJMCareerCenter.org) continues to receive positive feedback from physicians. Because the site was designed based on advice from your colleagues, many physicians are comfortable using it for their job searches and welcome the confidentiality safeguards that keep personal information and job searches private..

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A career in medicine is challenging, and current practice leaves little time for keeping up with new information. While the *New England Journal of Medicine*'s commitment to delivering top-quality research and clinical content remains unchanged, we are continually developing new features and enhancements to bring you the best, most relevant information each week in a practical and clinically useful format.

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Sincerely,

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NEJM CareerCenter

Preparing for the Virtual Physician-Job Interview

The interview has become a new world, for now, with the pandemic, and both prospective employers and physician candidates are adjusting

By Bonnie Darves, a Seattle-based freelance health care writer

Physicians and other health care professionals know well that functioning — and practicing medicine — in a pandemic is a very different and much altered experience from a year ago. Even though physicians and residents are often providing care in fraught and challenging environments, when it comes to looking for a new practice opportunity, they're not likely to find themselves at the point of care but rather in their living rooms. Interviews have gone virtual in a big way as the risks and logistics of the traditional site interview have prompted employers and even candidates to forgo site visits.

What this means is that both parties are having to adjust. Employers are increasingly vetting candidates without ever shaking hands or watching physicians interact in live group settings. Physicians are trying to figure out how to put their best face forward over video platforms such as Zoom, Skype, GoToMeeting, or Cisco Webex, to name a few, and how to make the most of what can be an awkward exchange.

The good news, for physicians, is that this is a new and evolving experience for all involved. As such, it's important to keep in mind that many people, including employers and senior physicians on the call, might find the video virtual interview challenging. It's not a technology-proficiency test, after all. However, on the technology front, physicians who find themselves in job-search mode during the coronavirus pandemic should do their best to prepare themselves, their environment, and their computers or devices for a successful meeting. The means "attending" the session as professionally as possible and ensuring that extraneous factors or technology don't get in the way of a productive conversation.

Some of the prerequisites for virtual interviews are no different than they would be for a formal site-visit interview. First and foremost, look the part and dress professionally. It might feel awkward to don a suit or, for women, other formal business attire, but that's a must. Physicians should be well dressed, well groomed, and reasonably refreshed when going to a video interview. In other words, treat the experience as if it were a formal site

interview that you traveled to and prepared for in advance. Leave the casual demeanor behind, or at least in the other room.

It's key to know exactly who will be on the video call and what their roles are, so that candidates can read bios and prepare accordingly. It's also appropriate to ask about the length of the interview and to request an agenda, if one will be prepared.

Following are some of the most important considerations in preparing for a video interview:

Prepare and "professionalize" the immediate environment. For starters, the room should be well and brightly lit and the background clean and free of clutter. That means ensuring that there isn't an unsightly stove or a television or even a stack of books or laundered T-shirts in view. As a background, a blank wall, an unembellished window, or a background cabinet with a non-distracting tasteful décor item all work well. Alternatively, many video platforms enable use of green-screen effects, which replace the actual background with a digital or virtual background. A word of caution is in order here: Candidates whose home environments are unsuitable and who want to use a background should opt for something clean and simple, not a potentially distracting image of a tropical beach, an old-growth forest, or a fake wine cellar. Finally, make sure that the lighting in the room is unobtrusive and doesn't interfere or produce visible glare.

Do a trial run and then take the time to record a hypothetical session with a friend or family member. In advance of a virtual interview, candidates should receive specific instructions on the technology that will be used, as well as a link for getting into the session. For those who haven't used the technology that will host the meeting, it's important to get a trial subscription and ensure they're familiar with the way it works and any features that might be used. Many physicians in primary care and internal medicine subspecialties have already had their trial by fire conducting patient virtual visits, but for others, video-meeting platforms might be new turf.

Get rid of noise and potential distractions. The interview setting should be quiet and calm. That means ensuring that background noises, including pets and family members, aren't a factor. Ideally, opt for a completely quiet room — and house or apartment — if possible, and close windows to minimize street noise. Even minor background sounds, such as someone starting a washing machine two rooms away, can be bothersome enough to be overheard or, worse, distract the interviewee. Of course, it goes without saying that cell phones should be silenced and that all computer notifications that might chime during the session are turned off.

Ensure optimal body and face positioning. Even virtual-meeting veterans have likely found out the hard way that having the face positioned too far up or down, and the computer screen below eye level, can affect the experience. The interviewee's head should be looking straight ahead, not down toward a keyboard, which could be very distracting to the interviewer(s). If a candidate is hunched over, for example, that will be visible to interviewers.

Having the computer or device properly elevated before the interview begins is key, so that the physician doesn't need to make adjustments during the session. And once the session is underway, it's important to maintain focus by not moving the head too much or looking off to the side. Even if that feels somewhat stiff, it won't come across that way to the interviewer. It's OK to use some body language, when appropriate, but that should be kept to a minimum because there's not a large room to "absorb" it. Finally, physicians who aren't sure how best to position their devices should ask for help from someone with virtual-meeting experience before the interview. In any event, the interviewee and the equipment should be positioned to enable natural-seeming eye contact between all parties.

Get the technology in order. First and foremost, ensure that the Internet connection is solid, and that the computer or device is fully charged and updated, so that it's not likely to interject with an "update-needed" message. It's also a good idea to close out any applications and websites that might be running in the background, not only because of potential distraction but also to ensure that the call loads efficiently.

Second, although computers and devices have built-in speakers and some have microphones, the quality of that audio experience can vary considerably. Physicians who expect to attend multiple video interviews or a period of a few months should consider purchasing and installing high-quality USB audio technology. One of the frequent complaints that business people make these days about video meetings that involve potentially multiple attendees is that poor-quality audio from an attendee's computer is distracting.

The same goes for the video quality. Most laptops have an integrated web camera, but some might not, and older desktop computers likely don't have one. If the video quality on the computer is poor, it might be worthwhile to purchase a good-quality web camera. Then, ensure that it's optimally

positioned — ideally above the screen, and look at the camera, not the screen, while speaking.

Finally, if the physician candidate might be asked to share a document or other item onscreen, preparing in advance is crucially important. Spending a fretful minute or two trying to get the requested item in view can be nerve-wracking for the physician and possibly annoying for the interviewer.

Some aspects of interviews haven't changed

After physicians have prepared their environments and equipment to support a successful interview, they should remember that even with the pandemic, the expectation is that the proceedings will be business focused. Just because there's not a conference room in the mix, it doesn't mean that casual behavior is okay. It isn't. The session likely will be conducted formally and highly professionally. As such, interviewees should avoid chitchat or lengthy discussion about the pandemic unless the interviewer raises the topic and seeks their perspective.

One thing to watch for in the video interview is that people sometimes talk over each other more than they might in a room, when they're anxious to make a point. That's never okay in a face-to-face meeting, and it's potentially more distracting (and apparent) within the confines of a video session. Because there is sometimes a brief lag after someone speaks, depending on the technology in use, it's advisable to wait an extra second or two before speaking.

As with any interview, candidates should ask questions at the end of the interview — about culture, team makeup, and roles and responsibilities — and during proceedings if it's appropriate. Those questions should be prepared ahead of time. Candidate should also spend extra time researching the organization and reviewing any information that's available online about both the practice and the community. Without the benefit of a facility walkthrough, the physician candidate might need to elicit important information about the actual working environment, available equipment, and other factors that would affect daily practice. It also helps to keep the names of interview participants handy in any virtual roundtable interview involving more than three participants.

As with any type of interview, timely follow-up is important. Candidates should send an email thank-you note to key interviewers and any recruiter or staff member(s) who arranged the session, ideally within 24 hours. If the candidate is highly interested in the position, it's appropriate to express that in the thank-you note and to inquire about possible next steps.

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Eyeing Physician Career Boost Via Formal Business Education

Getting a business degree can be highly rewarding, but planning and foresight are essential

By Bonnie Darves, a Seattle-based freelance health care writer

Physicians pursue formal business education for a whole host of reasons, but there are some common threads. For many, it's a desire to effect change within their organizations or even health care delivery as a whole. For others, a master of business administration (MBA) or master of medical management degree (MMM), or the Certified Physician Executive (CPE) credential, is viewed as a way to better position them as credible participants in big-picture discussions about organizational direction or in decisions that affect their professional lives or their specialty's future.

Increasingly, especially in large organizations, the business degree may be a requirement for seeking a senior leadership position. Some physicians have a specific reason for getting an MBA or MMM, such as launching a new clinical service. A final subset of physicians obtains formal business education as a first step toward exiting clinical medicine and moving wholesale into a nonclinical leadership role.

For internist Pamela Sullivan, MD, MBA, the driver was twofold. She needed a better understanding of the business world to help her perform more effectively in the leadership realm in which she was already functioning as a medical director. She also wanted to make a better-informed decision about how to focus the rest of her career.

