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The NEW ENGLAND JOURNAL of MEDICINE

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Managing Medical-Education Loan Debt

Exploring repayment options, accessing all available resources are key

By Bonnie Darves

For many residents, their excitement about starting training is tempered by an economic reality: it's time to reckon with the education debt they've incurred during medical school and start repaying those loans.

Although medical school remains a good investment and the associated loan debt is ultimately manageable — most physicians will earn incomes substantial enough to repay their loans, and loan-default rates are extremely low — looking at the loan tab can be unnerving. The median loan debt for graduation medical students is $200,000, and while that figure has changed little in recent years, it's still a staggering sum.

"What we've seen in the past few years is that indebtedness has remained relatively stable, if you control for inflation. It's not increasing at the same high rate we were seeing in the past," said Julie Fresne, senior director of student financial and career advisory services at the Association of American Medical Colleges (AAMC). Fully three-quarters of physicians enter training with loan debt, according to recent AAMC data, so those who fret about paying off their loans have plenty of company.

Ms. Fresne also noted that interest rates on federal direct loans have varied little over the last decade, which helps physicians to predict how much interest they'll pay over the life of their loans. The current interest rate for graduate or professional loans is 6.08%.

The good news is that repayment options are more plentiful and flexible than ever, giving physicians some control in identifying a payment strategy that works for them. Further, if physicians encounter financial circumstances that prevent them from repaying loans temporarily, there are ways to adjust or postpone payments.

Exploring repayment options

Traditional repayment structures are predicated on either a 10-year (Standard, or Default) or 25-year (Extended) repayment plan, in which payments are fixed over the loan period. The 10-year default plan might be manageable for physicians in training who've incurred a relatively small amount of debt but likely won't work as well for physicians carrying six-figure debt

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loads: monthly payments for $200,000 of loan debt would exceed $2,000 a month. And while the 25-year plan is more manageable, such extended repayment is far more costly in terms of the interest charges. A third traditional option is the graduated 10-year repayment plan, in which payments are initially smaller and then increase after two years.

Because the traditional repayment options are somewhat rigid, many physicians today opt for income-driven repayment (IDR) plans. In those plans, available with 12- or 25-year terms, payments are set based on the physician's income by using formulas that take into account discretionary income, adjusted gross income, and family size. Physicians must reapply annually to remain in the plans, which include the income-contingent repayment (ICR) plan and the newer income-based repayment (IBR) plan, introduced in 2014. For IBR, which has a 25-year repayment term, payments are capped at 15 percent of discretionary income.

The most popular income-based repayment plans introduced over the last decade include the Pay As You Earn (PAYE) and the new Revised Pay As You Earn (REPAYE) plans. Both are applicable only to federal Direct Loans, and REPAYE, the newest addition, is structured to accommodate long residencies. Here is how the two plans compare:

- **PAYE**. The PAYE plan has a 20-year repayment term, and payments are based on 10 percent of discretionary income. Payments are capped at the 10-year Standard rate and cannot exceed 10 percent of the principal loan amount. Any debt remaining after 20 years is forgiven, but that sum is taxable.
- **REPAYE.** In the REPAYE plan, introduced in 2015, payments are also based on 10 percent of discretionary income. However, the repayment period is 25 years and there is no payment cap. Any debt remaining at 25 years is forgiven and, as with the PAYE plan, the remainder is taxable.

In all income-based plans, spousal income is taken into account if the couple files jointly. Spousal income is not factored into loan payment amounts if the couple files separate tax returns.

Paul Garrard, MBA, founder and president of PG Presents, LLC, which counsels medical professionals on education-loan management, notes that today, most graduating physicians are essentially channeled into income-based repayment plans. "Residents are pretty much pushed into one of these plans today," said Mr. Garrard, who frequently makes presentations to medical students and residents.

Although IBR is inherently flexible and makes it easier to manage loan debt because payments are based on their income in any given year, residents with high debt loads should keep in mind that their lower payments might not cover the interest due. As such, that unpaid interest will increase. "For residents who owe $200,000 and are using an income-based repayment plan, those lower payments, by the time they finish training, will not have covered the interest on that debt," Mr. Garrard said.

Despite that downside, residents are increasingly choosing income-based repayment plans rather than traditional plans, according to Ms. Fresne. "Our data shows that physicians are showing more interest in income-driven plans today," she said.

Demystifying Public Service Loan Forgiveness

Although the Public Service Loan Forgiveness (PSLF) program has been in place for many years, misconceptions about how it works and, more importantly, who is eligible for it, persist. The program is designed to help physicians and health professionals, and other qualified borrowers, have a portion pay of their education debt forgiven by working for qualified non-profit entities or government agencies. The other key benefit is that any loan amount forgiven is not taxable — a key difference between PSLF and many loan-repayment plans.

For physicians who have federal Direct Loans and who work (train and/or practice) in qualifying employer organizations, any education debt remaining after they have made 120 (10 years' worth) of qualifying payments is forgiven. To be eligible for PSLF, physician borrowers must be enrolled in an income-driven repayment plan.

The requirements and eligibility criteria for PSLF are somewhat complex, but the option is worth exploring, and many physicians who think they might be ineligible may indeed qualify, Ms. Fresne points out. "It really affords any [qualifying] physician borrower to repay any level of debt, regardless of the specialty they're in. And it can help borrowers make their payments more manageable from the tracking standpoint," she said. That's because once borrowers qualify for enrollment in the program, the government tracks their employment history and their payments.

Despite these benefits, some physicians fail to investigate their PSLF eligibility precisely because of the myths that have persisted. The key one is that physicians' income will be too high to qualify. That's not the case,

at least during training. According to the Medscape 2019 Residents Salary and Debt Report, the mean salary for residents in 2019 was $61,200. As such, many physicians who have long residencies will likely qualify for PLSF throughout training at least, and possibly longer. That's because PSLF eligibility is predicated on income relative to the balance of education loans, not just on income alone. "Some physicians have the impression that it's very difficult to qualify for PSLF, but that's not the case," Mr. Garrard.

Two other misconceptions about PSLF:

1. **My employer or institution won't qualify for PSLF.** That might be the case, but the odds are somewhat against it, particularly for physicians in training who do their residencies at hospitals or health systems. Of the approximately 5,000 U.S. hospitals, more than 2,800 are nonprofit community hospitals and nearly 1,000 are state or local government community hospitals. In addition, there are also 209 federal government hospitals. All three types of institutions meet the PSLF qualifications, which means that approximately three-quarters of those facilities would be eligible employers.

2. **The program will be discontinued.** That's possible, based on statements coming out of the current administration, but no decisions have been made and for now it's still operating. Further, any status change is unlikely to affect borrowers who are already enrolled in the PSLF program.

There's yet another myth that continues to circulate, according to Mr. Garrard: Many physicians think that by enrolling in PLSF, they must continue working in public service for a long time. "If borrowers enroll in PLSF, they're not committing to anything. Basically, they're just having the government track their payments," he said. "And if they're training or working in a qualifying 501(c)(3) hospital, the qualified loan payments they make go toward PLSF." The benefit of the arrangement is that, regardless of where enrollees work, the government will track whether the loan payments being made qualify toward PSLF, saving physicians considerable paperwork and possible guesswork.

To apply for the program, borrowers must complete the PSLF Employment Certification Form to start the process. The form must be completed annually or whenever borrowers change employers.

"The point is that by enrolling in PSLF, physicians preserve the option to use public service to require their debt tax free," Mr. Garrard said. "There's really no downside to enrolling." He cited the example of a pediatrics resident in a teaching hospital who decides to subspecialize, thereby spending an additional three years in training and accruing six years toward possible loan forgiveness. If that physician were to work at a qualifying entity after training, she or he might be able to obtain loan forgiveness after four more years.

It's important to keep in mind, Ms. Fresne and Mr. Garrard advised, that to have loan debt ultimately forgiven under the PSLF program, borrowers must have met all requirements during the period when they made their 120 payments. For example, to have payments qualify toward loan forgiveness, borrowers must work full time (at least 30 hours a week), make the full scheduled payment on time, and remain in a qualified repayment plan (PAYE, REPAYE, IBR, and ICR) during the period before they request forgiveness. However, neither the qualifying payments nor the employer need to be consecutive, so a physician who worked in the private sector and returned to a qualifying public-sector employer might still be eligible for loan forgiveness.

Numerous individual agencies and entities also offer special loan-forgiveness service options for physicians, including the National Institutes of Health (NIH), the National Health Service Corps (NHSC), the Indian Health Service (IHS), and all branches of the U.S. military.

Consolidation and refinancing: understand the risks

Physicians who hold numerous loans, including some private loans, might want to consider consolidating or refinancing their debt — if they're in a solid financial position and it makes economic sense to do so. However, it's worth noting that consolidation is unnecessary for borrowers who hold only federal loans; government-contracted loan servicers manage the individual loans as a package and borrowers make a single payment. That payment is apportioned among the loans.

Refinancing is a different matter. Physicians who hold private loans with high interest rates or whose solid financial circumstances permit them to exit an income-based repayment program, and the relative safety that confers, might be good candidates for refinancing. And that option may be especially appealing in a low-interest-rate environment, for physicians who are working in the private sector. The primary caveat is that in leaving the federal loan program, physician borrowers may lose the ability to overpay on their loans and thereby reduce total interest costs over the life of those

loans. Such loans also don't qualify for loan federal loan forgiveness through PSLF.

Mr. Garrard reminds physicians considering refinancing to keep in mind that refinancing eligibility requirements vary, sometimes significantly, from lender to lender. However, all lenders will look at key factors that indicate the borrower's ability to repay.

"Physicians who are doing well financially and decide they don't like the 6.5% interest rate on their loans might start exploring refinancing options," he said. "But they must have good credit, a solid employment history, and a favorable debt-to-income ratio." The latter simply means the amount of debt compared to their current income. It's also worth noting that refinancing is usually available only to U.S. citizens or permanent residents. International medical graduates might, however, be able to secure new financing if they have a creditworthy cosigner who is a U.S. citizen or permanent resident.

Mr. Garrard suggested that physicians evaluating refinancing options — for all or part of their loan portfolio debt — should ask the following questions:

- What fixed and variable interest rates would I qualify for? Some lenders might offer a hybrid.
- With variable rates, what are the maximum and minimum rates that can be charged? Variable rates are usually based on an index, such as the Prime Rate or the London Inter-bank Offered Rate) that changes over time.
- How often can the interest rate change, and how much notice would I receive before that happens? Mr. Garrard said that this can occur as frequently as monthly or quarterly, so it's key information for borrowers for budgeting purposes, especially if they're paying via automatic debit.

Finally, borrowers should be fully aware of how long they have to repay the loan. The range might be five years to 15 years or longer.

Regardless of whether physicians keep their federal loans or seek refinancing, the main thing to remember is that because physicians can expect to earn good income, they'll find a workable way to repay their loans. "Physician borrowers have options — even if their debt load is high. That's the important thing," Mr. Garrard said.

Resources

Association of American Medical Colleges. The AAMC offers numerous resources about education loans on its website, **www.aamc.org**. In addition, the AAMC FIRST program provides a wide range of overall guidance on personal finance matters such as budgeting and goal setting. It's accessible at **https://aamcfinancialwellness.com/index.cfm**.

PG Presents. The company focuses primarily on counseling physicians and medical students, and its website includes numerous up-to-date resources on loan-debt management. The website is **www.pgpresents.com**

Public Service Loan Forgiveness (PLSF). For a basic overview of how this option works and the types of loans and employer organizations that qualify, go to the federal Student Aid web page at **https://studentaid.gov/app/pslfFlow.action#!/pslf/launch**.

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Identifying a Cultural Fit in Physician Job Opportunities

Self-assessment, up-front research, and ample time for interactions are key

By Bonnie Darves

Practicing medicine in an organization that has established a strong, positive culture can make all the difference in terms of physician satisfaction, studies and surveys have found, just as a toxic culture can create a miserable experience for all practice staff. In fact, a negative or unsupportive culture is consistently among the leading reasons physicians cite when they leave a job.

So, how can job-seeking physicians, particularly residents and fellows eyeing a first job, ensure that they're not heading into a bad situation when they explore practice opportunities? It's not always easy to spot a "problem practice," but by doing some advance research and asking the right questions, physicians might be able to avoid this pitfall. This is not to suggest that undesirable culture is rampant among practices and physician organizations, but rather that young physicians generally aren't proactive enough about looking into a practice's culture before accepting opportunities, according to recruiters.

One of the first steps physicians should take when looking for a good cultural fit is to identify what's important — or possibly even nonnegotiable — in the practice's cultural environment. Ideally, this self-assessment should occur before starting the job search. Patrice Streicher, senior operations manager for Vista Staffing Solutions, recommends that physicians create a list of "absolute must-haves" and "would be nice to have" to guide their discussions with recruiters and, later, with the prospective employers' hiring team. These categories, Ms. Streicher said, can be very helpful overall in evaluating practice opportunities and gauging potential cultural fit.

Ms. Streicher also stresses the importance of physicians being honest with themselves (and recruiters) about what they'll need to practice successfully in any cultural environment. "Physicians should be realistic about their abilities, their competency level, and their confidence in their own autonomy. These answers will inform the degree of collegial support they'll need in a new position," she said.

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Physicians who have identified their preferred practice location should start their culture research even before they start scheduling site interviews, advises Louis Caligiuri, director of physician services for North Shore Medical Center, in Peabody, Massachusetts. "It's important to connect with other physicians in the area — physicians in your field in several practices and people you trained with, in addition prospective colleagues, if possible — to get a sense of the cultural environment in area practices," Mr. Caligiuri said. "Those connections can be very meaningful and informative."

Self-assessment key in determining cultural fit

In the early stages of a job search, physicians should also tap their recruiter's expertise and experience to help identify a potentially positive match. And that means vetting the recruiter to determine how well she or he knows the opportunities under consideration, according to Michelle Baker, a recruitment director for Merritt Hawkins & Associates. "Once candidates do that, they should let the recruiter know their specific needs and concerns about cultural fit, and what their priorities are for themselves and their families," she said.

A well-informed recruiter should be able to provide ready answers to the following: Why there's an opening, when the other physicians joined the practice, and what the physician turnover rate is. Candidates should also ask about physician satisfaction scores and for a view of the "day or week in the life" of prospective physician colleagues (or the physicians who left). The responses to such questions are often good indicators of the organization's culture, Ms. Baker said.

Brigitta Glick, founder and chief executive officer of the staffing firm Provenir Healthcare in San Antonio, Texas, advises physicians to get into the nitty-gritty with the recruiter about the working environment, which is often predictive of both culture and physician-satisfaction levels. "Physicians should ask about the makeup of the team and the logistics of the working environment," she said. For example, physicians should find out if they would essentially be working "on an island" or with dedicated, accessible staff in close proximity. "You want to know if you'll be essentially in a pod or on your own, and whether you'd be working with your own support staff rather than 'borrowed' extenders," she said.

Ms. Baker reminds candidates that the organization's scheduling practices and financial priorities might also be helpful cultural barometers. For example, if there's a focus on schedule flexibility, structured hours, and

minimal call, the opportunity will "fall on the quality-of-life end of the [culture] spectrum," she said. Conversely, an opportunity that entails aggressive production goals and a more intensive schedule "reflects a more entrepreneurially, financially driven culture," Ms. Baker said.

Finally, the recruiter can also play a vital "messenger" role in assessing cultural fit in the early job-search stages, according to Katie Cole, president of Harlequin Recruiting in Denver. "The recruiter can ask the uncomfortable questions of the prospective employer, and that won't be held against the candidate personally," said Ms. Cole, whose firm focuses on surgeon recruitment. "If there's a specific aspect of culture that the physician wants to avoid, the recruiter can determine the related situation before an engagement or scheduling a site visit."

Ms. Streicher adds a further recommendation regarding the tough questions: Don't relegate such important discussions to informal electronic exchanges. "I advise against written discussions over email or via text messages," she said. "Sensitive disclosure about cultural aspects or practice preferences should take place during a telephone conversation with a professional recruiter." Such formal discussions, she added, also help the physician evaluate the recruiter's credibility, working knowledge, and communication professionalism.

All recruiters interviewed for this article concurred that physicians tend to avoid asking the sensitive questions or delving into the organization's culture, before they agree to site visits. The sources also agreed that relatively few young physicians, in their experience, ask very direct questions in the site-interview setting, about matters that would be key in ensuring a good cultural and professional fit.

"As for practice culture, for most physicians, a compatible atmosphere is understandably going to be based on their individual style, preferences, and value systems," Ms. Streicher said, "so they should be very clear about what they're seeking in those regards."

When onsite, ask focused questions

Physicians who've done their due diligence before agreeing to a site interview should still be prepared to revisit the important questions with the interviewing team. The tone, tenor, and completeness of that interviewers' responses will either validate what the candidate has already discovered or, possibly, raise new questions or concerns.

The best place to start, recruiters advise, is by focusing on the cultural "must haves" and potential concerns. For example, the surgeon who seeks adequate support staff in a collegial environment in which colleagues are available to pitch in as needed when call gets unmanageable should articulate that in a direct question. She might ask, Would I have dedicated clinical support staff, and if not, how is staffing arranged to ensure I have the support I need?

Likewise, the internist who wants to ensure that he'll be able to attend his son's Thursday afternoon soccer games regularly, as feasible, will have to pose a question whose response will indicate how family-friendly the culture is. An example might be the following: How does the practice accommodate physicians who want to schedule time away for family activities during the work week?

When assessing culture, expect answers to challenging questions

"The two things physicians should keep in mind are that no questions about culture are 'off limits' and that good practices really want physicians to ask the challenging questions," Ms. Glick said, because that's an indication of how seriously they're considering the opportunity. "Physicians should be prepared to show up as they are and be very clear about what they're seeking and what they hope to avoid." She offers the following as examples of questions whose responses provide insight into the practice culture:

- How are decisions made in the practice, and how are physicians involved in that process?
- What causes conflict here, and when that happens, how is conflict resolved?
- Who has the power to get things done in the practice?
- What do you celebrate here — and how do you celebrate?
- How does the organization support professional growth?

Ms. Glick said that even tangential questions, such as how much physician PTO (personal time off) is left on the table at the end of the year, can provide a good sense of culture and expectations, and how well the practice is structured to permit the promised time off.

The point, Ms. Baker said, is that candidates have to raise the issues that are important to them, from not only a professional standpoint but also a personal one. For example, she thinks it's appropriate to ask questions about topics such as gender diversity and neutrality, and whether internal medical graduates are accepted by colleagues and patients. "Physicians should also ask about practice or hospital leaders — do they value physician input or is it our way or the highway?" she said.

When inquiring about the reason for the job opening and physician turnover, physicians should ask detailed questions and expect honest, detailed answers, Mr. Caligiuri said. "If the interviewers say that they don't know the [turnover] data or aren't candid about why there's an opening, that's not a good sign," he said.

Don't skimp on social time with potential colleagues

In preparing for the onsite interview, physicians should request time outside of the interview to meet with prospective colleagues, ideally outside the workday and the practice setting, Mr. Caligiuri suggests. "It's best to schedule a dinner or lunch meeting offsite, when physicians won't be running off to see the next patient," he said.

Job-seeking physicians often don't set aside enough time for such interactions, as important as those encounters are, according to Ms. Glick. "In my experience, residents and fellows often do themselves a big disservice by trying to cut the visit short," Ms. Glick said, or by trying to fit in too many site interviews in a short period of time.

"You really need two days to get a good feel for a practice," she said. "It's not beneficial to try to fit in eight site visits in a few months; do your research and due diligence to narrow the list, and then pursue three or four opportunities."

Ms. Glick and Ms. Caligiuri both recommend that candidates request a few hours to shadow a prospective colleague, to observe a typical workday and to thoroughly assess the level of physician support and the cultural environment. If a practice is reluctant to allow for offsite social opportunities or a shadowing experience, that might indicate problems or issues that the practice is trying to hide.

"It's a red flag if the practice doesn't facilitate those interactions or if the head of the practice doesn't make the time to meet with the candidate," Mr. Caligiuri said. He also stressed the importance of candidates visiting all practice locations where they might work. In his organization, candidates are encouraged to come back for a second visit if the initial schedule doesn't accommodate requested social and worksite activities.

"The social setting may provide the best opportunity to gauge whether you fit culturally," Ms. Baker pointed out. Such opportunities enable candidates to find out whether the potential partners share your sense of humor, your values, or even your attitude toward raising children, she added. "That social gathering can tell you a lot about the 'feel' of the practice," she said, "that you might not get during the interview."

Mr. Caligiuri adds another important reminder for job-searching physicians: practices are also looking for a good match, and the social gathering gives prospective colleagues an opportunity to gauge whether the candidate will fit in. "It gives them a chance to ascertain the candidate's suitability — and that's obviously important for everyone involved," he said.

