Chapter 9
Errors, Uncertainty, and Ethical Issues

Much of medicine is about clinical outcomes, and the paths we take to achieve them. Even before seeing our first patients as newly minted physicians, we seek knowledge and “truth” through the study of the works of science’s giants who have gone before us: the anatomic discoveries of Vesalius, the microbiology of Pasteur, and the antibiotics that followed Fleming’s chance observation that a mold could inhibit bacterial growth. Then we begin seeing patients and do our best to apply what we have learned.

Here is where we learn that the road to diagnosis is often circuitous, with opportunities to go astray. We call these diagnostic errors, when the headache we assumed to be migraine turns out to be tumor, and when the patient with apparent indigestion suffers an aortic dissection. Over the years, medicine’s giants have suffered errors, and have probably thought about their meaning. As an example, Robert Koch (1843–1910) discovered the tubercle bacillus and, for this achievement, received the 1905 Nobel Prize in Physiology or Medicine. But Koch’s misunderstanding of the differences between human and bovine tuberculosis delayed the discovery that milk could transmit the disease [1, 2] (see Fig. 9.1).

Medical uncertainty is part of daily practice: Is my diagnosis correct? Have I recommended the right therapy? Should I operate now or wait to see what tomorrow brings? No matter how we strive to eliminate dreaded uncertainty, we encounter it again and again. Wellbery, however, sees medical uncertainty as an opportunity. “In medicine—a field where the physical body registers palpable outcomes—certainty about diagnosis, therapy, and prognosis is a logically desirable goal. In the arts, by contrast, uncertainty and ambiguity are often embraced because they create opportunities, moving the perceiver beyond the obvious into a realm where values,
meanings, and priorities are weighed and adjudicated. I would like to suggest that this exploratory potential applies to medical practice. While clearly, clinical medicine seeks assurances, it is also an ‘art’, whose practitioners acknowledge, and even thrive upon, the messiness and complexity it targets. There is, then, a positive role for medical uncertainty that can serve as a counterforce to our unexamined quest for definitive answers” [3].

Also part of daily practice are ethical issues, as we balance our treasured values of beneficence, non-maleficence, confidentiality, patient autonomy, and more. All is well until a specific case presents dissonance between two perfectly legitimate ethical values, as when a patient with an illness that could cause fainting asks that his family not be told. This pits the patient’s right to confidentiality against the issue of non-maleficence in regard to the family members who may be passengers in the patient’s car or perhaps the driver of an approaching vehicle.

This chapter examines some of the gray areas in medicine and what our giants had to say about them.

1. Cobbet L. The relation between animal and human tuberculosis. In: The causes of tuberculosis. Cambridge, MA: Cambridge University Press; 1917.
2. Palmer MV et al. Bovine tuberculosis and the establishment of an eradication program in the United States: role of veterinarians. Vet Med Int. 2011; Article ID 816345.
3. Wellbery C. The value of medical uncertainty? The Lancet. 2010;375:1686.
First, Do No Harm

The physician must… make a habit of two things: to do good or at least to do no harm.

Hippocrates (ca. 460–377 BCE) [1]

Often expressed in its Latin version—*Primum non nocere*—the admonition to do no harm is deeply imbedded in the lore of Western medicine. No chapter discussing medical errors would be complete without some reference to the venerated saying.

Although often attributed to Hippocrates, “first, do no harm,” as expressed in various languages, has a rich history. One may argue that the earliest use of the caution was by the Yellow Emperor Huang Ti (ca. 2600 BCE), who wrote: “The most important requirement of the art of healing is that no mistakes or neglect occurs” [2]. Smith attributes the specific expression, with its Latin version, to Thomas Sydenham (1624–1689), whom we remember for his classic descriptions of disease

Fig. 9.2  Teenage girl with weight loss caused by anorexia nervosa. http://commons.wikimedia.org/wiki/Category:Anorexia_nervosa#mediaviewer/File:Anorexia_case_1900.jpg
Herranz tells that the maxim to “first, do no harm” entered the fabric of British and American medicine in 1849 when it was used in a book by Worthington Hooker titled *Physician and Patient* [4]. Today, I would wager that, whether in English or in Latin, there is not a US medical student who has survived to the clinical years who is not familiar with this adage.

Doing harm can occur in degrees. We have all heard of the wrong patient receiving medication. Early pregnant uteri have been incorrectly diagnosed as tumors and excised. At the University of Washington Medical Center in June 2000, surgeons operating on Donald Church, age 49, left a 13-in.-long retractor in his abdomen, necessitating a second surgery to remove the “souvenir” [5].

Not all poor outcomes involve such epic misadventures. Sometimes harm to patients falls under the heading of unintended consequences. As an example, O’Dea describes how, in response to the epidemic of childhood obesity, we have advocated dietary control and exercise as sensible preventive measures. She holds that: “The moderate and sensible dietary guideline of the late 1970s was taken up by the target audience who required it least—young women, who adhered to the ‘control your weight’ most vehemently,” leading to an “exponential rise in eating disorders” [6] (see Fig. 9.2).

All physicians commit errors and cause harm. Our daily work involves making many decisions, often with incomplete data, and with the stark realization that we cannot predict the future. Unfavorable outcomes happen. We can only hope that our errors will be “minor” and that little damage results. Hippocrates is reported to have said, “I would give great praise to the physician whose mistakes are small, for perfect accuracy is seldom to be seen” [7]. I do believe that, at the end of one’s career, the memorable cases of a physician’s lifetime will feature many of the mistakes made.

1. Hippocratic corpus: Epidemics. Book I, Section 11.
2. Huang Ti (Yellow Emperor): Nei Ching Su Wên. Book IV, Section 13.
3. Smith CM. Origin and uses of *primum non nocere*—above all, do no harm. J Clin Pharmacol. 2005;45:371.
4. Hooker W. Physician and patient: a practical view of the mutual duties, relations and interests of the medical profession and the community. New York: Baker and Scribner; 1849.
5. Ten unbelievable medical mistakes. Available at: http://www.oddee.com/item_96576.aspx.
6. O’Dea JA. Prevention of childhood obesity: “First, do no harm.” Health Ed Res. 2004;20:259.
7. Hippocrates. On ancient medicine, Book IX.
On Being Very Wrong

I have formerly said that there was but one fever in the world. Be not startled, Gentleman, follow me and I will say that there is but one disease in the world.

American physician and educator Benjamin Rush (1745–1813) [1]

Rush goes on to explain, “The proximate cause of disease is irregular convulsive… action in the (vascular) system affected.” In support of his thesis, he asserts “the multiplication of diseases… (is) as repugnant to truth in medicine as polytheism is to religion. The physician who considers every affection of the different systems of the body… as distinct diseases when they arise from one cause resembles the Indian or African savage who considers water, dew, ice, frost and snow as distinct essences” [1]. Rush was, of course, spectacularly wrong. His pronouncement came eight centuries after Rhazes, in Persia, recognized that the infectious rashes—measles, varicella, and smallpox—were distinct diseases.

A leading physician of his day, Rush was Professor of Medical Theory and Clinical Practice at the University of Pennsylvania Medical School, the founder of Dickinson College in Pennsylvania, and a signer of the Declaration of Independence (see Fig. 9.3). He trained the physicians who attended George Washington at the

Fig. 9.3  Benjamin Rush (Public domain). http://commons.wikimedia.org/wiki/Benjamin_Rush
time of his death [2]. I include his misguided theory here to balance the sagacity of others in this book and to show that even the most venerable physician can espouse a theory that is very mistaken.

There are other examples of scientific wrongheadedness. In 1872, Pierre Pachet, Professor of Physiology at Toulouse University in France, declared, “Louis Pasteur’s theory of germs is ridiculous fiction” [3].

Félix Martí-Ibáñez (1911–1972), a Spanish-American physician-writer and Professor of the History of Medicine at the New York Medical College, wrote in 1958: “The profound change that is taking place in the natural history of infections warrants the prophecy that by the year 2000 the diseases caused by bacteria, protozoa, and perhaps viruses will be considered by the medical student as exotic curiosities of mere historical interest, as is the case today with tertiary syphilis, gout, and smallpox” [4]. Then in 1988, a molecular biology professor at University of California, Berkeley, is reported to have described the human immunodeficiency virus (HIV) as “a pussycat” [3].

Off-target predictions are not limited to medicine. Here are a few whoppers from other arenas [5):

• “The Americans have need of the telephone, but we do not. We have plenty of messenger boys.”—Sir William Preece, chief engineer of the British Post Office, 1876.

• “Stocks have reached what looks like a permanently high plateau.”—Irving Fisher, Professor of Economics, Yale University, 1929.

• “I think there is a world market for maybe five computers.”—Thomas Watson, chairman of IBM, 1943.

Which of our current beliefs/predictions just might prove to be very wrong? Will it be global warming, the theory of evolution through natural selection, or the belief that we can find an effective HIV vaccine?

1. King LS. The medical world of the eighteenth century. Chicago: University of Chicago Press; 1958, pages 223–224.

2. The Benjamin Rush prescription. Providentia: Available at: http://drvitelli.typepad.com/providentia/2012/01/the-benjamin-rush-prescription.html.

3. Frater J. 15 Extremely embarrassing science predictions. Available at: http://listverse.com/2010/12/22/15-extremely-embarrassing-science-predictions/.

4. Martí-Ibáñez F. Men, molds and history. New York: MD Publications: 1958, page 20.

5. Things people said. Bad predictions. Available at: http://www.rinkworks.com/said/predictions.shtml.
**About Admitting Errors**

Next to the promulgation of the truth, the best thing I can conceive that a man can do is the public recantation of an error.

British surgeon Joseph Lister (1827–1912) [1]

We remember Baron Lister for three things. First of all, he took some of Semmelweis’ work to the next level and, beginning in the 1860s, he championed the use of carbolic acid, aka phenol, to sterilize surgical instruments and to reduce bacterial contamination of operative fields [2]. There is the bacterial genus *Listeria*, which includes *Listeria monocytogenes*, the cause of listeriosis (see Fig. 9.4). There is also Listerine mouthwash, initially compounded in 1879, marketed as a surgical antiseptic, and eventually sold as a mouthwash containing more than 20% alcohol. Listerine is now a staple on drugstore shelves. Dr. Lister, however, was not pleased by the eponymous trademark; he mounted an expensive and unsuccessful campaign to remove his name from the product [3].

Lister’s words quoted above, actually referring to an error made in an investigation into the nature of fermentation and not concerning direct patient care,
nevertheless seem especially relevant today. Currently, in the early twenty-first century, dominant themes in health care include quality assurance, cost-effective care, patient safety, and, pertinent to the topic at hand, transparency as regards errors in medicine.

The issue of facing medical errors—described in Chap. 6 as occurring in 5–15% of hospitalized patients—was highlighted by the 1999 Institute of Medicine (IOM) report *To Err is Human* [4]. The document emphasized that errors are a “system problem,” and nonjudgmental transparency is the first step in what was termed *crossing the quality chasm* and making patients safer.

But when it comes to disclosing medical errors to patients, the decision as to what to do is not always crystal clear. A foreign body left in an abdomen following surgery is an error meriting full disclosure, and remediation. But if a nurse omits a bedtime sedative, and the patient still has a good night’s sleep, is this an error reportable to the patient? If the physician misjudges the significance of epigastric distress and some time later the patient is found to have a peptic ulcer or even gastric cancer, is this an error to be reported even if subsequent treatment is successful? When an error occurs, patients want information as to the nature and cause of the misstep, and also an apology [5]. But how many minor missteps can be reported to the patient before there is a loss of confidence?

In Lister’s day, care was “physician centered,” patients believed that “doctor knows best,” physicians were generally held in high regard, and there were no malpractice attorneys hovering in the background. Things have changed, patients are safer, there is greater attention to quality, and we have a recently acquired, epiphanic commitment to view errors as systems problems without first leaping to blame and punish.

1. Godlee RJ. Lord Lister, ed. 2. London: Macmillan; 1918, page 278.
2. Lister J. On the antiseptic principle of surgery. BMJ. 1867;2:245.
3. Dirckx JH. The language of medicine: its evolution, structure and dynamics, 2nd ed. New York: Praeger; 1983, page 82.
4. Institute of Medicine. To err is human: building a better health system. Washington DC: National Acad Press; 1999.
5. Gallagher TH et al. Patients’ and physicians’ attitudes regarding the disclosure of medical errors. JAMA. 2003;289:1001.
There Are None Whom We Cannot Harm

There are some patients whom we cannot help; there are none whom we cannot harm.

American physician and educator Arthur L. Bloomfield (1888–1962) [1]

Arthur L. Bloomfield, infectious disease specialist and professor of medicine at Stanford University School of Medicine (see Fig. 9.5), was a leader in America’s study of penicillin and was one of the first physicians to use the drug to treat bacterial endocarditis. He was considered an outstanding diagnostician and bedside teacher [2].

This maxim, known to most practicing physicians today, brings to mind a true story. The patient was an 18-year-old female college freshman with a past history of depression who presented to the emergency room and was subsequently admitted with diagnosis of “viral syndrome with hysterical symptoms.” In short, she seemed to have a flu-like syndrome to which she was overreacting.

Fig. 9.5  Stanford University School of Medicine. (This file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license.) http://commons.wikimedia.org/wiki/File:Lokey_Building.jpg
She was given an injection of meperidine (Demerol) to control her shaking and tucked in bed. A few hours later the patient became more agitated and a tired intern ordered an injection of haloperidol (Haldol) and the use of physical restraints. About 3 h later, the young woman was found to have a temperature of 107 °F. Despite emergency measures to reduce the high fever, she suffered cardiac arrest and died. The actual cause of death, unrecognized at the time, was probably serotonin syndrome, resulting from a drug interaction between meperidine and the antidepressant the patient was taking when admitted—phenelzine (Nardil).

The girl’s father, an attorney and a writer, publicly criticized the care his daughter—Libby Zion—had received. The focus was on sleep-deprived house staff officers making crucial decisions. The outcome was the New York State Bell Commission Report whose recommendations, adopted in 1989, limited resident work hours to 80 h per week or no more than 24 consecutive hours [3].

The intern involved in the 1984 episode, probably now a seasoned physician practicing somewhere, tried at the time to help the patient with an injection—actually two injections—to reduce agitation. As it turns out, probably the best course would have been to use no sedative drugs at all.

Scottish physician Sir Robert Hutchison (1871–1960) once wrote: “From inability to let well alone; from too much zeal for the new and contempt for what is old; from putting knowledge before wisdom, science before art, and cleverness before common sense; from treating patients as cases; and from making the cure of the disease more grievous than the endurance of the same, Good Lord, deliver us” [4].

1. Bloomfield AL (attributed). Quoted in: Cuervo LG. The road to health care. BMJ. 2004;329:1.
2. Cox AJ. Arthur L. Bloomfield. West J Med. 1962;97:191.
3. Lerner BH. A case that shook medicine. The Washington Post. November 28, 2006.
4. Hutchison R. Modern treatment (letter). Brit Med J. 1953;1:671.
When Ethical Values Collide

Once a doctor subordinates the claims of an individual patient under his care to the abstract claims of society in general, or the hypothetical claims of some possible alternate patient, he has sold the pass.

American theologian Willard L. Sperry (1882–1954) [1]

Sometimes the issues we physicians face are best seen through the eyes of someone outside medicine, a person whose world view is of spirituality and human relationships, and not of arteries, muscles, bones, and bacteria. One of these was Doctor Willard L. Sperry, Dean of the Theological School of Harvard University, Bartlet Professor of Sacred Rhetoric of the Andover Foundation, and author of the book *The Ethical Basis of Medical Practice* [1].

A classic example of conflict in ethical values of beneficence and non-maleficence arises when the well-being of the individual clashes with the greater good of society. Allied Forces generals faced this sort of dilemma in 1944 as they sent young men to die on the beaches of Normandy to achieve the goal of liberating the continent of Europe. Who gets to own land is faced by government in instances in which an individual’s property is seized by *eminent domain* in order, for example, to expand a university; just such a case occurred recently near where I live in Virginia as the court ruled that “the Norfolk Redevelopment and Housing Authority did not have the right to condemn a nearby apartment building for Old Dominion University’s expansion” [2].

In medicine, however, we believe we have guidance. The Hippocratic oath includes the words “I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone,” and is silent on the issue of general societal benefit.

But then we face reality, often in the realm of scarce resources. In a disaster situation, optimum resource use is the basis of triage; the guiding principle is likely to
be that the resources go to the most salvageable patients, at the expense of those least likely to survive.

In a historic public health decision in the early 1900s, an Irish immigrant cook named Mary Mallon, aka Typhoid Mary, was found to have infected scores of persons with *Salmonella typhi*. She was banished to live in isolation for 3 years on a small island in New York City’s East River, a clear example of the claims of society trumping those of the individual.

What about current medical practice? There is a shortage of flu vaccine, and you have a few doses. Your patient, a machinist who is the sole support of a young family, requests a dose of the vaccine. “Doctor, I can’t afford to miss work with the flu.” Do you give him the vaccine, or refuse because someone older or sicker might need it at some later time? Would you break confidentiality about a patient—such as one with mental illness—if you suspected the patient might be a danger to others? Would you end life-sustaining, and almost surely futile, care in a dying patient if the hospital or insurance company points out the “waste” of resources involved?

The primary ethical value of the Mayo Clinic, formed in 1889, is that the needs of the patient come first [3]. The American Medical Association Code of Medical Ethics echoes this message [4]. One of the physician’s chief roles, along with being a diagnostician and healer, is to be on the side of the individual patient—countering societal or even theoretical forces that may compromise care of the ill or injured individual. And yet, what about the needs of other, faceless patients competing for scarce care?

1. Sperry WL. The ethical basis of medical practice. London: Cassell and Company; 1951.
2. Reilly C. High court rules against ODU in eminent domain case. Virginia Pilot. September 13, 2013.
3. Fye WB et al. The origins and evolution of the Mayo Clinic from 1864 to 1939: A Minnesota family practice that becomes an international “medical Mecca.” Bull Hist Med. 2010;84:323.
4. The American Medical Association Code of Medical Ethics. Available at: http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics/opinion10015.page?.
Textbooks and the Avoidance of Standardization

The Egyptians made a fatal mistake. They wrote textbooks, the hermetic books. They made another and more serious mistake, and that was to believe that the textbooks were correct. So they forbid physicians, at peril of their lives, to depart in any way from the treatment prescribed in the hermetic books. It was a remarkable experiment .... The experiment demonstrated that standardization can halt advance but it does not in any way hinder retrogression.

Canadian neurosurgeon Wilder L. Penfield (1861–1976) [1]

I first came to know Wilder Penfield as the author of The Torch, a fictionalized account of the life of Hippocrates on the island of Kos [2]. But the author was also an internationally renowned neurosurgeon, a pioneer in mapping the cortices of the brain, and recipient of the 1960 Lister Medal to acknowledge his advancement of surgical science [3]. Penfield’s comments quoted above raise issues pertinent today and for medicine’s future (see Fig. 9.6).

Fig. 9.6  Wilder Penfield.
http://www.springerimages.com/Images/Biomedicine/1-10.1007_978-1-4419-1223-7_3-10
In Chap. 6 I discussed prescribed treatments, aka clinical guidelines, including the curious ways some are developed, the potential for bias, the inconsistencies among recommendations emanating from various sources, and the stifling effect they can have on innovation. Here I focus on textbooks, or more specifically, medical reference books.

I am the editor of a dozen such books, including one of the two “big books” in the specialty of Family Medicine [4]. Fundamentally, a medical reference book is created as an editor and publisher agree to compile and print the chapters submitted by a number of contributors. If the chapter author makes an error or omits important current information, and if the editor fails to notice the misinformation, it goes into print—for the next 4 or 5 years, until corrected in the next edition [5, 6]. And, occasionally, misinformation is carried forward from one edition to the next.

Add to this the fact that chapters in medical books are written a year or more before the final book is published and sold. Thus some textbook/reference book information is out of date on the day the first copy comes off the press. Granted, most of what is in basic medical books is correct and useful but, as they were traditionally printed and distributed, there has always been some room for questioning.

To help avoid ossifying standardization of care and the perpetuation of misinformation, modern medical informatics has come to the rescue. The geeky term Web 2.0 has been declared the millionth word in the English language [7]. Web 2.0 describes websites, such as social media, which go beyond static pages and allow dialogue between those who produce data and those who read it. Interactive “book” publishing is a version of this. For example, today, as I write this book, the seventh edition of *Family Medicine: Principles and Practice* is being compiled, and will chiefly be distributed online, allowing instant feedback to authors regarding new information or even possible errors, and permit prompt updating or correction, without waiting for the eighth edition to be printed on paper.

Today’s informatics may well save us from the stifling standardization and occasional error perpetuation of yesterday’s textbooks.

1. Penfield W. The second career. Boston: Little, Brown; 1963.
2. Penfield W. The torch. Boston: Little, Brown, 1960.
3. Lister medal. Ann R Coll Surg Engl. 1961;28:15.
4. Taylor RB, ed. Family medicine: principles and practice, ed 6. New York: Springer; 2003.
5. Baker CL. The quality of medical textbooks: bladder cancer diagnosis as a case study. J Urol. 1999;161:223.
6. Anthony D. The treatment of decubitus ulcers: a century of misinformation in the textbooks. J Adv Nurs. 1996;24:309.
7. Singh A. Millionth word in the English language—Web 2.0. The Telegraph. June 10, 2009.
In Praise of Restraint in Health Care

The great secret of doctors, known only to their wives, but still hidden from the public, is that most things get better by themselves.

American physician and educator Lewis Thomas (1913–1993) [1]

Lewis Thomas was not only an outstanding physician, researcher, and award-winning author. He also possessed administrative abilities, serving as dean of both the New York University School of Medicine and Yale Medical School, before becoming president of the Memorial Sloan-Kettering Institute.

Following the words above, he goes on to write: “Most things, in fact, are better by morning. Obviously, it is a great time-saver and money-saver for the physician’s family that anxiety about disease is not handled as though it were the disease itself; there is perhaps greater willingness to accept anxiety as a natural, often transient, phenomenon. And certainly there is much less ambition to deploy the full technology of medicine as a corrective for the human condition” [1]. If only all patients

Fig. 9.7 A Ulysses mosaic in the Bardo National Museum, Tunisia (Public domain). http://commons.wikimedia.org/wiki/Category:Odysseus#mediaviewer/File:Tunisia-4727_-_Ulysses.jpg
could enjoy the same restraint experienced by doctors’ families. Yes, the physician’s family sometimes receives suboptimal care—the shoemaker’s children going barefoot. But more often it is preferable to exercise caution in undertaking extensive diagnostic testing and perhaps invasive procedures for the sundry aches and pains we all suffer.

This brings me to the Ulysses syndrome, described by Rang, and experienced by many unsuspecting patients [2]. It begins with an abnormal test result, generally one that is unexpected, in an apparently healthy person. (There is, of course, a strong statistical probability that if 20 chemical tests are done, one value will be outside the reference range, given that “abnormal” laboratory reference values are described as the top and bottom 2.5% of findings on the bell curve.) Once an abnormal value is found, such as a mildly elevated alkaline phosphate (ALP) level or a curious shadow on a chest film, then the patient is launched on an odyssey of testing to detect some elusive, but probably nonexistent, disease cause (see Fig. 9.7).

Mass screenings for breast cancer or coronary artery disease have caused many cases of the Ulysses syndrome. The prototype for the invasive quest for treatable disease begins when an older man is found to have an elevated prostate-specific antigen (PSA) test value. The risks for unnecessary surgery are high and, even so, biopsy procedures are often recommended to guide what may be questionable decisions.

It is no wonder that wise physicians, cognizant of the risks of the diagnostic odyssey, are reluctant to subject themselves and their families to the over-testing and overtreatment that can often be avoided by seeing what the morning brings.

1. Thomas L. Aspects of biomedical science policy. Washington DC: Institute of Medicine National Academy of Sciences; 1972, page 4.
2. Rang M. The Ulysses syndrome. Can Med Assn J. 1972;106:112.
Sometimes Depression and Loneliness

It is by now one of the world’s most poorly kept secrets that anxiety, depression, loneliness, and burnout are major factors in the lives of many doctors.

America physician and author David Hilfiker (1945–) [1]

David Hilfiker is a family physician who practiced for 7 years in rural Minnesota. Then, exhausted and burned out, he took a year-long sabbatical in Finland (his wife’s home), followed by a move to Washington DC. Here he devoted the next 10 years to serving the poor in a faith-based clinic far from the city’s affluent neighborhoods. In 1984, despite a warning from editor Dr. Arnold Relman that he risked “serious damage to his career,” Hilfiker published an article in the New England Journal of Medicine titled “Facing Our Mistakes” [2]. In this article, he detailed some of his own errors, such as once aborting a healthy fetus after having misdiagnosed it as a fetal demise. This article was followed by the 1985 publication of his book Healing the Wounds: A Physician Looks at his Work [1].

Hilfiker has been, and is, very open about his professional failings and his life, including his feelings about his medical practice. In his website, he describes past feelings of being “depressed, unhappy, and feeling little self-worth” [3].

I thought at length about the quotation above. In a book dedicated to wise, and often inspiring, thoughts, should I include a message about anxiety, depression, and loneliness? Yet, what physician has not felt these emotions at times when things go wrong?

In the literature there are two fictional, yet classic, tales of physician despair. The first is Sinclair Lewis’ Doctor Martin Arrowsmith who, frustrated with rural practice, concludes: “I shall never practice medicine again…. I’m no good… I’m through. I’ll go get a lab job.” He does so, and enjoys professional success before undergoing yet another career upheaval [4]. In George Eliot’s Middlemarch, the
protagonist Doctor Tertius Lydgate, after some professional and personal misjudgments, declares: “My practice and my reputation are utterly damned—I can see that.” Lydgate, with his family, leaves village practice and moves to London to build a practice catering to the wealthy [5].

Although many—perhaps most—of us have experienced all the feelings described above, we have also learned that, like the flu, they tend to pass. To use the words of Lewis Thomas, above, they are “better in the morning,” or perhaps after caring for a newborn or hearing words of gratitude from a patient.

Here is another way to combat professional ennui: Find and reread the essay you wrote when an applicant to medical school, the one titled “Why I Want to Be a Physician.” After all, despite the occasional frustration, misadventure, or failure, medicine remains, in the words of Lord Lister (1827–1912), “a noble and holy calling” [6], one that we physicians are privileged to serve.

Hilfiker is an example of nobility and courage. As I write this, he is, at age 68, the author of a web page detailing his long struggle with depression culminating in a now-challenged diagnosis of some type of “mild cognitive impairment.” His autobiography, which I recommend to you, describes his journey, including an earlier diagnosis of Alzheimer disease [3]. As a good physician, Hilfiker is still serving others.

1. Hilfiker D. Healing the wounds: a physician looks at his work. New York: Pantheon; 1985, page 11.
2. Hilfiker D. Facing our mistakes. N Engl J Med. 1984;310:118.
3. Hilfiker D. Watching the lights go out: an autobiography. Available at: http://davidhilfiker.blogspot.com/2013/10/letting-go-of-alzheimers.html.
4. Lewis S. Arrowsmith. New York: New American Library; 1961, page 156.
5. