

medicine

at M I C H I G A N

Summer 2002

A PUBLICATION OF THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL



Champions in the Fight against Depression

U-M's collaborative team takes the lead



Blair

Interview by Sally F. Pobjewski
Photos by Martin Vloet

Conquering DEPRESSION

With resources, understanding and support, John Greden, dynamic leader of the University of Michigan Depression Center, is passionate about the possibility

Imagine waking up every morning so physically and emotionally exhausted that even making coffee seems an impossible task. Your body feels sluggish and heavy. Simply getting out of bed requires an enormous effort. Deciding what to wear can reduce you to tears. Coping with the everyday responsibilities of a job or family seems out of the question.

Beneath the exhaustion lurks a profound sense of shame and a growing sense of panic. The more you feel yourself spinning out of control, the harder you try to keep anyone from knowing. *If I just try harder...if I just stay focused...if only I were a better person...if I weren't such a complete and total failure...I could make it go away.*

This is clinical depression.

Eighteen to 20 million Americans know exactly how it feels, but fewer than three million of them currently are well-diagnosed and receive adequate treatment. Because of this, depression destroys marriages and shatters families. It costs the economy billions in lost productivity, absenteeism and employee turnover. Its victims can be found in corporate offices and homeless shelters, in high schools and mental hospitals, in prisons and in morgues.

John F. Greden, M.D., the Rachel Upjohn Professor of Psychiatry and Clinical Neuroscience in the U-M Medical School, chair of the Department of Psychiatry

and senior research scientist at the U-M Mental Health Research Institute, calls depression the “under” disease — as in under-diagnosed, under-treated and under-discussed. The real tragedy, he says, is that depression is a highly treatable illness, but lack of information, social stigma and other factors too often prevent people from getting the help they need.

In this issue, Greden talks to *Medicine at Michigan* about what causes depression, how therapy and medication can help control its progression, and how scientists and clinicians affiliated with the University of Michigan's Depression Center are finding answers to questions about depression.

—SFP

How common is depression and who is most likely to develop it?

The World Health Organization has developed criteria for assessing what they call the global burden of disease. They compared 100 of what they consider to be the world's most important diseases. Of 100 diseases, depression ranked fourth on one measure used in their report and it is projected to rank higher in the future. It actually ranked first on the second measure, which is years lived with the disability, and first in women. This is true both in developed and developing countries. The impact and burden of this disorder are profound. ➤

“The impact and burden of this disorder are profound.”

Depression has a lifetime prevalence risk of 15 to 17 percent of the population at large. When we talk about lifetime prevalence, we mean how many people are likely to develop this disorder at some time in their lives. About 21 percent of people with depression are women and 12 percent are men, so there's almost a two-times greater risk of depression in women.

There are many illnesses with gender differences in prevalence risk. Depression is especially intriguing because ratios between boys and girls are identical until they reach puberty. Then, the two-to-one gender difference begins to appear and continues throughout life. Depression's first symptoms often develop during adolescence, with a peak onset of symptoms between ages 15 and 19. The actual diagnosis usually isn't made until years later, though, and that's a severe problem. It means the disorder is underway but untreated, and that damage is being done. The Michigan Depression Center aims to help eliminate that problem.

Because clinicians aren't often looking for depression or making the diagnosis in adolescents, families attribute symptoms to adolescent rebellion. 'Maybe she's smoking too much marijuana, or it's the beer-drinking, or hormones.' All of these turn out often to be depression in disguise. Doctors and parents miss the underlying condition.



John Greden

Can children be clinically depressed, too?

Absolutely, although younger children develop depression much less frequently. It's estimated to occur in about one in 33 children, as compared to one in eight adolescents who actually have a diagnosis of clinical depression. Clinicians and families should consider family history whenever children and adolescents are struggling with depression's symptoms.

Can depression be cured?

If by "cure," you mean totally eliminating the condition forever, I would suggest that's not the way we should think about it. Indeed, it is probably inaccurate for most. If you're asking, can you bring people with depression to a state of remission, well-being and normal

functioning, and can they remain there, then the answer is a resounding yes. There are treatment strategies that allow us to do that quite effectively. But it usually requires ongoing, continuous treatment, and that is not something that is well understood.

Some people say depression is a lifestyle disease caused by the stress and frantic pace of modern life. If we all went back to a simpler way of life, would depression disappear?

Can you name me a time in history when we've never had to live with stress? I would rather be alive today — even after the horrible events of 9/11 — than have to worry about saber-toothed tigers, the bubonic plague, and wondering whether I would ever live to adulthood. Depressive episodes clearly are

precipitated by stress, just as cardiac problems are, but it is a neurobiological illness, and cannot be attributed solely to stress or lifestyle. Nevertheless, clinicians and families definitely need to work on lifestyle issues to control depression. It's important to get enough sleep, regular exercise, and good nutrition. Alcohol and drugs are major contributors to new episodes or increased severity.

What do we know about the causes of depression?

Depression is a brain illness. When underlying genetic vulnerabilities are coupled with stressors or stress (stressor is the researcher's word for the actual event, stress is the consequence) in the environment, the combination leads to changes or alterations in neurotransmitters or chemical messengers in the brain. In the process, you start getting an imbalance of regulatory mechanisms that control pleasure, sleep, appetite, sexual function, the ability to think ahead, confidence, pain mechanisms, and many other physical symptoms such as energy, rate of speech, even facial expressions.

I can sit here and gesture like this and it's reasonably normal. When people are depressed, they often don't have normal gestures or they are agitated. They exhibit alterations of their voice, or even neurological motor functions like grimacing or hand-wringing. It really is important to note that physical symptoms, one of which is pain, are key features of depression, and this is often what people notice first.

In fact, most people in the early stages of clinical depression see a primary care physician, rather than a psychiatrist. It's kind of uncommon for people to sit back and say, 'I think I'm depressed. I'd better go see a psychiatrist.'

Initial presenting symptoms are almost always fatigue, sleep problems, lethargy, appetite changes, 'I don't feel well; I feel like I have the flu,' a variety of physical complaints, headache, gastrointestinal symptoms — these are very common. Emotional symptoms — sadness or tearfulness — receive more attention, but about 80 percent of the time, the physical features are more prominent in the early stages.

Do you need both the genetic predisposition and a stressful event in your life to develop depression?

For most people, probably yes, although we don't know enough about the underlying genetics to really state that definitively yet. Similar to diabetes or cardiovascular disease, depression is a complex genetic disorder, meaning it involves multiple genes. As Huda Akil [Ph.D., Gardner C. Quarten Professor of Neurosciences and co-director of the U-M Mental Health Research Institute] and Stan Watson [M.D., Ph.D., Theophile Raphael Professor of Psychiatry and co-director of the U-M Mental Health Research Institute] are fond of saying, all the genes may even be functioning normally, but are altered in small ways and the combination of alterations can lead to the vulnerability, to changes in gene expression, and in the right circumstances with the wrong stressors, to the development of the actual illness.

Couple a genetic vulnerability with something bad happening in your life — such as a death or divorce in the family, ►




Cheryl King

What's the best way to help **depressed teens?**

As director of the U-M Child/Adolescent Depression Program, Cheryl King, Ph.D., works with some of depression's most vulnerable victims. Adolescents with serious depression are difficult to treat and often struggle with suicidal thoughts. Other than hospitalization, psychiatrists have few options; no outpatient intervention has been shown to be effective at preventing these teens from attempting suicide.

"These are extremely ill young people," says King, an associate professor and chief psychologist in the Medical School's Department of Psychiatry. "They have serious social impairment and often feel out of control. Many of these youth either have no close relationships or constant conflict in their relationships."

King developed a new social network intervention program called the Youth-Nominated Support Team to supplement traditional psychiatric treatment. Teens in the YST program choose up to four adults to be their support team. After being trained by U-M mental health professionals, team members have contact with the teen-ager once a week to encourage treatment adherence and provide support.

"Preliminary data show YST is effective at reducing suicidal thoughts and emotional distress, especially in girls," King says. "Now we are testing to see if it improves teen-agers' willingness to adhere to other recommended treatments." 

“It really is important to note that physical symptoms, one of which is pain, are key features of depression....Emotional symptoms — sadness or tearfulness — receive more attention, but about 80 percent of the time, the physical features are more prominent in the early stages.”

a major illness, or severe financial distress, things of that nature — and suddenly a sequence gets underway.

And so this sequence — these changes in brain neurotransmitters — once they begin, are you set up for a lifetime of changes?

Not necessarily. We don't know enough yet to totally recognize those at risk and then prevent the first appearance of this disorder, but we can do a great deal to prevent its progression by finding it early enough and stopping it in its tracks. That's a key goal of the Depression Center.

My own academic and clinical interests have focused on defining the longitudinal course of depression. In most people, depression tends to be episodic, recurrent and last a lifetime. How often do you find someone who's only had one clear-cut episode of depression and will never have another? It's not very frequent — perhaps only about 10 to 15 percent.

Unfortunately, most people have more than one episode of depression. Untreated, the vast majority of individuals will have multiple episodes. It tends to be four, five, six recurrences in people with unipolar depression or the one-direction subtype. And even more — seven, eight, nine — in those with bipolar or manic depression — *if* untreated, and that is an important 'if'

But these recurrences are not inevitable. That's a key point, and one of the often-overlooked principles of disease management. I like to call depression a chronic preventable disorder, because it is best considered in a long-term, life-time perspective. With effective treatment, you can prevent recurrences and the deterioration they cause.



Is it true that depression tends to become more severe with each recurrence?

Very true. With each episode, recurrences tend to get more severe, but also last longer, occur more frequently and closer together. There's also a tendency for the depression to become more difficult to treat. This is why our clinical priorities should be driven by our goals for the U-M Depression Center — earlier detection, earlier and more effective

intervention, full and complete resolution of depressive symptoms, prevention of recurrences, and reduction of the overall burden this disorder otherwise produces.

Depression is an illness. It's treatable. Go see your doctor. That's probably the best axiom. And yet, in order for that formula to work, we have to educate the public, the media, and our clinicians. Happily, everyone seems eager to learn more. Yet, people often go to see doctors and usually don't discuss what's troubling them, and doctors don't ask as often as we would like. There's too little time and too many practical barriers that get in the way. What often happens is that the underlying cause of depression is overlooked and symptoms are treated instead.

Tell me more about the Depression Center. I know you've been directing its development. How will it support research and clinical care for depression?

The Center's vision and mission are to bring various

sources of expertise together, so there is almost a blending, if you will, of multidisciplinary approaches to depression, to find it earlier and stop it in its tracks. We need the behavioral scientists, the neuroscientists, the clinical investigators, the health services people who measure outcomes, and the people who work on assisting patients and families to stay with the treatment all to be working together. We need pediatricians, people in student health, nurses, social workers, and primary care physi-

cians to pick up depressive syndromes when they first appear. We need experts in obstetrics and gynecology to detect depression in women coming in for pregnancy check-ups. We need molecular scientists, pharmacologists and pharmacists to develop better treatments.

If we can screen patients more effectively and conduct lifetime assessments looking at the complex array of genetics and other factors, then these and other parts of this story will all come together and help us better understand the causes, treatments and preventive strategies for depression. My little cliché is that the more we learn, the more we can be confident that the mosaic is becoming a picture. Knowledge does heal.

You are planning a beautiful new building on the U-M Medical Campus for the Depression Center. Is it a way to bring depression out in the open?

Indeed, we are currently designing a beautiful new facility, so we can conduct research and advance knowledge, edu-

cate a new generation and bring about the most effective treatments now and in the future. But I also envision the building to be what I call the 'antithesis of depression.' If you're addressing a problem with some remaining stigma, you should have a facility that sends the right signals. So we intend it to be light, airy, warm, inviting and a community resource.

The major reason is that one of our goals for the Depression Center is to diminish this stigma of depression. Other disorders, like cancer, were stigmatized in the past. Now, we have a national network of 21 cancer centers. Ten years from now, I hope we will have a national network of depression centers and it is our goal to make Michigan a prototype.

Are there depression centers at other universities?

Not of the same scope. There are none that have tackled our goal of blending the essence of multiple schools and multiple disciplines throughout an

entire university into an integrated comprehensive approach with a research, clinical, educational and public health and public policy agenda.

Why at Michigan? This university has world-leading scholars in the behavioral sciences and psychology, the Institute for Social Research, social work, nursing, pharmacy, and public health. Its professional schools, including the Medical School, all are top-ranked nationally. Our Health System is superb. Our neuroscientists are world leaders. We have almost a unique situation here, and I am almost in awe of the array of talents. Yet, our experts have never really come together before into one network to foster ongoing programs to counteract depression. We already have made great progress in bringing together the components within the health system, and have a good start in linking with the other systems on campus. The exciting part is that we're doing progressively more with each passing day. Even in this extramural arena, 'the mosaic is becoming a picture.' ➤



Juan Lopez

What does **stress** do to your **brain**?

Stress doesn't cause depression, but recurrent episodes of stress appear to make some people more vulnerable to developing it, says Juan F. Lopez, M.D., an associate professor of psychiatry in the Medical School and assistant research scientist in the U-M Mental Health Research Institute.

Lopez studies the effect on the brain of stress-related hormones called glucocorticoids. Working with U-M colleague Stanley J. Watson, M.D., Ph.D., he found that rats secreting high levels of these stress hormones for long periods of time develop biochemical and molecular changes in their brains. He sees the same changes in human brains from people with severe depression who committed suicide.

People with depression do have an enhanced physical and emotional response to stress, says Lopez. But the brain's perception of stress is just as important as the reality. Lopez believes there may be many sub-types of depression, which could explain why certain medications work well in some patients, but are ineffective in others.

"We are trying to determine what is the core of depression and what is a by-product of the illness," he says. "It's humbling, because we can see just how complicated the system really is." [m](#)

What do you mean by 'extramural?'

I have referred to the operations within Psychiatry as the 'intramural' part of the Center and simply for communication, I consider the extramural components to be those operations within the rest of the U-M Health System and other parts of the University. I've already mentioned some of those — earlier detection strategies in pediatric and primary care settings when symptoms first occur. For example, in the Women's Health Center, 5,000 pregnant women have been screened to determine their risk for depression. It turns out to be almost at a predictable level — it's 18 percent. Without such screening, many of these women would not be diagnosed until years later when their symptoms could be much worse. This is a study conducted by Sheila Marcus [M.D., a clinical assistant professor of psychiatry in the Medical School] and Heather Flynn [Ph.D., an assistant research scientist and clinical associate in psychiatry] working with members of the department of obstetrics and gynecology, led

by Tim Johnson [M.D., Bates Professor of the Diseases of Women and Children and chair of the Department of Obstetrics and Gynecology].

Our strategy is to move depression expertise into primary care and specialty care settings, starting with those areas that have highest risk. We do not want to wait until someone is identified and then sent to a psychiatrist. The reason is that otherwise you miss people or catch them too late. This approach is called collaborative care, and it's something we are emphasizing heavily as part of the concept of the Depression Center. Psychiatrists who are depression experts have key roles, but we emphasize taking the expertise to the venues where depression is most likely to first appear and where we need to identify it, if we are going to prevent recurrences. For those who can't be helped with prevention of recurrences, referrals to the specialty programs in the intramural branch of the Center may be required. For example, a special program is underway for evaluation of those with treatment resistant depression, and we

are developing what we intend to be an internationally leading bipolar research clinic. Bipolar, by the way, is the 'official' term for manic depression.

If tomorrow you could answer just one question about depression, what would it be?

Could I ask for two questions instead of one?

It's perhaps a bit of a dream, but I would like to know the genetic underpinnings that create the vulnerability, because that knowledge would open the door to prevention, better treatments, and interventions that would actually stop the disease from ever gaining momentum. The second and related aspect would be to develop better approaches to preventing recurrences among those who already have had multiple depressive and manic depressive episodes. The episodic, recurrent pattern is the real reason why depression is so burdensome. Both questions, by the way, emphasize preventive aspects — the real goal for this disorder.



Michael Klinkman

Can **primary care docs** treat depression?

Most people with depression have no idea they have a mental illness. They just know they feel lousy, and they usually seek help from a family doctor or primary care physician. So how does a busy general practitioner, with an over-booked schedule and minimal training in psychiatry, diagnose and treat depression?

That's where Michael Klinkman (M.D. 1982, Residency 1985) comes in. Klinkman develops and evaluates the most effective ways to treat patients with mental health problems in a primary care setting. He directs the U-M Health System's participation in a \$26-million national study under way in 13 research institutions called STAR*D, which is the largest clinical trial ever funded by the National Institute of Mental Health. Its goal is to determine what to do if the first antidepressant prescribed by the physician fails to help the patient, which happens about 50 percent of the time.

"People who begin treatment for depression in the primary care setting are just as impaired as those who are treated initially by a psychiatrist or clinical psychologist," Klinkman says. "So it's important that family physicians have valid treatment guidelines and effective support systems in place, so they can help their depressed patients." [m](#)

Let's talk about treatment. Aren't there about 20 antidepressants on the market now?

Actually, there are more than 40 antidepressants on the market and more than 50 new products in the pipeline, including some very new concepts that take a whole different approach. Virtually all traditional antidepressants work by trying to readjust the balance of neurotransmitters in the brain. The bottom line in depression is that if norepinephrine, serotonin, dopamine, acetylcholine and other neurotransmitters are altered, you will have 'downstream' effects in brain function, changes in gene expression, and ultimately, depression. What current antidepressants do is try to restore the balance of neurotransmitters to normal and thus improve imbalances at each step in brain function. During recent years, we have discovered many other potentially relevant brain transmitters and proteins. For example, various recent findings show that there are changes in neurotrophins (what some have called the 'plant foods' of our neurons or brain cells), or in CRH —

corticotropin-releasing hormone, the first step in the stress-hormone cascade.

Some of the newer approaches to antidepressants are designed to intervene at these points, such as by trying to stop the stress cascade before it gets rolling. These include agents called CRH antagonists that block the effects of CRH in the brain. They interrupt the cascade of biochemical signals involved in the stress response to create a cushion or buffer. These and other studies are in early stages, but they are promising new strategies.

Just as importantly, during the last 20 years, we also have learned a great deal about where and how to look for depression in general population settings, in other words, how to screen for it, and ideally, how to prevent its appearance when social and behavioral stressors are inevitable. International leaders at U-M like Rick Price [professor of psychology in the College of Literature, Science and the Arts] and Susan Nolen-Hoeksema [Ph.D., also a professor of psychology in LS&A] have

led efforts to translate behavioral science advances into clinical worlds. Researchers have made great progress in learning how to help people cope with behavioral stressors in their lives, but too often, this knowledge has not made its way into clinical worlds. The Depression Center also aims to fill that void.

As you said, most people with depression are first seen by family physicians. Are they qualified to diagnose and treat depression?

They are the front line, and actually do wonderful work considering the barriers they face, starting with time constraints. Family physicians, for example, average only 11 minutes with each patient. That's simply too little time for accurate diagnosis and certainly not enough time for psychotherapies like cognitive behavioral therapy, that are effective for mild to moderate depression. They actually do make many diagnoses and prescribe the majority of antidepressants used in the country. ➤



Delia M. Vazquez and Mark Isaacs, one of the children participating in her study of cortisol levels in infants and mothers

What happens to **baby** when **Mom** is depressed?

Growing up with stress is not healthy for infants and young children, says Delia M. Vazquez, M.D., an associate professor of pediatrics and psychiatry in the U-M Medical School. Children who live with chronic stress are more likely to develop depression early in life. In extreme cases, children even stop growing until their high-stress environment is changed.

To learn more about the relationship between a mother's depression and development of the stress hormone system in her infant, Vazquez is involved in a long term study of new mothers at U-M Women's Hospital who have a high risk of developing depression. By measuring a stress hormone called cortisol in saliva, researchers can track the relationship between a mother's mood, the personal interaction with her infant and the normal development of cortisol levels in her child.

"Cortisol follows a day-and-night cycle; it is high in the morning and low at night," Vazquez explains. "Cortisol production in depressed patients is high when it should be low. In contrast, children living in adverse environments, such as third world orphanages, have low cortisol levels when these should be high. We wonder if a child's cortisol levels would be a mirror image of their caretaker. Is there a set point that is in part genetic and in part from their early life experience, beginning during the first year of life? Can we intervene early to stop a negative outcome, such as depression? How early? These are the types of questions we hope to answer." [m](#)

How do **antidepressants** work?

In 2001, Americans spent \$12.5 billion on antidepressants to treat the debilitating symptoms of depression. Scientists know that antidepressants work by restoring the normal balance of hormones and neurotransmitters in the brain. But no one knows exactly how they do it. Robert Thompson, Ph.D., an assistant professor of psychiatry in the Medical School, is trying to find out.

By analyzing subtle changes in the brains of laboratory rats receiving one of three common antidepressants, Thompson and U-M colleague Juan F. Lopez, M.D., have found 10 to 20 neural genes whose expression patterns change in response to medication. They use advanced DNA microarray technology to analyze the activity of thousands of genes just to find a few that change in response to more than one type of antidepressant. It is tedious, painstaking — but important — work.

The next step is tracking complex biochemical changes in the brain, which are controlled by changes in gene expression. “Understanding how antidepressants work at a genetic and molecular level could help us address their limitations, like delayed responses and side effects,” Thompson says. “It also could lead to new medications to help people who don’t respond at all to the antidepressants we have today.” [m](#)



Robert Thompson

Primary care physicians also must confront systems issues with insurance reimbursement, because most insurance companies will not reimburse them for time spent treating depression. Only 34 states have legislation requiring insurance parity for major mental illnesses such as depression and manic depression. We are hopeful that Michigan will soon become the 35th. As I already mentioned, patients traditionally have been reluctant to talk about depression, because they sometimes have feared the future implications for their job, their family or their image, but sometimes payment has been the barrier. Primary care physicians and certain specialty clinicians such as in cancer centers and cardiology are at the front lines, and by necessity, will need to remain there. Our Center aims to recognize this and to increase the effectiveness of detection and treatment at all levels, but definitely starting here.

It won't be easy, but we can make progress and thus make a difference. In

fact, we are already doing it here, and our family medicine faculty are international leaders in primary care depression.

Are physicians too quick to prescribe prescription drugs for depression? Isn't psychotherapy more effective?

This is an important question and I would like to use it to launch a key clarifying point. Psychotherapies that are specific and tailored to the patient's individual needs are effective in treating depression, especially in its earlier stages. Such psychotherapies ideally should be included as part of an optimal package of care. Antidepressant medications also are effective. What is most frustrating to me is the 'either-or' debate on the best way to treat depression. Is it medication or is it therapy? We can't come up with the right answer because that's the wrong question.

If you had diabetes, you wouldn't be told: 'Let's not use medications like insulin; they'll just get in the way of our

psychotherapy efforts to help you deal better with stress (which is a factor in diabetes)? You also shouldn't be told, 'Here's a bottle of pills. You don't need to do anything else.' Similarly, we would never suggest stopping cardiac medication if the patient had cardiovascular disease, but that doesn't mean one shouldn't deal with stressors. Depression is analogous to these two diseases. It is a biological illness that is linked to events of living. Medications and psychotherapy should both be used as needed. To be clear, however, antidepressants are often absolutely essential in resolving episodes and preventing recurrences, and evidence suggests that for many, they are started too late. The only goal that counts is achievement and maintenance of remission — continued well-being. We would all be better off if we ended the 'either-or' debate.

Incidentally, every degree of severity in depression can respond to treatment. But for patients whose depression is further along, some type of antidepressant medication therapy is required.

“One of our goals for the Depression Center is that we do something to diminish the stigma of depression. Other disorders, like cancer, were stigmatized in the past. Now, we have a national network of 21 cancer centers.”

I've read that most people with depression are never properly diagnosed and treated. Since depression responds so well to treatment, what prevents people from receiving the help they need?

You are correct in your description of the problem. To illustrate, let's start with the total pool of people with depression — that is, 18 to 20 million people in the United States alone. About 50 percent of these people will never receive a diagnosis during routine clinical care. The vast majority of the others who are diagnosed either don't get treatment or receive inadequate treatment. Only 10 to 15 percent of the total population receives adequate treatment.



What prevents people from receiving the help they need? A multitude of factors. There is a tremendous lack of awareness on the part of patients, families, physicians, teachers, clergy, and society at large. We've had great success in educating the public about cancer's warning signs. There is simply not the same degree of awareness about depression. We are making progress, but have a long way to go. That is why educational outreach is a key part of the Center, supported by a generous grant from Friends of the University of Michigan Health System.

Depression can be fatal. How common is suicide in depression?

Too common, and far too tragic whenever it occurs. Perhaps 35,000 people die annually from suicide, and most have some form of depression or manic depression. It should be noted that suicidal thoughts are to depression as fever is to pneumonia. It is often a painful companion. The main goals are to detect earlier, treat earlier, prevent progression, and eradicate the underlying disorder that produces the degree of pain that makes people consider ending their life.

Incidentally, suicide is the most obvious lethal effect of depression, but there are others. For example, if you have a myocardial infarction and depression, your risk of death is five times higher in the following year, than the risk of death in someone with the same cardiac condition, but without depression. There also are relationships between depression and autoimmune diseases or cancer. Depression is a major intensifier of all diseases.

What would you most like people with depression to know?

Many things, and almost all are optimistic. Depression is an illness, and while its burden has been huge, it's actually highly treatable, the treatments are getting steadily better, and fears of discussing the illness are overstated.

Depression is an episodic, recurrent disorder, but we have learned how to prevent most recurrences. Staying well is achievable, but specific steps are required.

Our knowledge bases in neuroscience and behavioral sciences are exploding. It is reasonable to think we can conquer this disorder, but we need understanding, support and resources to do it.

There are many barriers to decreasing depression's burdens, and we do have strategies to make that happen, but, again, help is needed. I urge people to take their concerns about unequal treatment for depression and other major mental illnesses to their insurance company and government officials.

And especially if you have a family history, I encourage you to learn as much as you can about this condition, and talk openly about it within your family and with your clinicians. Seek the help that is effective and stay with the treatments that work. Together, we can and will make both the stigma and the burden of depression painful memories of the past. [m](#)