Although being well informed and proactive and asking the important questions can go a long way toward finding a good cultural fit, at a certain point the candidate also needs to just trust his or her instincts, Ms. Streicher said, because those are telling, too. "If you have concerns that there is a misalignment of your beliefs with the core values or practice culture with an opportunity, I suggest keep looking," she said, "because the right practice culture match is out there."

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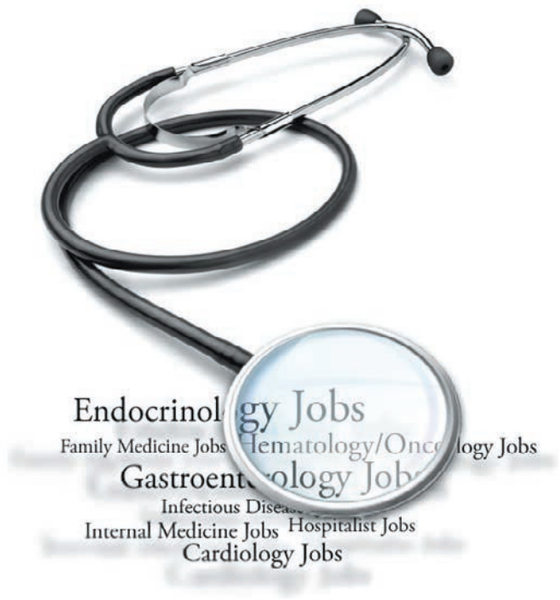

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The NEW ENGLAND JOURNAL of MEDICINE

CLINICAL PRACTICE

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

Mild or Moderate Covid-19

Rajesh T. Gandhi, M.D., John B. Lynch, M.D., M.P.H., and Carlos del Rio, M.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.*

A 73-year-old man with hypertension and chronic obstructive pulmonary disease calls to report that he has had a fever (maximal temperature, 38.3°C) and a dry cough for the past 2 days. He notes that his shortness of breath has worsened. His medications include losartan and inhaled glucocorticoids. He lives alone. How should he be evaluated? If he has coronavirus disease 2019 (Covid-19), the disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), then how should he be treated?

From Massachusetts General Hospital and Harvard Medical School, Boston (R.T.G.); the Department of Medicine, Division of Allergy and Infectious Diseases, University of Washington School of Medicine, Seattle (J.B.L.); and the Department of Medicine, Division of Infectious Diseases, Emory University School of Medicine, and Grady Health System, Atlanta (C.R.). Address reprint requests to Dr. Gandhi at Massachusetts General Hospital, 55 Fruit St., Boston, MA 02114, or at rgandhi@mgh.harvard.edu.

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THE CLINICAL PROBLEM

Coronaviruses typically cause common cold symptoms, but two betacoronaviruses — SARS-CoV-1 and Middle East respiratory syndrome coronavirus (MERS-CoV) — can cause severe pneumonia, respiratory failure, and death. In late 2019, infection with a novel betacoronavirus, subsequently named SARS-CoV-2, was reported in people who had been exposed to a seafood market in Wuhan, China, where live animals were sold. Since then, there has been rapid spread of the virus, leading to a global pandemic of Covid-19. Here, we discuss the presentation and management of Covid-19 in patients with mild or moderate illness, as well as prevention and control of the infection. Discussion of Covid-19 that occurs in children and during pregnancy and of severe disease is beyond the scope of this article.

STRATEGIES AND EVIDENCE

Coronaviruses are RNA viruses that are divided into four genera; alphacoronaviruses and betacoronaviruses are known to infect humans.[1] SARS-CoV-2 is related to bat coronaviruses and to SARS-CoV-1, the virus that causes severe acute respiratory syndrome (SARS).[2] Similar to SARS-CoV-1, SARS-CoV-2 enters human cells through the angiotensin-converting–enzyme 2 (ACE2) receptor.[3] SARS-CoV-2 has RNA-dependent RNA polymerase and proteases, which are targets of drugs under investigation.

TRANSMISSION

SARS-CoV-2 is primarily spread from person to person through respiratory droplets, which are typically released when an infected person coughs or sneezes. Because droplets usually fall within a few meters, the likelihood of transmission is decreased if people remain at least 2 m apart. Transmission is thought not to normally occur through the inhalation of aerosols (virions suspended in air), but there are concerns that the virus may be aerosolized during certain activities (e.g., singing)[4] or pro-

KEY CLINICAL POINTS

MILD OR MODERATE COVID-19

- Covid-19 (the illness caused by SARS-CoV-2) has a range of clinical manifestations, including cough, fever, malaise, myalgias, gastrointestinal symptoms, and anosmia.
- Diagnosis of Covid-19 is usually based on detection of SARS-CoV-2 by PCR testing of a nasopharyngeal swab or other specimen.
- Evaluation and management of Covid-19 depends on the severity of the disease; patients with mild disease typically recover at home.
- Patients with moderate or severe Covid-19 are usually hospitalized for observation and supportive care.
- There are no proven therapies for Covid-19; thus, referral of patients to clinical trials is critical.
- Infection control and prevention efforts center on personal protective equipment for health care workers, social distancing, and testing.

cedures (e.g., intubation or the use of nebulizers) and that it may linger in aerosols for more than 3 hours.[5] SARS-CoV-2 RNA has been detected in blood and stool, although fecal–oral spread has not been documented. SARS-CoV-2 may persist on cardboard, plastic, and stainless steel for days.[5,6] As a result, contamination of inanimate surfaces may play a role in transmission.[4,7]

A major challenge to containing the spread of SARS-CoV-2 is that presymptomatic people are infectious.[8] Recent reports suggest that patients may be infectious 1 to 3 days before symptom onset and that up to 40 to 50% of cases may be attributable to transmission from asymptomatic or presymptomatic people.[4,9] Just before or soon after symptom onset, patients have high nasopharyngeal viral levels, which then fall over the course of approximately 1 week.[10] Patients with severe disease may shed the virus for longer periods, although the duration of infectious viral shedding is unclear.[11]

CLINICAL MANIFESTATIONS

The median incubation period, from exposure to symptom onset, is approximately 4 to 5 days, and 97.5% of patients who are symptomatic will have symptoms within 11.5 days after infection.[12] Symptoms may include fever, cough, sore throat, malaise, and myalgias. Some patients have gastrointestinal symptoms, including anorexia, nausea, and diarrhea.[13,14] Anosmia and ageusia have also been reported.[15,16] In some series of hospitalized patients, shortness of breath developed a median of 5 to 8 days after initial symptom onset[13,17]; its occurrence is suggestive of worsening disease.

Risk factors for complications of Covid-19 include older age (e.g., >65 years), cardiovascular disease, chronic lung disease, hypertension, diabetes, and obesity.[17-21] It is unclear whether certain other conditions (kidney disease, immunosuppression, cancer, and uncontrolled human immunodeficiency virus [HIV] infection) confer an increased risk of complications, but because these conditions may be associated with worse outcomes after infection with other respiratory pathogens, close monitoring of patients with Covid-19 who have these conditions is warranted.

Laboratory findings in hospitalized patients may include lymphopenia and elevated levels of D-dimer, lactate dehydrogenase, C-reactive protein, and ferritin. At presentation, the procalcitonin level is typically normal. Findings associated with poor outcomes in some series include an increasing white-cell count with lymphopenia, a prolonged prothrombin time, and elevated levels of liver enzymes, lactate dehydrogenase, D-dimer, interleukin-6, C-reactive protein, and procalcitonin.[13,19,22-24] When abnormalities are present on imaging, the typical findings are ground-glass opacifications or consolidation.[25]

DIAGNOSIS

The diagnosis of Covid-19 is usually based on the detection of SARS-CoV-2 by means of polymerase-chain-reaction (PCR) assay.[26] Soon after symptom onset, the sensitivity of PCR testing of nasopharyngeal swabs appears to be high, but false negatives may occur, with uncertain frequency. If a person is suspected to have Covid-19 but has negative testing of a nasopharyngeal swab, repeat testing is prudent, especially if that person lives in an area with active community transmission.[27]

The type of specimen that is collected depends on which specimens have been validated for use with the specific PCR test. Most PCR assays used in the United States can test nasopharyngeal swabs. (A video demonstrating how to obtain a nasopharyngeal swab specimen is available at NEJM.org.) However, laboratories are increasingly able to test sputum and lower respiratory tract specimens. Sputum samples (or endotracheal aspirates from intubated patients) may be easier to obtain in some settings, and testing of sputum may be more sensitive than testing of a nasopharyngeal swab.[28] Sputum induction is contraindicated because of concerns about aerosolization. There are limited data regarding the use of oropharyngeal swabs; in one study, testing of these swabs was less sensitive than testing of nasopharyngeal swabs, particularly later in the disease course.[29] If a nasopharyngeal swab cannot be obtained (e.g., because of supply shortages), the Centers for Disease Control and Prevention (CDC) recommends the use of an oropharyngeal swab.[30] The Food and Drug Administration (FDA) recently recognized on-site self-collection of an anterior nares specimen as an acceptable method of collection[31]; this option may facilitate home-based testing and reduce exposures for health care workers.

Table 1. Established and Potential Risk Factors for Severe Covid-19.*

Older age (e.g., >65 years)
Chronic lung disease
Cardiovascular disease
Diabetes mellitus
Obesity
Immunocompromise†
End-stage renal disease
Liver disease

* Data are adapted from the Centers for Disease Control and Prevention (CDC). Some of these risk factors are established. Others (e.g., immunocompromise or human immunodeficiency virus infection with a CD4 cell count of <200 per microliter or uncontrolled viremia) are conditions that confer an increased risk of complications from infection with other respiratory pathogens, but their effect on coronavirus disease 2019 (Covid-19) is not yet known. Studies indicate that the risk of severe disease increases with age. Male sex is not currently included on the CDC list of risk factors but has been noted in some reports to be associated with severe disease.

† Immunocompromise includes human immunodeficiency virus infection with a CD4 cell count of less than 200 per microliter or uncontrolled viremia, prolonged use of glucocorticoids or other immunomodulating medications, a history of bone marrow or organ transplantation, and a history of smoking.

EVALUATION

Evaluation and management of Covid-19 is guided by the severity of the illness. According to initial data from China, 81% of people with Covid-19 had mild or moderate disease (including people without pneumonia and people with mild pneumonia), 14% had severe disease, and 5% had critical illness.[32]

Patients who have mild signs and symptoms generally do not need additional evaluation, and depending on the risk profile, they may not even need to undergo Covid-19 testing, since the infection will usually resolve. However, some patients who have mild symptoms initially will subsequently have precipitous clinical deterioration that occurs approximately 1 week after symptom onset.[17,18] In patients who have risk factors for severe disease (Table 1), close monitoring for clinical progression is warranted, with a low threshold for additional evaluation.

If new or worsening symptoms (e.g., dyspnea) develop in patients with initially mild illness, additional evaluation is warranted. A physical examination should be performed to assess for tachypnea, hypoxemia, and abnormal lung findings. In addition, testing for other pathogens (e.g., influenza virus, depending on the season, and other respiratory viruses) should be performed, if available, and chest imaging should be considered.

If findings on the initial assessment are suggestive of moderate or severe illness, hospitalization is generally warranted. Patients with moderate disease may have dyspnea, but the blood oxygen saturation is usually at least 94% while the patient is breathing ambient air. Indicators of severe disease are marked tachypnea (respiratory rate, ≥30 breaths per minute), hypoxemia (oxygen saturation, ≤93%; ratio of partial pressure of arterial oxygen to fraction of inspired oxygen, <300), and lung infiltrates (>50% of the lung field involved within 24 to 48 hours).[32]

Laboratory testing in hospitalized patients should include a complete blood count and a comprehensive metabolic panel. In most instances, and especially if a medication that affects the corrected QT (QTc) interval is considered, a baseline electrocardiogram should be obtained.

Chest radiography is usually the initial imaging method. Some centers also use lung ultrasonography. The American College of Radiology recommends against the use of computed tomography (CT) as a screening or initial imaging study

to diagnose Covid-19, urging that it should be used "sparingly" and only in hospitalized patients when there are specific indications.[33]

Additional tests that are sometimes performed include coagulation studies (e.g., D-dimer measurement) and tests for inflammatory markers (e.g., C-reactive protein and ferritin), lactate dehydrogenase, creatine kinase, and procalcitonin. The prognostic value and clinical utility of the results of these and other tests remain uncertain.

MANAGEMENT OF MILD OR MODERATE COVID-19

Patients who have mild illness usually recover at home, with supportive care and isolation in accordance with guidelines.[34] It may be useful for people who are at high risk for complications to have a pulse oximeter to self-monitor the oxygen saturation.

Patients who have moderate or severe disease are usually monitored in the hospital. If there is clinical evidence of bacterial pneumonia, empirical antibacterial therapy is a reasonable option but should be stopped as soon as possible. Empirical treatment for influenza may be considered during the period when seasonal influenza transmission is occurring, until results of specific testing are known.

There are no approved treatments for Covid-19; thus, people with Covid-19 should be referred to clinical trials. Several agents have been touted as treatments for Covid-19, but at this point, the data are insufficient to inform a recommendation for or against the use of these agents outside of clinical trials; well-conducted randomized trials will be critical in determining how Covid-19 should be treated.

Hydroxychloroquine and Chloroquine with or without Azithromycin

Chloroquine and hydroxychloroquine have in vitro activity against SARS-CoV-2, perhaps by blocking endosomal transport.[35] Hydroxychloroquine also has antiinflammatory effects. Chloroquine is recommended in China for the treatment of Covid-19, but high-quality data are lacking to show whether it or hydroxychloroquine is safe and effective for this indication. A small open-label, nonrandomized study from France showed a higher rate of SARS-CoV-2 clearance by day 6 in 14 patients who were treated with hydroxychloroquine than in patients who declined to participate in the study or were at a different clinic. The effects appeared to be greater in the 6 patients who were receiving hydroxychloroquine combined with azithromycin; 6 patients in the hydroxychloroquine group were excluded from the analysis, a factor that potentially biases the results.[36] A case series showed high rates of viral clearance and clinical improvement in patients treated with hydroxychloroquine plus azithromycin.[37] However, both studies had substantial methodologic limitations, including a lack of adequate comparison groups.

A small randomized trial showed no significant difference in SARS-CoV-2 clearance or the disease course between the hydroxychloroquine group and the control group.[38] Results from additional studies are currently available as non–peer-reviewed preprints. One small trial,[39] for which important details are not yet available, showed a modest improvement in the group that received hydroxychloroquine, as compared with a control group, whereas other studies did not show increased viral clearance or clinical benefit with hydroxychloroquine.[40,41] Study limitations preclude definitive conclusions. Safety concerns with hydroxychloroquine and azithromycin include the potential for QTc prolongation, which is greater when both agents are used together. A study in which patients received high-dose chloroquine was stopped because of a trend toward excessively high mortality.[42]

Determination of the role of hydroxychloroquine with or without azithromycin for the treatment of Covid-19 hinges on the results of well-conducted clinical trials. The FDA has issued an Emergency Use Authorization (EUA) for the use of chloroquine and hydroxychloroquine from the strategic national stockpile for the treatment of hospitalized adults with Covid-19, but this action does not constitute FDA approval of these agents for this indication. The EUA encourages the conduct of and participation in randomized, controlled trials to provide evidence for the effectiveness of these drugs for the treatment of Covid-19.

Lopinavir–Ritonavir

Lopinavir–ritonavir, an HIV-1 protease inhibitor, has been proposed as a treatment, but it is not known whether drug levels adequate to inhibit the SARS-CoV-2 protease can be reliably achieved in people with Covid-19 who receive this medication. In an open-label, randomized trial involving 199 hospitalized patients, the addition of lopinavir–ritonavir to standard care did not result in faster clinical improvement or brisker drops in SARS-CoV-2 RNA levels.[43] At this time, most experts advise against the use of lopinavir–ritonavir or any other HIV-1 protease inhibitor for the treatment of Covid-19 outside of clinical trials. In addition, people with HIV-1 should be discouraged from changing their antiretroviral regimen to one that includes an HIV-1 protease inhibitor, given the lack of data supporting the use of such drugs for the treatment or prevention of Covid-19.

Remdesivir

Remdesivir, an inhibitor of RNA-dependent RNA polymerase, has had activity against SARS-CoV-2 in vitro[44] and against other coronaviruses in several animal models.[45-47] In a case series involving patients with severe Covid-19 who received remdesivir through a compassionate-use program, the majority of patients had a decrease in the need for oxygen support, but there was no comparison group.[48] Results of ongoing phase 3, randomized, controlled trials are anticipated.

Immunomodulation

Because of concerns that a hyperinflammatory state may drive many of the severe manifestations of Covid-19, several immunomodulating therapies — including glucocorticoids, convalescent plasma, and anticytokine therapy — are under investigation, largely in patients with severe disease. Discussion of these agents is beyond the scope of this article.

USE OF CONCOMITANT MEDICATIONS IN PEOPLE WITH COVID-19

Because SARS-CoV-2 enters human cells through the ACE2 receptor,[3] questions have been raised regarding whether the use of ACE inhibitors or angiotensin-receptor blockers (ARBs) — which may increase ACE2 levels — might increase the acquisition of SARS-CoV-2 or the severity of Covid-19.[49] However, given the absence of definitive clinical data, the current recommendation is that patients who are receiving ACE inhibitors or ARBs for another indication (e.g., hypertension or heart failure) should not stop taking these agents routinely, even if they have Covid-19.[49,50] Some reports have suggested a possible deleterious effect of nonsteroidal antiinflammatory drugs on the course of Covid-19, but several authoritative organizations have noted the absence of clinical data to support this concern.[51-53] Concerns have also been raised about the use of glucocorticoids, and some guidelines suggest that they should not be used in patients with Covid-19 pneumonia.[54] The use of systemic or inhaled glucocorticoids should not be stopped in patients who are taking them for other indications.[54]

INFECTION CONTROL AND PREVENTION

Health care workers must be protected from acquiring SARS-CoV-2 when they are providing clinical care (Table 2). Using telehealth when possible, reducing the number of health care workers who interact with infected patients, and performing health care environmental cleaning are critical. Personal protective equipment (PPE) should include, at a minimum, an isolation gown, gloves, a face mask, and eye protection (goggles or a face shield). Although the use of droplet-contact precautions (a gown, gloves, a face mask, and eye protection) for the routine care of patients with Covid-19 is consistent with guidelines from other countries and the World Health Organization (WHO),[55-58] the CDC prefers the use of a respirator (usually an N95 filtering facepiece respirator, a powered air-purifying respirator [PAPR] unit, or a contained air-purifying respirator [CAPR] unit) instead of a face mask.[59] However, in the context of supply shortages, the CDC regards the use of face masks as an acceptable alternative. The CDC and the WHO both recommend the use of enhanced protection for aerosol-generating procedures, including the use of a respirator and an airborne infection isolation room. At sites where enhanced protection is not available, the use of nebulizers and other aerosol-generating procedures should be avoided, when possible. Recent studies indicating that transmission occurs before symptom onset may support universal droplet-contact precautions for all initial patient encounters.[4,60-63]

Strategies to facilitate infection prevention and control are needed for people with unstable housing and people who live in congregate settings, where physical distancing is inconsistent or impossible (e.g., dormitories, jails, prisons,

Table 2. SARS-CoV-2 Transmission According to Stage of Infection.

Stage of Infection*	RNA Detectable in Respiratory Samples, Blood, and Feces	Viable Virus Detectable in Respiratory Samples	Transmission Can Occur	Mechanism of Transmission†					Minimum Recommended Level of Precautions
				Droplet	Natural Aerosol	Aerosol-Generating Procedure	Direct Contact	Indirect Contact	Enteric Route	
Presymptomatic‡	Yes	Yes	Yes§	Yes	Suspected	Suspected	Suspected	Suspected	Unknown	Eye protection (goggles or face shield) Protection from droplet and contact transmission during routine care Protection from airborne and contact transmission during aerosol-generating procedure
Symptomatic	Yes	Yes	Yes	Yes	Suspected	Yes	Strongly suspected	Strongly suspected	Unknown	Eye protection (goggles or face shield) Protection from droplet and contact transmission during routine care Protection from airborne and contact transmission during aerosol-generating procedure
Postsymptomatic	Yes for limited time, occasionally prolonged	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	None

* The incubation period of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), from exposure to symptom onset, ranges from 2 to 14 days. The infectious dose is unknown. The possibility that people who remain asymptomatic throughout infection can transmit the virus remains a topic of debate. The presymptomatic stage occurs 1 to 3 days (or possibly longer) before symptom onset. The postsymptomatic stage occurs a minimum of 7 days after the resolution of fever and improvement in respiratory symptoms and at least 3 days after symptom onset.

† In transmission by droplet, large (≥5 μm) respiratory particles that are released by coughing, sneezing, or speaking land on surfaces or mucosal membranes. In transmission by natural aerosol, small (<5 μm) respiratory particles that are generated by human activities (e.g., singing) are inhaled; this does not necessarily indicate long-distance airborne transmission. In transmission by an aerosol-generating procedure, small respiratory particles that are generated by clinical procedures (e.g., intubation, extubation, use of nebulizers, or bronchoalveolar lavage) are inhaled; this does not necessarily indicate long-distance airborne transmission. In transmission by direct contact, the virus is transferred by body-surface contact. In transmission by indirect contact, the virus is transferred from a contaminated surface to a mucosal surface (e.g., eyes, nose, or mouth). In enteric transmission, the virus is transferred by the fecal–oral route; SARS-CoV-2 RNA has been detected in stool but fecal–oral spread has not been documented.

‡ Testing of patients without symptoms may be performed for preoperative screening, during pregnancy at the time of delivery, when they are unable to provide a medical or exposure history, when they live in a high-risk setting (e.g., congregate settings, including long-term care facilities), or during community surveillance activities.

§ This information is based on case reports or case series.

detention centers, long-term care facilities, and behavioral health facilities).

AREAS OF UNCERTAINTY

Numerous uncertainties remain in our understanding of the spread of Covid-19 and its management. The contribution of transmission from asymptomatic and presymptomatic people to the community and nosocomial spread of SARS-CoV-2, and the extent to which fomites and aerosols (those not generated by medical procedures) contribute to transmission, are unclear. Data to inform treatment remain limited. Trials are in progress to assess the effects of various medications — such as hydroxychloroquine with or without azithromycin, remdesivir, and favipiravir (which has anti-influenza activity)[64] — on the disease course in patients with different severities of illness, as well as to evaluate hydroxychloroquine as prophylaxis in high-risk or exposed people. Studies are under way to develop an effective vaccine. It is unknown whether infection confers partial or complete immunity (and, if so, for how long) and whether results of serologic testing can be used to inform when health care workers and others can safely return to work.

GUIDELINES IN A RAPIDLY CHANGING PANDEMIC

Many professional organizations have developed interim guidelines for the management and prevention of Covid-19 (see the Supplementary Appendix, available with the full text of this article at NEJM.org). Guidelines from the Infectious Diseases Society of America[54] and the National Institutes of Health[65] highlight the fact that there are no proven therapies for Covid-19 and that randomized trials are critical.

CONCLUSIONS AND RECOMMENDATIONS

The patient in the vignette is at high risk for having Covid-19 with potential complications. Given his dyspnea and risk factors for severe illness, we would refer him for PCR testing of a nasopharyngeal swab for SARS-CoV-2, along with an examination and chest radiography. He should be advised to wear a mask en route; after arrival at a health care facility, he would be given a surgical mask and promptly escorted to an examination room. Admission would be warranted for close monitoring given his dyspnea and increased risk. On the basis of the limited available data, we would continue his ARB and inhaled glucocorticoids. In the absence of high-quality data to support any Covid-19–specific therapy, we would recommend enrollment in a randomized clinical trial, if possible. When the patient's condition improves sufficiently for discharge, he should be advised to remain isolated for a minimum of 7 days after symptom onset and for at least 3 days after resolution of fever and improvement in respiratory symptoms. There may be additional local guidance regarding the duration of isolation.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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The NEW ENGLAND JOURNAL of MEDICINE

Classified Advertising Section

Sequence of Classifications

Addiction Medicine
Allergy & Clinical Immunology
Ambulatory Medicine
Anesthesiology
Cardiology
Critical Care
Dermatology
Emergency Medicine
Endocrinology
Family Medicine
Gastroenterology
General Practice
Geriatrics
Hematology-Oncology
Hospitalist
Infectious Disease
Internal Medicine
Internal Medicine/Pediatrics
Medical Genetics
Neonatal-Perinatal Medicine
Nephrology
Neurology
Nuclear Medicine
Obstetrics & Gynecology
Occupational Medicine
Ophthalmology
Osteopathic Medicine
Otolaryngology
Pathology
Pediatrics, General
Pediatric Gastroenterology
Pediatric Intensivist/ Critical Care
Pediatric Neurology
Pediatric Otolaryngology
Pediatric Pulmonology
Physical Medicine & Rehabilitation
Preventive Medicine
Primary Care
Psychiatry
Public Health
Pulmonary Disease
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Surgery, Cardiovascular/ Thoracic
Surgery, Neurological
Surgery, Orthopedic
Surgery, Pediatric Orthopedic
Surgery, Pediatric
Surgery, Plastic
Surgery, Transplant
Surgery, Vascular
Urgent Care
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Faculty/Research
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Locum Tenens
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Part-Time Positions/Other
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Physician Services
Positions Sought
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Classified Advertising Rates

We charge $9.80 per word per insertion. A 2- to 4-time frequency discount rate of $7.15 per word per insertion is available. A 5-time frequency discount rate of $6.90 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 $115.00 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. Confidential reply boxes are an extra $75.00 per insertion plus 4 words (Reply Box 0000, NEJM). We will send the responses directly to you every Tuesday and Thursday. 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: Reply Box 0000, NEJM.

This advertisement is 58 words. At $9.80 per word, it equals $568.40. Because a reply box was requested, there is an additional charge of $75.00 for each insertion. The price is then $643.40 for each insertion of the ad. This ad would be placed under the Chiefs/Directors/ Department Heads classification.

How to Respond to NEJM Box Numbers

When a reply box number is indicated in an ad, responses should be sent to the indicated box number at the address under "Contact Information."

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 $115.00 per issue per advertisement and $190.00 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.

NEJM is unable to forward product and service solicitations directed to our advertisers through our reply box service.

Classified Ad Deadlines

Issue	Closing Date
July 30	July 10
August 6	July 17
August 13	July 24
August 20	July 31

Addiction Medicine

ADDICTION MEDICINE — Positions available in one-year ACGME-accredited fellowships graduating clinical experts, faculty, and change agents to meet one of America's greatest health needs. Find fellowships at American College of Academic Addiction Medicine. www.acaam.org

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Cardiology

PHYSICIAN (INTERVENTIONAL CARDIOLOGY) — Ascension Medical Group–Southeast Wisconsin, Inc., seeks a Physician (Interventional Cardiology) to provide services in Racine, WI, including diagnosing and treating diseases and conditions of the heart and cardiovascular system. Send resume to Krista Kadow, Physician Recruiter, Ascension Wisconsin at: krista.kadow@ascension.org

Gastroenterology

WELL-ESTABLISHED PRESTIGIOUS GI GROUP — Seeks qualified BC/BE gastroenterologist for July 2021. Close affiliation with teaching hospital/hospital system and ownership of ambulatory surgery centers. 30 Minutes from NYC. Please send CV to: newjerseygastro@yahoo.com

Apply for jobs online using your CV and cover letters.

Visit **NEJM CareerCenter.org**

Hospitalist

PHYSICIANS (HOSPITALIST) — Columbia St. Mary's Hospital Milwaukee, Inc., seeks multiple Physicians (Hospitalist) to provide services in Milwaukee and Mequon, WI, including managing patients through the continuum of hospital care, including seeing patients in the ER, following them into the critical care unit, and facilitating post-acute care such as home health care, skilled nursing care, and specialized rehabilitation. Send resume to Nancy Christensen, Physician Recruiter, Ascension Wisconsin at: nancy.christensen@ascension.org

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Dedham Medical Associates, Granite Medical Group, Harvard Vanguard Medical Associates, PMG Physcian Associates and VNA Care Network & Hospice

Atrius Health is a well-established, Boston based, physician led, nonprofit 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:

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- **Chief of Urgent Care - Plymouth**
- **Medical Director of Innovation**
- **Medical Director/Primary Care - Chelmsford**
- **Medical Director/Primary Care - Quincy**

Clinical Staff

- **Adult and Child Psychiatry**
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- **Gastroenterology**
- **Hematology/Oncology**
- **Hospitalist**
- **Non Invasive Cardiology**
- **OB/GYN**
- **Outpatient Primary Care - Internal Medicine and Family Medicine**
- **Virtual Home Hospitalist**

Visit our website at **www.atriushealth.org**, or send confidential CV to:
Laura Schofield, 275 Grove Street, Suite 3-300, Newton, MA 02466-2275
E-*mail*: **Laura_Schofield@atriushealth.org**

PHYSICIAN OPPORTUNITIES AVAILABLE
JOIN THE HEALTHCARE TEAM AT BERKSHIRE HEALTH SYSTEMS!

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Berkshire Health Systems currently has hospital-based opportunities in

- Primary Care
- Neurology
- Hemotology/Oncology
- Cardiology
- OB/GYN

This is an excellent opportunity to join a dynamic team committed to providing exceptional truly patient- and community-centered care in Berkshire County within an environment where you will be challenged, supported, and respected.

Berkshire Medical Center, BHS's 302-bed community teaching hospital, is a major teaching affiliate of the University of Massachusetts Medical School. With the latest technology and a system-wide electronic health record, BHS is the region's leading provider of comprehensive healthcare services.

This is a great opportunity to practice in a beautiful and culturally rich area while being affiliated with a health system with award winning programs.

For more Information, please contact:

Shelly Sweet, Physician Recruitment
Berkshire Health Systems
725 North St., Pittsfield, MA 01201
(413) 395-7866
***or email us at:* msweet@bhs1.org**

Applications accepted online at:
www.berkshirehealthsystems.org

CaroMont Health

Interventional Cardiologist - TAVR / Physician
Charlotte, NC Metro Area

Seeking an Interventional Cardiologist with Structural Heart/ Transcatheter Aortic Valve Replacements (TAVR) training to join our growing Structural Heart Program at a single cohesive established hospital-employed cardiovascular practice at CaroMont Regional Medical Center.

At CaroMont Heart & Vascular you will join a highly skilled and academically sound team of Cardiac Surgeons, Highly Skilled General Cardiologists, Electrophysiologists, Interventional Cardiologists and Vascular Surgeons.

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Located in Gastonia, NC, just minutes from Charlotte, one of the fastest growing cities in the country, offering the amenities of any metropolitan area including an international airport, the performing arts, professional sports and upscale shopping and dining while providing residents of Gastonia the benefits of living in a small, family oriented community with lovely neighborhoods and good choice of public and private schools.

If interested in being considered for this opportunity, please apply on line by visiting our website **www.caromonthealth.org** and visiting our physician career opportunities, or you may contact **Tiffany Roper, Provider Recruiter**, at **tiffany.roper@caromonthealth.org** or she can be reached at 704-834-2153.

CHA Cambridge Health Alliance — AFFILIATED WITH Beth Israel Deaconess Medical Center, MassGeneral Hospital for Children, Harvard Medical School Teaching Hospital

Pulmonary/Critical Care/Sleep Medicine
Cambridge Health Alliance
Cambridge, Somerville & Everett, MA

Cambridge Health Alliance, (CHA) an award-winning public healthcare system, has an opportunity for a Pulmonary/ Critical Care Physician to join our existing Pulmonary team. Our system is comprised of three hospital campuses and an integrated network of both primary and specialty care practices in the metro Boston area. CHA is a teaching affiliate of both Harvard Medical School (HMS) and Tufts University School of Medicine.

- Opportunity to practice pulmonary & critical care with or without sleep medicine complement
- Candidates should possess an interest in academics as this position will include resident and medical student teaching
- Clinical time is dedicated to inpatient/ICU coverage and outpatient ambulatory sessions in our medical specialties clinic sites
- Incoming physician should possess excellent clinical/communication skills and a strong commitment to serve our multicultural safety net patient population

We offer a supportive and collegial environment with a strong infrastructure, inclusive of an electronic medical records system (EPIC). Candidates will have the opportunity to work in a team environment with dedicated colleagues similarly committed to providing high quality healthcare. Our employees receive competitive salary and excellent benefits.

Qualified applicants may submit their CV & cover letter at **www.CHAproviders.org**, or by email to **Kasie Marchini, Provider Recruiter** at **providerrecruitment@challiance.org**. The Department of Provider Recruitment may be reached by phone at **(617) 665-3555** or by fax **(617) 665-3553**.

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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PHYSICIAN (Multiple Positions)

The FDA's Center for Biologics Evaluation and Research (CBER), Office of Tissues and Advanced Therapies (OTAT) is recruiting to fill multiple Physician positions. Apply today for this exciting career opportunity for qualified candidates with interest in the drug development, review of clinical trials, and critical interpretation of study design and clinical data analysis.

If you are a physician with primary care or specialty expertise in medicine and/or surgery, we are looking for you.

QUALIFICATIONS:

Must be U.S. citizen with Doctor of Medicine (M.D.), Doctor of Osteopathic Medicine (D.O.) or equivalent degree.

Official transcripts will be required prior to appointment. Applicants must possess current, active, full, and unrestricted license or registration as a Physician from a State, the District of Columbia, the Commonwealth of Puerto Rico, or a territory of the United States and 5 years of graduate-level training in the specialty of the position to be filled or equivalent experience and training. U.S. Public Health Service Commissioned Corps Officers may also apply.

SALARY: Salary will be commensurate with education and experience. An excellent federal employee benefits package is available. Team lead or supervisory positions may be filled through this advertisement, and candidates may be subject to peer review prior to appointment. Additional selections may be made within the same geographical area FDA-wide.

LOCATION: Silver Spring, MD

HOW TO APPLY: Submit electronic resume or curriculum vitae (CV) and supporting documentation to **CBER.Employment@fda.hhs.gov.** Supporting documentation may include: educational transcripts, medical license, board certifications. Applications will be accepted through **July 31, 2020**, although applicants will be considered as resumes are received. Please reference Job Code: **OTAT-19-07-NEJ**.

NOTE: This position may be subject to FDA's strict prohibited financial interest regulation and may require the incumbent to divest of certain financial interests. Applicants are strongly advised to seek additional information on this requirement from the FDA hiring official before accepting a position. A probationary period for first-time supervisors/managers may be required for supervisory positions.

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醫院管理局 HOSPITAL AUTHORITY

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1. **Associate Consultant Positions for Experienced Doctors without Full Registration**
   (Anaesthesia / Anatomical Pathology / Obstetrics & Gynaecology / Ophthalmology / Otorhinolaryngology / Radiology / Nuclear Medicine / Cardiothoracic Surgery / Neurosurgery / Plastic Surgery)
   (Ref: HO2004004)

2. **Service Resident Positions for Experienced Doctors without Full Registration**
   (Anaesthesia/ Clinical Oncology / Emergency Medicine / Family Medicine / Intensive Care / Internal Medicine / Obstetrics & Gynaecology / Ophthalmology / Orthopaedics & Traumatology / Otorhinolaryngology / Paediatrics / Pathology / Psychiatry / Radiology / Nuclear Medicine / General Surgery / Cardiothoracic Surgery / Neurosurgery / Plastic Surgery)
   (Ref: HO2004005)

The Hospital Authority (HA) invites applications from experienced doctors who are not fully registered with the Medical Council of Hong Kong and yet have acquired relevant postgraduate qualifications set out in the Requirements to serve the community of Hong Kong. There are ongoing enhancements of the recruitment scheme with expansion of recruitment scope and updated criteria. For more information on opportunities for non-locally trained doctors in HA and details of the posts, please visit HA website via the link: http://www.ha.org.hk/goto/limited_registration.

Application

Application should be submitted **on or before 31 March 2021 (Hong Kong Time)** via the HA website http://www.ha.org.hk (choose English language, click Careers → Medical).

Enquiries

Please contact Mr. Colman HUNG, Hospital Authority Head Office at + 852 2300 6335 or send email to hch827@ha.org.hk.

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Physician Opportunities

Western Massachusetts

Baystate Health (BH) is western Massachusetts' premier healthcare provider and home to the University of Massachusetts Medical School - Baystate. The cornerstone of our organization is Baystate Medical Center, a 716-bed tertiary care hospital which boasts the state's single busiest emergency department and the region's only Level-I trauma center. With 3 community hospitals, Baystate Children's Hospital and Baystate Primary Care Medical Practices, we offer a diverse culture that provides outstanding opportunities for physicians to start or advance their career.

Baystate Health was named one of America's Best employers by State in 2019 by Forbes. Ranked 14th out of 74 top employers in Massachusetts, Baystate Health is one of New England's leading healthcare systems and the largest employer in the region.

Current Opportunities Include:

- Primary Care
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- Emergency Medicine
- Endocrinology
- Gastroenterology
- Pulmonary/Critical Care
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- Ob/Gyn
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- Orthopedics

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Maine Medical PARTNERS
A department of Maine Medical Center

Chief of the Orthopedic Service Line

The Department of Orthopedic Surgery at Maine Medical Center is seeking a well-qualified BC Orthopedic Surgeon to serve as Chief of the Orthopedic Service Line.

The successful candidate will be a recognized physician leader and noted clinician from a progressive orthopedic care delivery organization and/or comprehensive orthopedic service line that has successfully integrated care across organizational lines. The candidate will hold an MD/DO from an accredited institution and should be board certified in an orthopedic-related discipline. The Chief will spend the majority of his/her time (60 percent – 0.60 FTE) dedicated to clinical practice or teaching program in the area of his/her primary expertise; but, he/she will also have a part-time (40 percent-0.40 FTE) dedicated for the Chief administrative goals. He/she must have or be eligible for licensure in Maine.

The Chief of the Orthopedic Service Line will have dual reporting responsibilities to the Chief Medical Officer of MMC and the Chief Medical Officer of MMP. He/she will serve as the face of MMC Orthopedics and will be responsible for developing, implementing, and overseeing the standardization and improvement of high quality, value-based orthopedic care.

Maine Medical Center has 637 licensed beds and is the state's leading tertiary hospital with a nearly full complement of residencies and fellowships and is an integral part of the Tufts University Medical School.

The successful candidate will be employed by Maine Medical Partners (MMP), a subsidiary of Maine Medical Center and Maine's largest multi-specialty group. MMP serves the health care needs of patients throughout Maine and Northern New England. This high quality team of nearly 600 physicians and 300 advanced practice professionals provides a wide range of hospital based, primary, specialty, and sub-specialty adult and pediatric care delivered throughout a network of 30 locations across the State and acts as a regional referral network.

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For more information please contact:
Gina Mallozzi, Physician Recruiter at (207) 661-2092
***or* gmallozzi@mainehealth.org**

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PHYSICIANS IM/FP
$268,080 – $281,496
(Lifetime Board Certified)

***PHYSICIANS** IM/FP
$308,292 – $323,712
(Lifetime Board Certified)

PHYSICIANS IM/FP
$253,992 – $266,700
(Pre-Board Certified)

***PHYSICIANS** IM/FP
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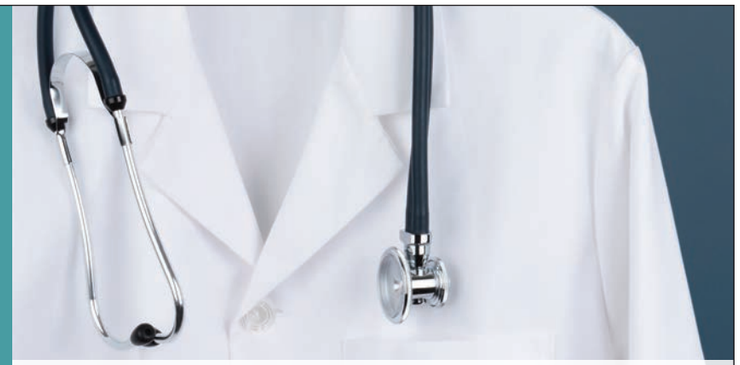
CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES



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For more information, contact **Danny Richardson (916) 691-3155, CentralizedHiringUnit@cdcr.ca.gov** or **www.cchcs.ca.gov/careers/**

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tiffany.roper@caromonthealth.org
Tiffany F. Roper
Provider Recruiter, CaroMont Health
2315 Court Drive, Gastonia, NC 28054
704-834-2153 ▌ 704-834-4615 fax
www.caromonthealth.org

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Mount Auburn Hospital, a Harvard teaching hospital, seeks a ABP board-certified/ eligible neonatologist to work with a physician team which provides 24-hour coverage for the 2500 annual births. The core job is defined as 1500 hours per year divided into days (9 hours), nights (15 hours) and weekends (24 hours) shifts per year to meet the clinical needs of the unit.

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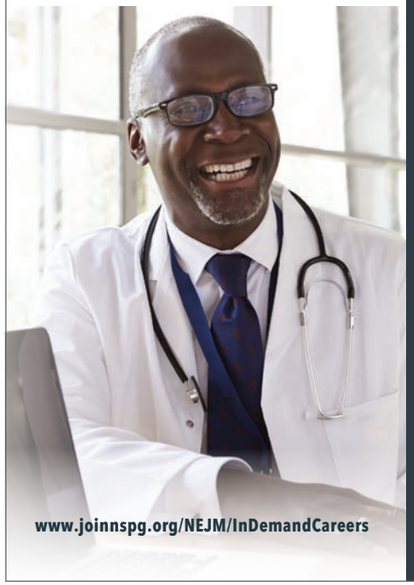

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Cleveland Clinic

DEPARTMENT CHAIR, INTENSIVE CARE & RESUSCITATION

The Cleveland Clinic, a distinguished academic healthcare system, announces its search for Chair of the Department of Intensive Care & Resuscitation.

The Department of Intensive Care & Resuscitation is a department within the Cleveland Clinic's Anesthesiology Institute (AI), which unites all specialists in cardiothoracic anesthesia, critical care, general anesthesia, pain management, pediatric anesthesia, and the regional practice (community hospital) anesthesia, outcomes research, and graduate medical education within one fully integrated model of care.

The Department of Intensive Care & Resuscitation provides clinical care at 10 Cleveland Clinic locations in northeast Ohio, and is comprised of 175 beds, including the Surgical Intensive Care Unit and Cardiovascular Intensive Care Unit (CVICU) at the Cleveland Clinic Main Campus, and Intensive Care Units at 4 regional locations. The CVICU is one of the largest cardiac units in the country providing care to our #1 ranked cardiac surgical program, including a high-level heart failure program that utilizes ECMO and ventricular assist device management. The Department also includes the Advanced Practice Critical Care House Officer team, which provides hospitalist-type care at 9 regional hospitals. The Department leads the Critical Response and Resuscitation Committee, which is an enterprise-wide committee that oversees the cardiac, medical and pediatric medical emergency response teams.

The ideal Chair candidate should be a recognized leader within critical care as an outstanding clinician, educator, and scholar, who supports research and education within a multi-specialty organization. The Department Chair will have ultimate responsibility for the clinical, educational, research, and fiscal oversight within the department in order to achieve personal and institutional success. The Department Chair must be a demonstrated leader with strength in communication and collaboration both within and outside of the department. A faculty appointment at a rank commensurate with experience is available at the Cleveland Clinic Lerner College of Medicine of Case Western Reserve University.

Interested candidates should submit their cover letter, curriculum vitae and names of 3 references to:

R. Matthew Walsh, MD, FACS
Search Committee Chair
Department of Intensive Care & Resuscitation
Chairman, Department of General Surgery
Vice Chairman, Digestive Disease & Surgery Institute
Cleveland Clinic, 9500 Euclid Avenue
Mail Code: A100
Cleveland OH 44195

WALSHM@ccf.org Phone: 216 445-7576

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Washington University in St. Louis
School of Medicine

The Department of Medicine invites nominations and applications for the position of:

CHIEF OF THE DIVISION OF HOSPITAL MEDICINE

Competitive candidates will be visionary and strategic academic leaders with a strong record of leadership, clinical and administrative accomplishments, education scholarship and/or research productivity and teaching experience. Qualified candidates must hold ABMS certification in Internal Medicine or equivalent training and certification with an MD, MD/PhD, DO or equivalent degree and should be at or above Associate Professor rank. Prior experience at the Section/Division Chief, Assistant Division Chief, or Medical Director level in an academic medical center or multi-hospital integrated delivery system is preferred. We are committed to developing a diverse slate for this role including minority and female candidates.

The Hospital Division is comprised of 100 physicians and 11 advanced practice providers. Together, they provide high quality care to patients at three locations: Barnes-Jewish Hospital (1,266-bed level I trauma center), Barnes-Jewish West County (108-bed community-based hospital), and The Rehabilitation Institute of St. Louis (96-bed accredited rehab hospital). The Division has grown rapidly in the last decade and there are plans to further expand presenting a tremendous opportunity for a visionary leader to establish new innovative models in diverse settings and a national presence.

Please direct inquiries and applications to:

Nancy Donohoo
Hospital Medicine Search Committee
Washington University School of Medicine
ndonohoo@wustl.edu

Washington University is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, age, sex, sexual orientation, gender identity or expression, national origin, genetic information, disability, or protected veteran status.

UT Health San Antonio
Joe R. & Teresa Lozano Long School of Medicine

The University of Texas Health Science Center at San Antonio
Joe R. and Teresa Lozano Long School of Medicine

Director, Greehey Children's Cancer Research Institute

The Long School of Medicine at the University of Texas Health Science Center at San Antonio (dba UT Health San Antonio) seeks an individual with vision to lead the Greehey Children's Cancer Research Institute (Greehey CCRI) to become a world leader in pediatric cancer research.

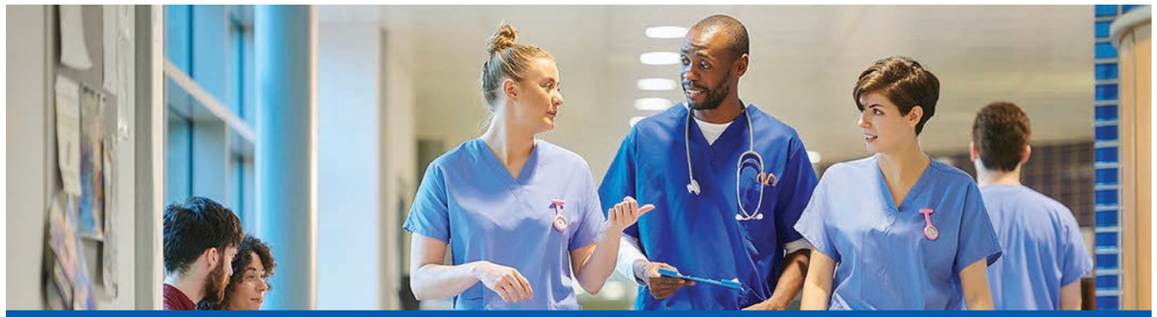
This individual should have an outstanding record of leadership, scientific and educational achievement, recruitment and mentoring. Dynamic leadership, clear communication, strong interpersonal skills, and a keen strategic vision for making future seminal advances in treatment of children with cancer, are crucial characteristics required for success. Candidates must have a PhD and/or MD, and academic experience consistent with eligibility for full Professor with tenure. The ideal candidate will have a widely-recognized national/international reputation in the field of childhood cancer research. The ability to foster a culture of collaboration, innovation, and accountability across the Health Science Center is important.

Reporting to the Dean of the Long School of Medicine, the Director will be responsible for continuing to build and maintain excellence in research programs, high quality educational programs, and a collegial interactive culture. The UT Health San Antonio is an Equal Employment Opportunity/Affirmative Action employer and is committed to excellence through diversity among its faculty, staff and students including protected veterans and persons with disabilities.

This is a wonderful opportunity for a visionary leader to head this state of art facility, building upon the strong basic science, onsite cores, including a preclinical mouse core, and links with clinical endeavors as a foundation. The GCCRI has significant external funding, a large endowment from the state, and links to philanthropic entities. UT Health San Antonio is a research-intensive institution located in San Antonio and it sits in the gateway to the picturesque Texas Hill Country. San Antonio is a vibrant, multicultural city with year-round recreational activities and an attractive cost-of-living.

To Apply: submit a letter of interest along with a current CV electronically via the UT Health Careers portal at **Director of Greehey Children's Cancer Research Insitute**. Inquiries and to receive a full job prospectus email **Shelly Evans, Long School of Medicine Chief of Staff at elliss@uthscsa.edu**.

All faculty appointments are designated as security sensitive positions.



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Contact: Jeanie Harris

Jeanie.Harris@tenethealth.com

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Southern Illinois University SOM (SIU SOM) in Springfield, IL is actively recruiting faculty to join its growing Neuroscience Institute (NSI). Current openings include **Neuromuscular Diseases, Neurocritical Care, Behavioral Neurology/Alzheimer's Disease, and General Neurology.** This is an exciting time to be part of the growth and expansion of the Department of Neurology which serves the Central and Southern Illinois catchment area of 1.7 million. SIU is affiliated with Memorial Medical Center and St. John's Hospital, both 500-bed community hospitals which serve as teaching institutions for SIU SOM.

SIU SOM is consistently recognized nationally and internationally for its innovation in medical education and offers a welcoming environment for dedicated clinicians who love to teach.

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Qualifications: Board certified/eligible in neurology and eligible to practice medicine in the State of Illinois. A demonstrated background in education and established credentials in your subspecialty required.

EEO/AA/M/F/Vets/Disabled

For consideration, please contact:

Kathy Jordan
Academic Consultant
314.518.7409
kjordan@jordansc.com

Cleveland Clinic

CHAIR – DEPARTMENT OF PLASTIC & RECONSTRUCTIVE SURGERY

Cleveland Clinic is one of the world's most distinguished academic medical centers with healthcare facilities centered in northeast Ohio and extended hospital centers in southeast Florida and Nevada. International centers have been established and growing in Abu Dhabi, UAE, Toronto, Canada, London, and future centers in Shanghai, China. **Cleveland Clinic announces a search for the Chair of the Department of Plastic and Reconstructive Surgery** within its renowned Dermatology and Plastic Surgery Institute. The Chair of the Department of Plastic & Reconstructive Surgery will lead expansion of clinical efforts in addition to advancing education and research activities related to the specialty of Plastic and Reconstructive Surgery at Cleveland Clinic's main campus as well as a growing, vibrant and innovative regional practice.

The Department of Plastic and Reconstructive Surgery currently includes 18 Plastic Surgeons, leading a residency program of 19 current residents with approved expansion of its complement to 24. In addition, the department supports four clinical fellows in Breast, Microsurgery, Craniomaxillofacial/Pediatrics and Aesthetics. The Plastic Surgery Research program supports two research fellows and a number of international supported researchers in addition to a clinical research coordinator and director of an on-going microvascular laboratory course. Innovation across the breadth of surgery is the reputation of the Cleveland Clinic and an essential culture of the Department of Plastic and Reconstructive Surgery. From advancements in Face/Abdominal Wall/Hand/Orbital Transplantation to innovations in wound healing, neuromodulation, immune tolerance and organ preservation, the department's vision is to continue to assist in leading and advancing the practice of Plastic and Reconstructive Surgery.

This represents an outstanding leadership opportunity. The ideal candidate will be recognized nationally for his/her experience and accomplishments in clinical care, teaching, research, and administration. It will be paramount that the individual possess the skills necessary to lead and grow a large and complex department with a multi-faceted mission and multiple stakeholders. Board certification in plastic & reconstructive surgery is required. A faculty appointment commensurate with experience is available at the Cleveland Clinic Lerner College of Medicine of Case Western Reserve University.

Interested candidates should submit their cover letter, curriculum vitae and 3 references to:

Rebecca Starck, MD,
President, Cleveland Clinic Avon Hospital
Chair of the Search Committee
33300 Cleveland Clinic Blvd., Avon, OH 44011
restar@ccf.org, Phone: 440-695-5230

For more information on the Dermatology & Plastic Surgery Institute:

https://my.clevelandclinic.org/departments/dermatology-plastic-surgery

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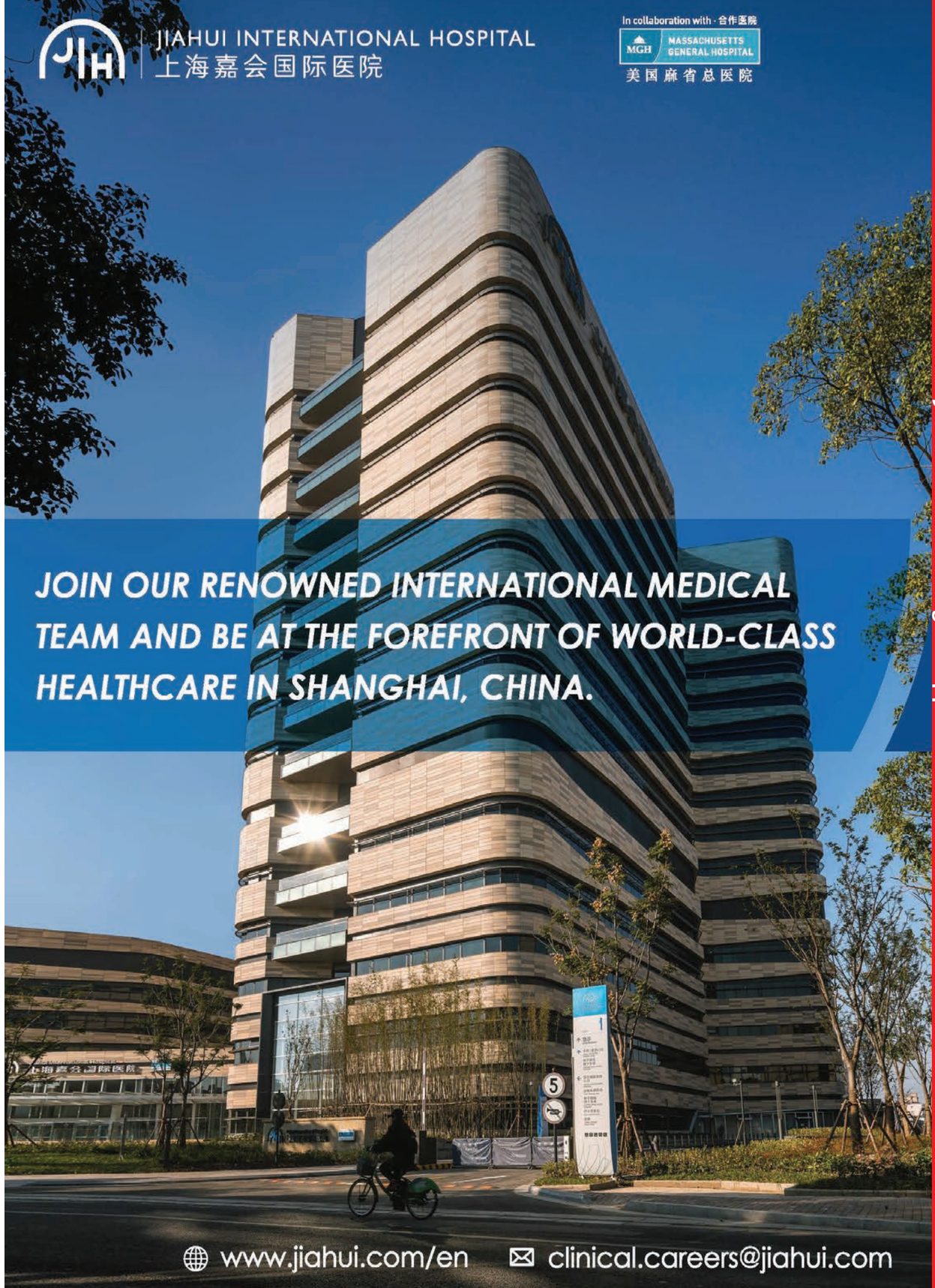

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For Further details regarding our opportunities, please contact:

Office of Physician Recruitment
Northwell Health; OPR@northwell.edu

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The Massachusetts Medical Society is seeking a Deputy Editor to join our editorial team at the *New England Journal of Medicine*. The Deputy Editor, reporting directly to the Editor-in-Chief, will be responsible for reviewing, selecting, and editing manuscripts for the NEJM as well as participating in planning the content of each issue. He or she will also ensure that the best available research is submitted to the NEJM, identify potential NEJM contributors, and invite submissions as appropriate.

To apply, visit deputyeditor.nejm.org

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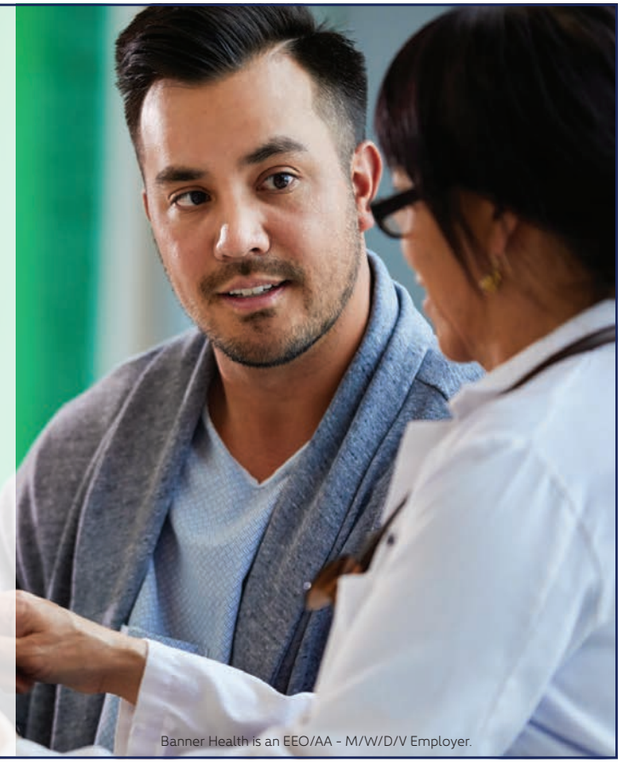

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Photo By MATT SAYLES

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You may also apply online at **www.cchcs.ca.gov**.

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UAMS | Winthrop P. Rockefeller Cancer Institute

Join the Winthrop P. Rockefeller team and help us fight the battle against cancer

The University of Arkansas for Medical Sciences Winthrop P. Rockefeller Cancer Institute seeks an outstanding public health research leader to serve as Associate Director for Community Outreach and Engagement (AD COE). This newly created leadership position will have the opportunity to build and lead statewide efforts to better understand the burden of cancer in the state of Arkansas and to impact cancer outcomes by partnering with community stakeholders.

The AD COE is a senior leadership position within the Cancer Institute, reporting directly to the Cancer Institute director. The AD COE works closely with other Cancer Institute senior leaders and the Cancer Institute Director to implement the strategic goals of the Cancer Institute. This recruiting effort is made possible through significant institutional support and a $10M annual commitment from the state of Arkansas to support the Cancer Institute's efforts to attain NCI Designation. Some of these resources will be prioritized to be available to the AD COE in the building of a COE program. The activities and strategic goals of the Cancer Institute's COE program are generally defined by the NCI Cancer Center Support Grant (CCSG), and it is the responsibility of the AD COE to adapt those expectations to impact cancer outcomes in Arkansas.

The ideal candidate will possess a track record of peer-reviewed research and publications focused on cancer control, cancer disparities, or social determinants of health among underserved and underrepresented minorities, rural or other special populations. Specific responsibilities of the AD COE include the following:

- Directs the development and maintenance of community relationships
- Oversees statewide cancer education activities
- Establishes and oversees community advisory board (CAB) activities; Cancer Institute leaders and the CAB must engage in regular bidirectional communication for the purpose of driving research priorities and strategic goals of the Cancer Institute
- Works with community and institutional stakeholders to identify opportunities to impact cancer outcomes across the state
- Engages Cancer Institute members across research programs to target the cancer burden in Arkansas and partners with them to facilitate community engaged research
- Builds a COE program within the Cancer Institute through their own research, recruitment and collaboration with existing COE researchers within the Cancer Institute and across campus
- Works with the Cancer Institute director to set the strategic mission of the COE program
- Builds a COE office through hiring of staff and oversees its operations to ensure appropriate support of COE program activities and alignment with strategic vision of the Cancer Institute
- Represents COE research and activities in all CCSG related efforts

The successful candidate will join Arkansas' premier cancer institute founded more than three decades ago. The Winthrop P. Rockefeller Cancer Institute is the only cancer center in the state of Arkansas with a robust cancer research portfolio and a mission to improve cancer outcomes for all Arkansans. The Cancer Institute treats over 2,500 new cancer patients annually and has an extensive effort focused on delivering cancer care and conducting research in underserved populations. Its 140 members conduct outstanding cancer research in multiple scientific programs. Cancer Institute members receive more than $10 million in extramural cancer research funds annually, including multiple "team science" grants. The Cancer Institute has 5 institutional shared resource facilities. A robust clinical trial infrastructure currently supports nearly 270 cancer clinical trials. With strong investment from the state of Arkansas, UAMS and philanthropy, these research operations are rapidly expanding, and the Cancer Institute is in a period of extraordinary and exciting growth. The University of Arkansas for Medical Sciences is one of 57 institutions with an NIH Clinical and Translational Science Award, which supports translational research and creates a supportive environment that synergizes with the Cancer Institute to promote junior investigators and transdisciplinary research. Community engagement efforts have been established for many rural and/or impoverished areas of the state including the Delta region and for unique populations, such as the Marshallese Pacific Islanders. In addition, a robust implementation and dissemination program exists, with great potential for further expansion into the cancer arena.

Applicants should send their Curriculum Vitae, a letter of interest that includes a vision statement and 3 professional references directly to* Jennifer Moulton at jamoulton@uams.edu. *Application deadline is September 1, 2020. Review of applications will continue until the position is filled. Applicants must have a PhD, or equivalent. Applicants must be able to work in a team environment. Selected applicants will join a diverse and vibrant academic community that values its researchers and is committed to diversity, equity and inclusion.

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For more information, visit **MeetLifePoint.com**

Submit your CV for consideration to **LPNT_Provider.Recruitment@lpnt.net**

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