"I realized that I needed to know more, and that I needed to be able to speak the [business] language whether I was in a clinical meeting or a business meeting," said Dr. Sullivan, who is chief clinical officer of implementation for Landmark Health, which partners with health plans and uses a "house calls" model to care for patients with multiple chronic conditions. "The MBA program gave me the confidence I needed to do that."

Dr. Sullivan opted for the one-year physician executive MBA program at the University of Tennessee's Haslam School of Business. In part, she chose it because it was shorter than some MBA programs, but also because she wanted a practical curriculum and the face-to-face experience of the four weeks of onsite residence. "I learn by doing, and this program was not about taking exams — we got real-life practical assignments. It was so energizing," Dr. Sullivan said.

Andrew Furman, MD, MMM, took a more stepwise, protracted approach to getting his master's in medical management. The emergency medicine physician started by taking courses through the American College of Healthcare Executives and the American Association for Physician Leadership (AAPL) over a few years. He then carried those credits into the MMM program at University of Southern California (USC) in Los Angeles, which he completed in 2017. Today, after stints at Geisinger Health System, and Salem Health in Oregon, he is medical director for Accolade, Inc., an innovative private care-delivery and benefits company serving self-insured employers.

The slower approach enabled Dr. Furman to initially select courses on topics that related to issues he was encountering in his work, while allowing him to accrue credits toward an eventual master's degree. "I started piecemeal when I was three years out of residency and was doing committee work. The AAPL courses were fantastic because they set me on a path to a one-year USC program," Dr. Furman said.

From the outset, Dr. Furman was clear about his motivation for learning about business: "I wanted to be part of the change in health care, and any change that occurs affects physicians," he said. "If you just want the three letters after your name, you might not get much out of it. If you want to shake up the mess we're in in health care, you will." For Anil Singh, MD, MPH, MMM, executive medical director of clinical transformation at Highmark Health and system division director of Critical Care at Allegheny Health Network in Pittsburgh, Pennsylvania, the decision to obtain a business degree arose in part out of frustration. "I was being asked increasingly to do things that did not involve patient care, and to help fix issues," said Dr. Singh, who obtained his MMM from Carnegie Mellon University. Business people sometimes asked him to write a pro forma or show ROI [return on investment] when he proposed a solution.

"I had no idea what they were talking about and decided I needed to understand the jargon. Being in the program opened up a different side of my brain that I'd never used before," Dr. Singh said. "Now, when I speak to businesspeople in their own language, I've got immediate 'street cred'."

Benefits of business education: professional and personal

Like Dr. Singh, other physicians interviewed for this article were unanimous on one key benefit of formal business education: becoming conversant in the language spoken in board rooms and management meetings.

"I knew that if I was going to be communicating with CEOs and CFOs, and marketing directors, I needed to understand their language — and I needed the credentials and knowledge to participate effectively. The MBA gave me that confidence," said anesthesiologist Talal Ghazal, MD, MBA, co-director of the Holy Cross Hospital Pain Center in Wheaton, Maryland. "I also wanted to learn about something I wasn't trained in. I found that business is no big mystery — it's a matter of understanding the fundamentals and concepts."

Physicians who pursued MMM and MBA degrees that included an onsite component also cited interactions and continued networking with their cohort members as a major benefit.

"Working on an MBA, MMM, or CPE helps you develop a network of colleagues with similar goals or interests, who become an ongoing resource for advice or counsel," according to John Jurica, MD, MPH, CPE, medical director of an Illinois urgent care network who blogs and delivers podcasts on physician leadership.

For Dr. Furman, the networking was especially gratifying. "The cohort experience was amazing. You learn so much from being in the room with people with varied backgrounds who often are experiencing similar issues," he said. The diverse specialty and background profiles of a typical MBA cohort enrich the learning experience, notes Kate Atchley, PhD, executive director of the University of Tennessee's Physician Executive MBA program. "In a typical year, we'll draw physicians who are entrepreneurial-minded, some who are in mid-career or are already in administrative positions who want business acumen, and younger physicians who know that medicine is changing and want to be part of that change," she said. "The benefit of the physician-only environment is that the students come in with the same educational background and the same experience of clinical work — they can relate to each other."

Dr. Singh's cohort, for example, included hospitalists, internists, cardiologists, a pathologist, and a palliative medicine physician. "Learning from the other physicians was a phenomenal experience," he said.

Rex Kovacevich, MBA, a professor of clinical marketing in USC's MMM program, sees those valuable interactions firsthand. He often witnesses physicians sharing their stories and experiences, and in doing so, helping each other deal with situations in their own organizations or professional lives. "That's one of the key benefits of the cohort model — the physicians become comfortable sharing with each other," said Mr. Kovacevich. Monique Butler, MD, MBA, chief medical officer for Swedish Medical Center, in Englewood, Colorado, cites those networking benefits and the resulting relationships she built as an important outcome of her participation in the University of Tennessee's Physician Executive MBA program. "The cohort experience gives you a huge support network. We're able to just pick up the phone and call each other when we're working through a challenge," she said. "It's been incredibly helpful."

Weighing the education options

The chief decision physicians face when they decide to pursue business education is choosing which route to take. The formal physician executive MBA, MMM, and CPE programs teach similar content, but their formats differ. The traditional MBA program, offered online or in a hybrid online/on-campus format, or as an immersive on-campus experience, ranges from one to two years and focuses on business theory, concepts, and principles. There are more than two dozen traditional MBA programs that have a health care business or leadership focus. Several universities now offer physician-only executive MBA degrees structured to accommodate the schedule constraints of practicing physicians and to deliver targeted content. Programs developed as part-time offerings often impose a maximum time for completion.

The MMM, a more recent entrant in the business-degree realm, is designed specifically for physicians and typically targets those who are at least three years out of residency. Physicians who pursue an MMM often end up serving as medical directors, department chairs, chief medical officers, or president/vice president of medical affairs. The programs run 12 to 18 months, and prerequisites might be required. These programs incorporate online learning and an onsite residential component several times annually. Common courses include organizational management, health economics, health policy, health finance, health law, and operations management.

Maeleine Mira, director of the MMM program at USC's Marshall School of Business, said that a key feature of the MMM curriculum is that it's

designed to teach students how the business cases apply in health care. "That's one of the benefits of the MMM compared to traditional MBA programs," she said. "Every student graduates with an implementable capstone, so that they're ready to go back and institute changes." USC also offers a pre-MMM fellowship option for final-year residents.

When considering any MBA or MMM program, prospective participants should carefully evaluate the content focus to choose a program that suits their individual needs or career objectives, several sources pointed out. Physicians should also keep in mind that some programs require that participants have three to five years of clinical experience post-residency.

The CPE that AAPL offers focuses heavily on both business content and leadership training and is pursued on a course-by-course basis in a 150-credit curriculum consisting of online learning and live events. The focus is on hands-on learning. The CPE offers flexibility for participants who might need to complete the curriculum at an uneven rate or over a longer period, and it requires a final capstone project and audiovisual presentation. A sophisticated technology platform facilitates interaction among learners, and AAPL also provides professional development resources such as career assessment and executive coaching.

Typically, physicians earn their CPE designation in two to $2^1/_2$ years, according to Peter Angood, MD, AAPL's president and chief executive officer. AAPL also partners with five universities to enable students to complete prerequisites toward master's degrees and easily transition into those programs.

Other degrees that include some business content include the master in healthcare quality and safety management (MS-HQSM) and master of science in the science of healthcare delivery (MS-SHCD), as well as clinical informatics degrees. The master of health administration also includes business principles but focuses on applied health care experience.

When choosing a degree program, especially an MBA, physicians should be fairly clear about what they want to achieve, Dr. Jurica advises, in part because of the financial investment. That might range from under $10,000 for an online-only program to $100,000 for a big-name university MBA. The CPE path is generally less expensive than the traditional MBA or MMM program, he added. "It might be worth waiting to start a program, if there's a way to get your employer to help with the costs," Dr. Jurica said. He also advised physicians who aren't ready to commit to a program to consider taking business courses through the AAPL, specialty organizations, online programs, or local education institutions.

"It's important to decide whether you need the name recognition — which might be the case for those who will compete for a senior management position at a large organization — or just the degree and the core business knowledge," Dr. Jurica said. In the latter case, an economical online program might suffice.

What to expect

The prospect of continuing clinical practice while obtaining a business degree can be daunting, but it's is doable for physicians who organize their time efficiently and strategically, sources agreed. The MBA and MMM programs typically carry a workload of 12 to 25 hours weekly, in addition to the onsite periods.

Physicians who want to get a business degree should plan well in advance, all sources said, and should ensure they will have support from their families, colleagues, and organizations before they start. Ideally, they should also try to either reduce or reconfigure their clinical hours to accommodate program demands. "The most important aspects of preparing for a graduate business degree are figuring out how you'll arrange your time when you add the program to your other responsibilities and making sure that those close to you — your spouse, your coworkers, your children — are onboard," said Mr. Kovacevich.

That's one reason that Dr. Ghazal, who obtained his health care MBA from George Washington University in Washington, D.C., encourages physicians who are eyeing a specific role to consider getting a degree earlier in their careers. "By the time you get to mid-career, and have a demanding practice and a family, it can be a challenge to fit it in because of the time requirements — you basically have a deadline every week."

Deborah Vinton, MD, medical director of the emergency department at the University of Virginia in Charlottesville, found herself on a crash course path when she began the University of Tennessee Physician Executive MBA, five years after finishing residency. She started the program just six weeks after delivering her third child. Despite the logistical challenges, the timing was important: she had an opportunity to participate in planning the UVA's new emergency department and needed business credentials to be effective.

"I wanted to be a physician leader at this academic center, and I knew I needed this education," Dr. Vinton said. The school and her cohort were "amazingly supportive," she said, and she was able to bring her infant daughter with her for the onsite residency portions. "I was surprised by how accommodating everyone was — I didn't expect that," she said.

For Jamie Eng, MD, MMM, who completed her MMM at USC as a continuation of the administrative emergency fellowship that program offers, the degree better equipped her for the administrative work she was already doing at USC-Los Angeles County Medical Center. "It was fortuitous because the fellowship actually required me do the MMM. I looked at other administration fellowships, but this was such a good fit that I decided I might as well get the degree," said Dr. Eng, who is associate medical director of emergency medicine at Providence Tarzana Medical Center in Tarzana, California, and director of the USC Administrative Emergency Medicine Fellowship program.

"The cohort was fantastic," Dr. Eng said. "I feel like my administrative experience was sped up by a decade learning from the experiences of others."

Tips for choosing a program and planning the journey

Physicians interviewed for this article offered the following additional guidance for their colleagues planning to pursue formal business education:

"When you're evaluating programs, look at how the curriculum and the schedule can intersect with your job. If you're not able to merge your work with the requirements, you might have to consider other options." — Deborah Vinton, MD, MBA

"I think it's important to get awareness of the various learning opportunities, so that you have a better sense of what you want for your professional growth." — Peter Angood, MD, AAPL president and CEO

"When you're looking at programs, be clear about your career and where you want to be in five years — and how a particular program or fellowship is going to get you there." — Jamie Eng, MD, MMM

"You must be able to make the commitment before you start a program. You need a game plan, the financial resources, and the buy-in from family and colleagues. I ended up devoting two full days a week to my studies." — Pamela Sullivan, MD, MBA

"Truly understand the time commitment. Programs might cite a certain number of hours per week but assume that that's the minimum. It might take more time to meet your requirements." — Talal Ghazal, MD, MBA

"Do the degree at the right time in your career. It's important to be a good doctor first and to have that credibility. I think five years in practice is the minimum, and that seven to 10 might be the sweet spot." — Anil Singh, MD, MPH, MMM

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CLINICAL PRACTICE

Caren G. Solomon, M.D., M.P.H., *Editor*

Treatment of Acute Uncomplicated Appendicitis

David A. Talan, M.D., and Salomone Di Saverio, M.D., Ph.D.

This Journal *feature begins with a case vignette highlighting a common clinical problem. Evidence supporting various strategies is then presented, followed by a review of formal guidelines, when they exist. The article ends with the authors' clinical recommendations.*

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CME at NEJM.org

A previously healthy 28-year-old woman presents to the emergency department with a 2-day history of abdominal pain that began in the umbilical area and migrated to the right lower abdomen. She is a single mother who works remotely and is raising a 5-year-old child. Her temperature is 37.8°C; other vital signs are normal. She rates her pain at 7 on a scale of 1 to 10, with 10 representing the worst possible pain. Examination reveals tenderness in the right lower quadrant, with moderate localized rebound. The result of a pregnancy test is negative, as is the result of a polymerase-chain-reaction assay for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Her white-cell count is 12,500 per cubic millimeter. Computed tomography (CT) performed after the intravenous administration of contrast material shows a dilated, inflamed appendix without appendicolith, abscess, perforation, or tumor. How would you manage this case?

THE CLINICAL PROBLEM

Acute appendicitis is the most common reason for emergency abdominal surgery. The peak incidence occurs among persons 10 to 19 years of age, and the lifetime risk is 7 to 8%.[1] Untreated appendicitis, when associated with rupture, can lead to abscess, peritonitis, sepsis, and death. Uncomplicated appendicitis (i.e., localized appendicitis), which has traditionally been treated with urgent appendectomy, accounts for approximately 80% of cases. In the past three decades, numerous trials of nonoperative treatment in patients with acute uncomplicated appendicitis have been conducted,[2-6] and the use of antibiotic agents as a first strategy has become acknowledged as a safe option. In this article, we review the expected outcomes associated with initial operative and nonoperative treatment of acute uncomplicated appendicitis and offer guidance on counseling patients to help them chose between the two approaches.

An audio version of this article is available at NEJM.org

STRATEGIES AND EVIDENCE

APPENDECTOMY

Appendectomy requires general anesthesia and, typically, hospitalization, although outpatient surgery is possible.[7] Patients with rupture and a large abscess or phlegmon (complicated appendicitis) are usually treated with antibiotics and, if possible, undergo percutaneous drainage to avoid more extensive operations, such as ileocecectomy.[8]

Appendectomy is a relatively low-risk surgery. In the United States and Europe, most surgeries are performed laparoscopically, an approach that is associated with fewer wound infections and faster recovery than open appendectomy but may be more costly.[9] Approximately 8% of adults with suspected appendicitis that is confirmed on CT have a normal appendix at operation.[10] The 30-day case fatality rate associated with appendectomy among patients with uncomplicated appendicitis is approximately 0.5 per 1000; among elderly persons, the fatality rate is about twice as high as it is among adolescents.[11] Although most patients are candidates for appendectomy, nonoperative treatment is more often considered in patients for whom surgery poses an increased risk of complications.

KEY CLINICAL POINTS

TREATMENT OF ACUTE UNCOMPLICATED APPENDICITIS

- Patients with acute, localized, uncomplicated appendicitis (approximately 80% of all appendicitis cases) are candidates for appendectomy or nonoperative treatment.
- Nonoperative treatment includes analgesia, antibiotics for 7 to 10 days, and careful follow-up.
- With surgery, appendicitis cannot recur, and the incidence of subsequent hospitalization is lower than with nonoperative treatment. Surgery requires general anesthesia and in most instances an overnight hospital stay.
- Nonoperative treatment is associated with a shorter duration of disability than appendectomy, does not routinely require hospitalization, and is not associated with an increased risk of rupture. Over 5 years, approximately 30 to 40% of patients who had been treated with antibiotics will undergo appendectomy, although rates vary with patient characteristics and practice patterns.
- Patients with appendicolith who receive nonoperative treatment are more likely than those without an appendicolith to undergo appendectomy.
- Patients should be informed of the advantages and disadvantages of both strategies and should participate in decision making.

OPERATIVE VERSUS NONOPERATIVE TREATMENT

Nonoperative treatment is a strategy in which patients first receive antibiotics with the aim of avoiding surgery. Appendectomy is reserved for patients who do not have a response to antibiotics or have recurrence of appendicitis. Outcomes in more than 4000 patients with uncomplicated appendicitis who received nonoperative treatment have been reported in at least 10 randomized, controlled trials and 5 prospective comparative studies as well as in more than 20 other investigations,[2-6] most of which were conducted in Asia, Europe, and the United States.

Investigations of operative and nonoperative treatment have involved children and adults with localized appendicitis. In most studies, the diagnosis was confirmed on imaging (excluding patients with findings suggesting tumor or abscess), though some investigations relied on clinical evaluation with selective imaging (Table 1). Most studies excluded patients in whom appendicolith was identified on imaging. Appendicolith is found in approximately 25% of patients in whom appendicitis is confirmed on imaging and is associated with an increased likelihood of appendiceal rupture; it is unclear whether the appendicolith is involved in causing rupture or impairing its healing.[12] Patients with severe sepsis, immunodeficiency, or inflammatory bowel disease and those who were pregnant were also excluded. A minority of trials excluded patients who reported having symptoms for more than 48 hours, who had a white-cell count of 18,000 per cubic millimeter or more, or who had an appendiceal diameter of more than 11 mm.

To summarize the effectiveness of operative versus nonoperative treatment, we reviewed three large, multicenter investigations in which imaging was used to confirm diagnosis (typically ultrasonography in children and CT in adults) and that accounted for approximately two thirds of all such patients in comparative investigations. These included two randomized, controlled trials involving adults: the Finnish trial Appendicitis Acuta (APPAC), which included 530 participants and reported outcomes over a period of 5 years,[13,14] and the U.S. trial Comparison of the Outcomes of Antibiotic Drugs and Appendectomy (CODA), which included 1552 participants and reported outcomes at 90 days.[3] What we believe to be the largest pediatric trial, which involved 1068 children between the ages of 7 and 17 years, was that conducted by the Midwest Pediatric Surgery Consortium (MWPSC) at 10 children's hospitals.[4] Treatment was assigned in accordance with parent or patient preference, and 1-year outcomes were reported. Nonoperative treatment was chosen

Table 1. Considerations in Identifying Appropriate Candidates for Nonoperative Treatment of Appendicitis.

Appropriate candidates
Patients have a clinical diagnosis of localized appendicitis without examination findings of diffuse peritonitis or imaging evidence of large abscess, phlegmon, perforation, or tumor.
Patients are hemodynamically stable, without evidence of severe sepsis or septic shock.
Patients are not pregnant or immunocompromised and have no history of inflammatory bowel disease.
Cautions
Patients with imaging-identified appendicolith (which is present in approximately 25% of patients and is associated with appendiceal rupture) are at increased risk for complications such as abscess and undergo appendectomy more frequently than patients without appendicolith.
Antibiotic response may be delayed in patients who are 45 years of age or older and in those who have appendicolith, extraluminal fluid or air, fever, or elevated inflammatory markers and in those who have had symptoms for more than 48 hours, all of which are associated with appendiceal abscess.

in 35% of cases, and the characteristics of the children in the families that selected this treatment were similar to those in families that selected surgery. The CODA trial, unlike the MWPSC study and the APPAC trial, included patients with appendicolith.[3,4,13] In the APPAC trial, almost all appendectomies were open, whereas nearly all surgeries in the CODA trial and the MWPSC study were laparoscopic.

Likelihood of Surgery

The percentage of patients who undergo appendectomy after initially receiving treatment with antibiotics varies depending on the patient population and the duration of follow-up. In the APPAC trial, 94% of the patients with appendicitis who received antibiotics improved during initial hospitalization, and 27% underwent appendectomy within 1 year.[13] In the MWPSC study, the initial frequency of response was 86%, and 33% of the children underwent appendectomy at 1 year.[4] In the CODA trial, among participants who received antibiotics, those without appendicolith had an initial response rate of 92% and those with appendicolith had an initial response rate of 78%. Appendectomy rates at 90 days were 25% and 41%, respectively.[3] In the subgroup with an appendicolith, as compared with those who had surgery, those who received antibiotics had more percutaneous drainage procedures (6 more per every 100 patients), but surgeries more extensive than appendectomy (e.g., ileocecectomy) were rare and occurred with similar frequency in those undergoing appendectomy. In two trials reporting follow-up for 5 years, 30 to 40% of the patients who received treatment with antibiotics ultimately underwent appendectomy, usually within 1 to 2 years (Fig. 1).[14,15]

Complications

In the APPAC and CODA trials and the MWPSC study, the risks of complications and adverse events among those receiving antibiotics who did not have appendicolith were lower than or similar to the risks among those who underwent appendectomy.[3,4,13] At 5 years, the incidence of complications in the APPAC trial was similar among those who had initial appendectomy and those who had initially been treated with antibiotics but subsequently had appendectomy.[14] There is no evidence that delaying surgery while taking antibiotics increases the risk of perforation. In the CODA trial, for example, investigators observed that the incidence of perforation among patients who did not have appendicolith was lower among those receiving antibiotics than among those who underwent surgery, and among those who had appendicolith, the rates of perforation were similar among those who received antibiotics and those who underwent surgery.[3] Among participants in the CODA trial who had appendicolith, the proportion with at least one complication that met the definition of the National Surgical Quality Improvement Program (e.g., an abscess of any size) was higher in the group treated only with antibiotics than in the group that underwent appendectomy (14% vs. 3%); the incidence of serious adverse events was similar in the two groups (6% vs. 4%).[3] No participant deaths were noted in the initial reports of the APPAC or CODA trials or the MWPSC study.

Disability

In both the APPAC trial and the MWPSC study, the median number of days during which participants were unable to participate in normal activities or to work at 1 year was lower among those who received antibiotics than it was among those who had surgery (7 days vs. 19 days and 4 vs. 7 days, respectively).[4,13] Similarly, the group receiving antibiotics in the CODA trial had fewer mean days of disability at 90-day follow-up (5 vs. 8, respectively).[3]

Quality of Life

Clinical trials have shown similar quality of life after nonoperative treatment and appendectomy. In the CODA trial, findings from the 30-day assessment of the European Quality of Life–5-Dimensions (EQ-5D) test, in which mobility, self-care, usual activities, pain, anxiety, and depression are assessed, showed that quality of life in the antibiotics-first group was noninferior to that in the appendectomy group.[3] Among children in the MWPSC study who were treated nonoperatively, scores assessing physical, emotional, social, and academic functioning were superior at 30 days and similar at 1 year to the scores of children who underwent appendectomy.[4] Findings on quality life in the APPAC trial were also similar in the groups at 7 years on the EQ-5D-5L (known as the European Quality of Life 5-Dimension 5-Level questionnaire).[16]

Health Care Utilization

Whereas hospitalization was required for patients who were in the nonoperative group in the APPAC trial and the MWPSC study, in the CODA trial, patients whose condition was stable were allowed to be discharged from the emergency department, and discharge occurred in slightly less than half of the patients.[3,4,13] In the CODA trial, patients assigned to receive antibiotics had the same length of stay in the emergency department and hospital for their index visit as those assigned to the appendectomy group (mean, 1.3 days) but had a greater number of later hospitalizations and emergency department or urgent care visits that were not associated with hospitalization (24% vs. 5% and 9% vs. 5%, respectively) over a period of 90 days.[3] In the MWPSC study, over a period of 1 year, there were more later hospitalizations but fewer other emergency department visits (including urgent care visits; personal communication: P. Minneci) among patients who received antibiotics as compared with those who underwent surgery (23.0% vs. 3.0%, and 3.5% vs. 7.0%, respectively).[4]

Cancer Detection

In rare instances, cancer may cause appendicitis or symptoms mimicking appendicitis, or it may be found incidentally on appendectomy. In a study of 21,069 appendectomy specimens, researchers detected cancer in 0.9%, with a lower incidence of detection among persons younger than 50 years of age and among those with uncomplicated appendicitis.[17] Thus, nonoperative treatment carries a small risk of delayed diagnosis and disease progression; data are lacking to inform the effect of diagnostic delay on patient outcomes. At the 5-year follow-up in the APPAC trial, cancer was diagnosed in 4 of 272 patients who had been assigned to surgery (all at initial appendectomy), as compared with none of the 260 patients who had been assigned to receive antibiotics.[14]

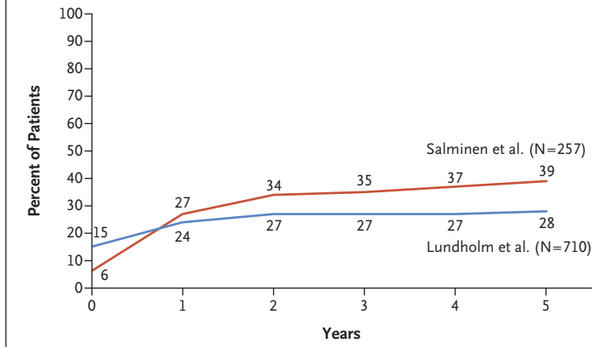

Figure 1. Five-Year Incidence of Appendectomy among Adult Patients with Acute Appendicitis Initially Treated Nonoperatively.

The incidence of appendectomy following initial care is shown for two reports of clinical investigations.[1] Salminen et al.[14] reported outcomes from a randomized trial involving adults with uncomplicated appendicitis confirmed on computed tomography (CT). Patients with appendicolith were excluded. Lundholm et al.[15] reported outcomes from a randomized trial and from observational studies in adults; some patients with complicated appendicitis and appendicolith were included. Not shown is the incidence of appendectomy reported at early follow-up from the largest known comparative investigations involving adults and children.[3,4] The Comparison of the Outcomes of Antibiotic Drugs and Appendectomy (CODA) trial included 776 adults who received antibiotic treatment, 212 of whom had appendicolith identified on CT. At 90 days, of those treated with antibiotics, 25% of those without appendicolith and 41% of those with appendicolith had undergone appendectomy.[3] In a pediatric trial conducted by Minneci et al.,[4] ultrasonography was the primary form of imaging used in diagnosis, and patients with appendicolith were excluded. Among the children included in the trial, 370 were treated with antibiotics. At 1 year, 33% of the children had undergone appendectomy.

SHARED DECISION MAKING

A common concern among adult patients and the parents of nonadult patients is that an inflamed appendix will burst without emergency surgery and cause death.[18-20] This notion has largely been abandoned, and patients should be assured that they have time to consider treatment options. Shared decision making is recom-

mended,[21] wherein clinicians avoid a specific recommendation and instead provide objective information and assess patient priorities and preferences. For example, clinicians might state, "There are two safe options with different advantages and disadvantages. The best choice depends on which outcomes are most important to you. Let's discuss." Physicians should be aware of subtle biases that can accompany explanations of treatment pros and cons, such as stating that an antibiotics-first strategy "fails" in about one third of patients and "succeeds" in about two thirds rather than reporting the percentages of patients who subsequently do or do not undergo appendectomy. Patients' previous surgical experience, work and family responsibilities, schedule flexibility, travel plans, and expected out-of-pocket expenses may be important considerations.[22]

TREATMENT

Control of Pain and Nausea

Pain should be controlled before treatment is discussed. Concerns that pain control may lead to diagnostic inaccuracy in the detection of appendiceal rupture are unwarranted.[23] The administration of nonsteroidal antiinflammatory drugs before appendectomy has been shown to be safe (i.e., without an increased risk of bleeding) and spares the use of opiates. Multimodal analgesics are most effective, especially when prescribed to be taken on a scheduled basis as compared with an as-needed basis.[24] Antiemetics can also provide symptomatic relief.

Use of Antibiotics

A parenteral antibiotic regimen that is active against aerobic Gram-negative and anaerobic bacteria and consistent with community-acquired intraabdominal infection guidelines should be initiated as soon as the diagnosis of appendicitis has been reasonably established, regardless of whether treatment will be operative or nonoperative.[25,26] If nonoperative treatment is anticipated, then the administration of a long-acting parenteral antibiotic, such as ertapenem or ceftriaxone, along with high-dose, once-daily metronidazole, can facilitate early discharge (including, in some cases, after one dose in the emergency department), especially if there is concern regarding recurrent nausea or initial adverse reactions to oral medications.[27,28] Parenteral antibiotics are followed by oral regimens, such as metronidazole, administered with an advanced-generation cephalosporin or fluoroquinolone, for a total of 7 to 10 days. Although ampicillin–sulbactam and amoxicillin–clavulanate have been used effectively in some trials, current guidelines recommend against their use because of high rates of *Escherichia coli* resistance to these antibiotics.[26] In some cases, patients may be treated only with oral antibiotics. In a trial in which 7 days of oral moxifloxacin was compared with 2 days of intravenous ertapenem followed by 5 days of oral levofloxacin and metronidazole, 70.2% of those in the former group and 73.8% of those in the latter group did not undergo appendectomy at 1 year, although fully oral treatment was not shown to be noninferior.[5] For patients who undergo appendectomy, antibiotics should be discontinued postoperatively.[26]

Disposition

In the United States, most patients go home from the hospital the day after undergoing laparoscopic appendectomy.[3,4] Individual recovery times vary, but patients usually return to normal activities within 1 to 2 weeks. Those who have laparoscopic surgery return to normal activities approximately 5 days sooner than those who have open surgery.[9] Patients are typically advised that they can return to work or school when they feel well enough but should avoid strenuous activity for 3 to 5 days after laparoscopic surgery and for 10 to 14 days after open surgery.[29]

After the initiation of antibiotics only, pain, fever, leukocytosis, and anorexia typically resolve within approximately 2 days in patients with uncomplicated appendicitis (as compared with approximately 3 days in those with complicated appendicitis).[8,30-33] After 24 hours, approximately half the patients will have substantial symptom resolution. Pain also resolves more quickly than with surgery.[33] In the absence of the development of peritonitis or severe sepsis, a 48-hour antibiotic trial with continued assessment appears to be safe in patients whose condition is stable and who have only localized tenderness. It is not routinely necessary to track levels of inflammatory markers or to obtain additional imaging studies, but these steps may be useful in patients whose response to antibiotics is slow.

As many as approximately 20% of patients with uncomplicated appendicitis confirmed on CT are found during surgery to have appendiceal rupture and abscess.[3] Patients with appendicolith identified on CT, those with extraluminal fluid or air, those who are older than 45 years of age, and those who have fever, symptoms for more than 48 hours, and elevated levels of inflammatory markers (findings associated with appendiceal abscess) may be anticipated to have a delayed response to antibiotics.[8,34]

Emergency department discharge can be considered in adults who receive nonoperative treatment once their condition is deemed to be stable on clinical assessment, their pain is controlled, and they are able to take oral fluids. They should also be able to adhere to treatment guidelines and be amenable to follow-up. A standard diet can be resumed as long as food is tolerated. Other patients are initially hospitalized for further observation and supportive care. Data are lacking on outpatient treatment in children.

Follow-up

After discharge, all patients should be advised to contact their doctor if they have persistent or increasing pain, fever, or vomiting. Those who have had surgery should contact their doctor if they have redness at the site of the wound, swelling, or drainage. Those who receive nonoperative treatment should be contacted within 1 to 2 days after discharge to evaluate their progress; if there are concerns, reexamination should be conducted. It is important to advise patients to seek medical attention if they have symptoms suggesting recurrence or symptoms suggesting another pathologic condition, such as weight loss.

If appendicitis recurs, surgery is commonly performed and may be preferred in adults who are 40 years of age or older given the possibility that they have appendiceal cancer, although this finding is rare. Several studies have reported success with antibiotic retreatment that is similar to that used in the management of diverticulitis; with reduced recurrence risk after 1 year, this strategy may be a reasonable strategy in younger patients.[2] In adults 40 years of age or older who have had successful nonoperative treatment of complicated appendicitis, some experts recommend follow-up colonoscopy or screening with full-dose, contrast-enhanced CT within 3 months after symptom resolution, but data are lacking regarding the effectiveness of this strategy in patients with uncomplicated appendicitis.[35]

Table 2. Guidelines from Professional Societies on the Treatment of Acute Uncomplicated Appendicitis.

Professional Society and Year	Recommendation
American Association for the Surgery of Trauma,[37] 2018	Surgery or a nonoperative approach is reasonable.
National Institute for Health and Care Excellence,[38] 2019	For now, surgical treatment is the accepted standard, but medical treatment, including antibiotics, may be an alternative. There is an increasing body of evidence in support of nonoperative treatment.
World Society of Emergency Surgery,[35] 2020	High-quality evidence supports nonoperative treatment with antibiotics. This safe alternative to surgery should be discussed in selected patients without appendicolith.
American College of Surgeons,[39] 2020	High-quality evidence indicates that most patients can be treated with antibiotics rather than appendectomy. However, patients with appendicolith who are treated with antibiotics have a higher risk of complications than those without appendicolith.

GUIDELINES

Guidelines from professional societies changed from appendectomy being primarily recommended in 2015 to nonoperative treatment now being endorsed as a safe first-line alternative (Table 2).[35-39]

AREAS OF UNCERTAINTY

Trials in which outcomes among patients who underwent appendectomy were compared with outcomes among those who received antibiotics were not blinded, and criteria for the absence of a response to antibiotics and the need for surgery have been subjective and neither monitored nor enforced (e.g., a 48-hour antibiotic trial).[4,40] In some cases, appendectomies have been performed at the request of the patient when there were no clinical indications for surgery, and treatment decisions may have been influenced by patient and provider bias (e.g., knowledge of the association of appendicolith with rupture). Comfort with shared decision making and commitment to an antibiotic trial may increase as

the traditional narrative regarding the treatment of appendicitis is revised and as experience with this newer form of care increases. Data are limited regarding the benefits and risks of nonoperative treatment in certain populations (e.g., pregnant women and elderly patients).[41,42] Uncertainty remains regarding the care of patients with appendicolith, and it is not known whether the incidence of recurrent appendicitis among these patients differs from that among those without appendicolith. Special considerations may apply in remote settings and in cases in which surgery entails additional risk. Long-term data are needed from the CODA trial and others to better inform the cumulative risk of appendectomy after initial nonoperative treatment. Resistance of Enterobacterales to fluoroquinolones and β-lactams (the latter mediated by β-lactamase production) is emerging.[43] Further study is needed to guide the selection of patients for whom nonoperative treatment is appropriate and to inform best practices for the use of oral antibiotic regimens and outpatient treatment — an approach that may be possible in most cases.[33]

A randomized trial in which supportive care and antibiotics was compared with supportive care alone in selected low-risk patients hospitalized with uncomplicated appendicitis showed no significant between-group differences in treatment failure rates, suggesting that some cases of appendicitis may resolve spontaneously[44]; more study is needed to determine when such a strategy may be safe.[45] The clinical effects of delayed diagnosis of appendiceal cancer when appendicitis is managed nonoperatively are uncertain; the rarity of cancers makes this issue challenging to study. In addition, it remains unclear whether the appendix serves a useful function. Some studies have reported an association between appendectomy and an increased risk of intestinal cancer, but findings are inconclusive.[46]

CONCLUSIONS AND RECOMMENDATIONS

The patient in the vignette has clinical findings consistent with acute appendicitis. She is a candidate for either nonoperative treatment or appendectomy. Through shared decision making, we would objectively review outcomes associated with operative and nonoperative treatments and explore the patient's priorities. She should be assured that she is not at increased risk for appendiceal rupture or death if she does not undergo emergency surgery.

If the patient chooses nonoperative treatment, a long-acting parenteral antibiotic, such as ertapenem, should be administered. As long as her pain and nausea can be effectively controlled and her condition is clinically stable, she is a candidate for outpatient care while receiving oral antibiotics such as cefdinir and metronidazole in order to cover both Gram-negative and anaerobic bacteria. A regimen of 7 to 10 days would be appropriate.

Initiation of pain control with a scheduled regimen of nonsteroidal antiinflammatory drugs and acetaminophen, as well as opiates (as needed), is recommended. An antiemetic agent should also be prescribed and taken as needed for the next few days. Improvement should be expected during a 48-hour period. Follow-up — including in the form of a telemedicine visit — is advisable. Worsening symptoms would prompt referral back to the emergency department. Diffuse peritonitis, sepsis, or the absence of improvement after 48 hours would be indications for appendectomy.

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Physician Services
Positions Sought
Practices for Sale

Classified Advertising Rates

We charge $10.25 per word per insertion. A 2- to 4-time frequency discount rate of $7.60 per word per insertion is available. A 5-time frequency discount rate of $7.30 per word per insertion is also available. In order to earn the 2- to 4-time or 5-time discounted word rate, the request for an ad to run in multiple issues must be made upon initial placement. The issues do not need to be consecutive. **Web fee:** Classified line advertisers may choose to have their ads placed on NEJM CareerCenter for a fee of $125.00 per issue per advertisement. The web fee must be purchased for all dates of the print schedule. The choice to place your ad online must be made at the same time the print ad is scheduled. **Note:** The minimum charge for all types of line advertising is equivalent to 30 words per ad. Purchase orders will be accepted subject to credit approval. For orders requiring prepayment, we accept payment via Visa, MasterCard, and American Express for your convenience, or a check. All classified line ads are subject to the consistency guidelines of NEJM.

How to Advertise

All orders, cancellations, and changes must be received in writing. E-mail your advertisement to us at ads@nejmcareercenter.org, or fax it to 1-781-895-1045 or 1-781-893-5003. We will contact you to confirm your order. Our closing date is typically the Friday 20 days prior to publication date; however, please consult the rate card online at **nejmcareercenter.org** or contact the Classified Advertising Department at 1-800-635-6991. Be sure to tell us the classification heading you would like your ad to appear under (see listings above). If no classification is offered, we will determine the most appropriate classification. Cancellations must be made 20 days prior to publication date. Send all advertisements to the address listed below.

Contact Information

Classified Advertising
The New England Journal of Medicine
860 Winter Street, Waltham, MA 02451-1412

E-mail: ads@nejmcareercenter.org
Fax: 1-781-895-1045
Fax: 1-781-893-5003
Phone: 1-800-635-6991
Phone: 1-781-893-3800
Website: **nejmcareercenter.org**

How to Calculate the Cost of Your Ad

We define a word as one or more letters bound by spaces. Following are some typical examples:

Bradley S. Smith III, MD..... = 5 words
Send CV ..... = 2 words
December 10, 2007 ..... = 3 words
617-555-1234 ..... = 1 word
Obstetrician/Gynecologist ... = 1 word
A ..... = 1 word
Dalton, MD 01622 ..... = 3 words

As a further example, here is a typical ad and how the pricing for each insertion is calculated:

MEDICAL DIRECTOR — A dynamic, growth-oriented home health care company is looking for a full-time Medical Director in greater New York. Ideal candidate should be board certified in internal medicine with subspecialties in oncology or gastroenterology. Willing to visit patients at home. Good verbal and written skills required. Attractive salary and benefits. Send CV to: E-mail address.

This advertisement is 56 words. At $10.25 per word, it equals $574.00. This ad would be placed under the Chiefs/Directors/ Department Heads classification.

Classified Ads Online

Advertisers may choose to have their classified line and display advertisements placed on NEJM CareerCenter for a fee. The web fee for line ads is $125.00 per issue per advertisement and $210.00 per issue per advertisement for display ads. The ads will run online two weeks prior to their appearance in print and one week after. For online-only recruitment advertising, please visit nejmcareercenter.org for more information, or call 1-800-635-6991.

Policy on Recruitment Ads

All advertisements for employment must be non-discriminatory and comply with all applicable laws and regulations. Ads that discriminate against applicants based on sex, age, race, religion, marital status or physical handicap will not be accepted. Although the *New England Journal of Medicine* believes the classified advertisements published within these pages to be from reputable sources, NEJM does not investigate the offers made and assumes no responsibility concerning them. NEJM strives for complete accuracy when entering classified advertisements; however, NEJM cannot accept responsibility for typographical errors should they occur.

Classified Ad Deadlines

Issue	Closing Date
April 28	April 8
May 5	April 14
May 12	April 22
May 19	April 29

Cardiology

WELL-ESTABLISHED RESPECTED PRIVATE PRACTICE — Seeking BC/BE Interventional cardiologist around Newport Beach, California. Proficiency in structural heart and vascular interventions a plus. Competitive salary, benefits, partnership track. E-mail CV to: drocheartandvascular@gmail.com

Gastroenterology

PERMANENT GASTROENTEROLOGY/ HEPATOLOGY PHYSICIAN IN NEW JERSEY (NY METRO) — Physician led, owned, and governed multispecialty group seeks a Gastroenterologist/ Hepatologist to join our team in Fair Lawn, New Jersey. A full-time opportunity to join three physicians and one nurse practitioner. Candidates must be BC/BE in Gastroenterology/Hepatology. Competitive salary and benefits. Partnership opportunity available in our new endocenter. E-mail CV to: annu.bikkani@ehmchealth.org

THREE-MEMBER GROUP IN CARY, NC, AREA — Looking for fourth partner. Practice with state-of-art endoscopy center with pathology lab. ERCP/EUS experience preferred to start EUS program. Send CV to: singh@centerfordigestivediseases.com

Hematology-Oncology

PERMANENT HEMATOLOGY/ONCOLOGY PHYSICIAN IN NEW JERSEY (NY METRO) — Multispecialty group seeks a Hematologist/ Oncologist to join our group in Fair Lawn, New Jersey. A full-time opportunity to join a three-physician Hematology/Oncology team. Candidate must be board certified or board eligible in Hematology and Oncology. Be part of an established and growing Hematology/Oncology practice. Affiliated with a major academic medical center. Competitive salary and benefit package. E-mail CV to: annu.bikkani@HVAMedicalGroup.com

THRIVING PRIVATE ONCOLOGY PRACTICE WITH MULTIPLE LOCATIONS IN LOS ANGELES AREA — Looking for BC/BE Oncologists. Excellent compensations/benefits, nice work schedule, and easy weekend calls. CV to: socalonc@gmail.com. Text: 323-691-0990.

Hospitalist

MEDICAL GROUP BASED IN NORTHERN NEW JERSEY — Is seeking BC/BE part-time/ full-time hospitalist physician. Privately owned. The position provides exciting opportunities for long term careers in Internal Medicine. Competitive compensation commensurate with qualifications/ experience. Send CV to: terri.urgo@hvamedicalgroup.com or: vibuvharghese@gmail.com

Infectious Disease

NORTHEASTERN OHIO INFECTIOUS DISEASE ASSOCIATION — An eight-physician group, including five Nurse Practitioners that is 100% private in northeast Ohio is seeking a ninth member. 90% Inpatient practice. Minimal HMO penetration. Private practice affiliated with Level 1 trauma center as well as three other moderate size teaching hospitals with two of them having LTACs. Teaching and clinical research opportunities available. Benefits included. Competitive and negotiable salary, depending on experience. Great income potential. J-1 Candidates are invited to apply. One hour away from two large metropolitan areas. Great school systems, yet low cost of living. Interested candidates should fax their CV to: 330-744-1728. Our mailing address is: Northeastern Ohio Infectious Disease Association, 540 Parmalee Avenue, Suite 610, Youngstown, OH 44510. Our phone is: 330-744-4369.

Nephrology

WASHINGTON, DC, SUBURBS — Busy and large, high-quality Nephrology practice in northern Virginia looking for a motivated and hard-working individual, FT/PT to join our practice. Please e-mail CV to: janiced@nanvonline.com

NEPHROLOGIST, MODESTO, CALIFORNIA — Modesto Kidney Medical Group is an established, 100% nephrology practice, looking for an adult nephrologist to join our practice full time. We are located in northern California, 1.5 hours east of San Francisco and 45 minutes to the East Bay. The community is growing and still relatively affordable compared to the Bay Area with less commute time. Call is 1:4, with 25%–50% travel time. There is a two-year partnership track and opportunities for medical directorship and joint ventures. Guaranteed competitive salary and benefits. E-mail: Omar.Duenas@modestokidney.com

SEEKING NEPHROLOGIST TO JOIN A GROUP OF ENTHUSIASTIC NEPHROLOGISTS IN OLYMPIA, WASHINGTON — Considered the Best Practice by the Pacific NW Renal Network and earned "High Performing" ratings by the 2021–22 *U.S. News & World Report*. Olympia is a safe place to raise family with excellent schools, near Seattle, snow-capped Mt. Rainier, beautiful Pacific beaches, and wonderful parks, lakes, rain forest, with nearby airport/direct flights to Asia and Europe. Two-year partnership track. Call split between physicians. Competitive salary and benefits package. Please contact: Mikkic@memorialnephrology.org

Primary Care

WELL-RESPECTED, INDEPENDENT, BUSY MED/PED PRACTICE IN DUTCHESS COUNTY, NEW YORK — 2 MD and 2 NP, seeking a BC/BE Med/Ped or FP physician. Duties would entail outpatient care, no hospital except for inpatient newborn care. Comprehensive and compassionate care for patients of all ages and families of all types. Easy access to NYC, abundance of outdoor activities. Competitive salary/benefits. Send CV to: hudsonvalleyprimarycare@gmail.com

Practices For Sale

VIRGINIA, NORFOLK AREA — Solo Internist must retire due to health issues. You will be your own boss. Assume a profitable (gross $700K) well-established practice in desirable suburb, turn-key. Attractive office, all equipment, excellent staff, and good payer mix. Coverage 1 in 4, no hospital. Contact Karen: 757-404-0352; Khculbert@gmail.com

Atrius Health

**Dedham Medical Associates, Granite Medical Group,
Harvard Vanguard Medical Associates,
and PMG Physician Associates**

Atrius Health is a well-established, Boston based, physician led, healthcare organization and for over 50 years, we have been nationally recognized for transforming healthcare through clinical innovations and quality improvement.

At Atrius Health we are working together to develop and share best practices to coordinate and improve the care delivered in our communities throughout eastern Massachusetts. We are a teaching affiliate of **Harvard Medical School/Tufts University School of Medicine** and offer both **teaching and research opportunities**.

Our physicians enjoy close clinical relationships, superior staffing resources, minimal call, a fully integrated EMR (Epic), excellent salaries and an exceptional benefits package.

We have openings in the following specialties:

Clinical Staff

- **Allergy**
- **Breast Surgery**
- **Dermatology**
- **Gastroenterology**
- **Hematology/Oncology**
- **Maternal Fetal Medicine**
- **Nephrology**
- **Neurology**
- **Non Invasive Cardiology**
- **OB/GYN**
- **Outpatient Primary Care**
  - **— Internal Medicine**
  - **— Family Medicine**
- **Pediatrics**
- **Pulmonary Medicine**
- **Psychiatry**
  - **— Adult**
  - **— Child**
- **Physiatry—Pain Management**
- **Reproductive Endocrinology**
- **Rheumatology**
- **Urgent Care (Weekday)**
- **Urgent Care – per diem (Weekend)**

Visit our website at **https://atriushealthproviders.org,** or send confidential CV to:
Brenda Reed, 275 Grove Street, Suite 3-300, Newton, MA 02466-2275
E-*mail:* **Physician_Recruitment@atriushealth.org**

Physician (Chief of Medical Informatics Officer)

Summary

The Veterans Integrated Service Network (VISN) 10 is currently recruiting for a Physician to function as a Chief Medical Informatics Officer (CMIO). The physician in this role will serve as the VISN 10 medical leader in the development, implementation, and communication of clinical informatics processes and tools to facilitate and support improvement of quality care for individual patients and populations of patients.

Duties and Responsibilities:

The VISN 10 Chief Medical Informatics Officer (CMIO) is the key person to assure the competency of the health informatics workforce at all locations of care in the VISN. This position is located in the VISN 10 Office which provides direction and oversight to eleven facilities and 84 community-based outpatient clinics (CBOCs) in the Network. This position establishes a formal informatics leadership presence in the field at the medical center and VISN level.

The scope of this position encompasses Health Informatics in VISN 10 and consists of practice of an executive nature, comprised of complex managerial and administrative components, associated with critical health care issues and activities that influence the national, network, and local missions, health care, and policy.

Recruitment / Relocation Incentive:

An incentive may be authorized for highly qualified candidate. (subject to eligibility and approval).

Education Debt Reduction Program (EDRP):

This position is eligible for the Education Debt Reduction Program, a student loan payment reimbursement program.

For more details and to see the complete announcement for this position, please go to **USAJobs.gov**. Announcement number: **CBSR-11369884-22-AMF**; Control number: **633673800**; and Vacancy number: **11369884**.

All applications for this position must be made through USA Jobs.

CHA Cambridge Health Alliance

AFFILIATED WITH

Beth Israel Deaconess Medical Center · Mass General Hospital for Children · Harvard Medical School Teaching Hospital · University of Massachusetts Medical School · Harvard T.H. Chan School of Public Health · Tufts School of Medicine

Cambridge Health Alliance (CHA) is a nationally recognized, award-winning public healthcare system located in the Boston metro area. We provide innovative primary, specialty and emergency care to our diverse patient population through an established network of outpatient clinics, a dedicated psychiatric inpatient facility, and two full service hospitals. As a Harvard Medical School and Tufts University School of Medicine affiliate, we offer ample teaching opportunities with medical students and residents. We utilize a fully integrated EMR system (Epic) throughout both ambulatory and inpatient locations. Located in vibrant, multicultural communities throughout the Boston, MA area, working at CHA offers limitless personal and professional opportunities for providers and their families. CHA offers competitive salaries commensurate with experience and a comprehensive benefits package including affordable options for health insurance coverage, a fully paid dental plan, generous PTO, CME/professional expense reimbursement, retirement account with matching, and much more!

We are currently recruiting for the following departments and positions:

Psychiatry
- **Division Chief** – Geriatric Psychiatry
- **Director** – Neurodevelopmental Disorders
- **Director** – Child & Ado Intensive Services
- **Medical Director** – Adult Outpatient
- **Medical Director** – Child/Ado Inpatient
- **Director** – Neurodevelopmental Unit
- Psychopharmacology
- Consultation-Liasion/Emergency Services
- Child/Adolescent - Inpatient & Outpatient
- Adult – Inpatient & Outpatient
- Primary Care Integration - Adult & Child
- Psychiatry Access Service

Psychology
- Adult & Pediatric Neuropsychology
- Child/Adolescent – Outpatient
- Primary Care Behavioral Health Integration
- Adult – Outpatient
- Inpatient Pediatric Psychological Testing

Primary Care
- Family Medicine
- Internal Medicine
- Med/Peds
- Pediatrics
- Float

Physician Assistants
- Primary Care
- Hematology/Oncology
- Obstetrics & Gynecology
- Dermatology
- Surgery (per diem)

- **Medical Director, CHA Sleep Lab**
- **Department Chief, Orthopaedics**
- **Division Chief, Urology**
- **Neurology**
- **Non-Invasive Cardiology**
- **Dermatology**
- **Geriatrics – PACE Program**
- **Nephrology**
- **Urology**
- **Pediatrician & Pediatric Liaison to Psychiatry**
- **Sleep Medicine**

To apply please visit www.CHAProviders.org. Candidates may submit CV confidentially via email to ProviderRecruitment@challiance.org.
CHA Provider Recruitment – Tel: 617-665-3555/Fax: 617-665-3553

In keeping with federal, state and local laws, Cambridge Health Alliance (CHA) policy forbids employees and associates to discriminate against anyone based on race, religion, color, gender, age, marital status, national origin, sexual orientation, relationship identity or relationship structure, gender identity or expression, veteran status, disability or any other characteristic protected by law. We are committed to establishing and maintaining a workplace free of discrimination. We are fully committed to equal employment opportunity. We will not tolerate unlawful discrimination in the recruitment, hiring, termination, promotion, salary treatment or any other condition of employment or career development. Furthermore, we will not tolerate the use of discriminatory slurs, or other remarks, jokes or conduct, that in the judgment of CHA, encourage or permit an offensive or hostile work environment.

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Summit Health

Be part of our team to provide brilliantly connected care.

Summit Health is a physician-led, patient-centric network committed to simplifying the complexities of health care. We are actively recruiting for board-certified/board-eligible physicians to join our dynamic primary, specialty and urgent care network in New Jersey, New York and Oregon.

We work every day to deliver exceptional outcomes and exceed expectations to bring our patients a more connected kind of care.

To apply and explore opportunities,
visit our career page at **joinsummithealth.com** or
reach out to **providerrecruitment@summithealth.com**.

Benefits We Offer

- Competitive compensation
- Shareholder opportunity
- Comprehensive benefits package
- Generous CME funding
- Opportunities for professional growth
- Complete administrative and care management support

Physician – Deputy Associate Chief of Staff (Research)

Summary: The Deputy Associate Chief of Staff (Research) position is in the Research & Development department of the Atlanta VA Healthcare System and reports to the Associate Chief of Staff (Research).

Duties: This position involves significant administrative, oversight, and leadership responsibilities. As the Deputy Associate Chief of Staff/Research (DACOS/R), the incumbent will fully share responsibilities with the Associate Chief of Staff/Research (ACOS/R) for the direction of all phases of the Research & Development (R&D) program. The incumbent will serve as a facility-wide expert on all matters related to R&D. As part of the R&D management team, along with the ACOS/R and Administrative Officer for Research (AO/R), the DACOS/R, under the supervision of the ACOS/R, will formulate goals and objectives for the AVAHCS research program, ensure compliance of all research programs with pertinent oversight mechanisms, and serve as a liaison between VA investigators and their staff with facility leadership and academic affiliates. The incumbent is responsible for developing and initiating policies, procedures, and organizational structures necessary to achieve the goals of the Research Program. This includes compliance with both VISN- and VA Central Office (VACO)-mandated research policies including those issued by the Office of Research and Development (ORD) and the Office of Research Oversight (ORO). The incumbent is also responsible for planning, developing, and directing the complex scientific and administrative activities necessary to advance the program. The incumbent has co-leadership responsibility for all administrative and budgetary operations of the R&D Service and for the supervision and evaluation of personnel through subordinate supervisors. Other duties may include, but are not limited to:

- Foster research programs throughout the institution that are consistent with the core missions of the VA.
- Participate with the Director and Chief of Staff in the management of the hospital's health care programs, particularly in the areas where integration of R&D programs can have a beneficial effect either directly or indirectly on patient care.
- Ensure all required research accreditations are maintained.
- Serve as the secondary official to advise the Director, VISN Director, and Chief Research and Development Officer on all matters of compliance and assurance regarding AVAHCS Research Program human subjects' protections, animal welfare, research safety, and research misconduct.

Apply: USAJOBS - Job Announcement; after March 31st, please send CVs to Ashley.Scales@va.gov.

DIVISION OF CARDIOLOGY
UNIVERSITY of WASHINGTON

UNIVERSITY OF WASHINGTON
UW Harborview Echo Director

The Division of Cardiology, Department of Medicine at the University of Washington, School of Medicine is recruiting a full-time Assistant or Associate Professor without tenure by reason of funding (level commensurate with qualifications), Director of the Echocardiography Lab at Harborview Medical Center. Assistant Professors WOT are *eligible for multi-year* appointments that align with a 12-month service period (July 1–June 30). Faculty with 12-month service periods are paid for 11 months of service over a 12-month period (July-June), meaning the equivalent of one month is available for paid time. Associate Professor WOT hold *indefinite* appointments that align with a 12-month service period (July 1–June 30). Faculty with 12-month service periods are paid for 11 months of service over a 12-month period (July–June), meaning the equivalent of one month is available for paid time off. The successful candidate will be expected to provide effective leadership and support the department's commitment to patient care, scholarship and medical education. This position will be expected to take advantage of the outstanding opportunities for collaboration at the University of Washington. The successful candidate will work with the leadership team of UW Echocardiography in the Section of Cardiac Imaging, alongside nationally prominent cardiac imagers, and will take a leading role in cardiac imaging research, quality assurance, lab operations, and imaging education activities of the Division of Cardiology. The anticipated start date will be September 1, 2022 or after.

All University of Washington faculty engage in teaching, research and service.

Applicants must have an MD degree (or foreign equivalent) and be board certified in cardiovascular disease and echocardiography (or foreign equivalent) and will have achieved level III certification in echocardiography. In order to be eligible for University sponsorship for an H-1B visa, graduates of foreign (non-US) medical schools must show successful completion of all three steps of the U.S. Medical Licensing Exam (USMLE), or equivalent as determined by the Secretary of Health and Human Services.

Interested applicants should apply via Interfolio apply.interfolio.com/103534

Please include CV, cover letter and provide a statement of past and planned contributions to diversity, equity, and inclusion and contact information for three professional references.

University of Washington is an affirmative action and equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, creed, religion, national origin, sex, sexual orientation, marital status, pregnancy, genetic information, gender identity or expression, age, disability, or protected veteran status.

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Baystate Health offers:

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  - Nurse Triage- Daytime, Nighttime, first call after hours & weekends
  - Scribes
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- **Academic & Nonacademic Positions**
  - Faculty appointment UMASS school of medicine (dependent on practice setting)
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  - Up to $50K sign on bonus (paid within first 30 days of EMPLOYMENT, specific dollar amount will be dependent on experience & site of employment)
  - Generous compensation package
  - CME Allowance and time, high quality, low cost medical/dental, robust paid time off

All correspondence can be directed to:

Paige Livingston, *Provider Recruiter* • Paige.Livingston@baystatehealth.org
Phone: 413-794-7874 • Fax: 413-794-5059

Baystate Health | UMass Chan Medical School | Forbes 2021 America's Best-In-State Employers

baystatecareers **@baystatecareers**

Baystate Health is an Equal Opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, marital status, national origin, ancestry, age, genetic information, disability, or protected veteran status.

NEJMCareerCenter.org

Get ready for a bright future with us as we ignite a new era in community care. One that gives our patients easier access to what they need, when and where they need it.

Luminis Health is currently seeking **Full-Time Primary Care Physicians** at the following locations:

- Cape St. Claire Offices- Cape St. Claire & Arnold, MD
- Eastern Shore Offices (Queen Anne & Talbot)- Easton, MD*

**Location compensation incentive & loan assistance available*

The incumbent will be a graduate of an accredited School of Medicine, completed residency, BC/BE and hold a current Maryland state license to practice medicine, DEA, and CDS.

We support our employees at every stage of life. In addition to income guarantee while you build your panel of patients, we offer attractive benefits which include Medical, Dental & Vision, 403b w/matching, 457b, Paid Time Off (additional paid time off for your CMEs and CME dollars), Student Loan Assistance and much more!

For immediate consideration, please send your CV to:
Marcia Brown, Physician Recruiter at: mbrown23@luminishealth.org
Luminis Health is an equal opportunity employer.

Luminis Health℠

Full–Time Interventional Radiologist and Neuroradiologist

The VA Northeast Ohio Healthcare System, is recruiting for a full-time physician (Interventional Radiologist (IR) and Neuroradiologist). The Interventional Radiologist and Neuroradiologist duties include performing and interpreting general and neurological diagnostic procedures, angiographic and non-angiographic interventional procedures. Including both Body-IR and Neuro-IR procedures. Interpreting computed tomography angiography (CTA) and magnetic resonance angiography (MRA) for assessment of vascular disease and surgical planning. Performing monthly lectures and case reviews for residents. Directing and supervising the work of the residents in the angiography suite. Participating in the Spine and Pain Management Board meetings, Tumor Boards, Liver rounds, Morbidity and Mortality conferences. Attaining proficiency in use of the state-of-the-art equipment, Picture Archive Communication System (PACS) and voice recognition system. Performing diagnostic angiograms, angioplasties, stent placements including carotid artery stenting and other interventional therapeutic procedures. Performing and implementing oncologic therapies for solid tumors, hepatobiliary and genitourinary procedures such as TIPS, nephrostomy, NU stents, double J stents, biliary biopsies and drainage, vertebroplasty, and kyphoplasty.

Work schedule: The schedule for this position is Monday – Friday 8:00am – 4:30pm with on-call duties as required (evenings and weekends) as determined by Chief of Radiology. The total number of body IR angiographers to take call will be three.

Preferred Experience:

- Board certified in Diagnostic Radiology by the American Board of Radiology.
- Successful completion of Fellowships in Vascular Imaging and Interventional Radiology, Diagnostic Neuroradiology, and Interventional Neuroradiology recognized by the Accreditation Council for Graduate Medical Education (ACGME). The radiology department at the VA Northeast Ohio Healthcare System (Cleveland VA Medical Center) is affiliated with Case Western Reserve University School of Medicine. The university has a large radiology residency and interventional radiology fellowship program. The residents and fellows will be trained at the hospital as this entitles an academic appointment. Case Western Reserve University provides the academic appointment as per the qualifications specified by the American College of Radiology and university by law.
- Postgraduate work experience of at least five years in interventional radiology, neuroradiology as the variety and spectrum of cases are complex.
- Conscious sedation policy requires BLS and ACLS certification.

Reference: VA Regulations, specifically VA Handbook 5005, Part II, Appendix G-2 Physician Qualification Standard.

Interested individuals should submit a Curriculum Vitae to:
Joseph Mayette, Human Resource Specialist, at Joseph.Mayette@va.gov.
View job posting and apply online:
https://www.usajobs.gov/GetJob/ViewDetails/638646900

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Southern California Permanente Medical Group

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https://scpmgphysiciancareers.com/internal-medicine-outpatient

For additional information about these opportunities, contact Jolanta Buschini at: **Jolanta.U.Buschini@kp.org** or call **866-535-1102**.

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- Being actively involved in advancing hope and healing.
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- Excelling and advancing in your career.
- Being a part of a diverse team of providers who will support and inspire you.

Discover what your future looks like with SSM Health present in your practice of medicine.

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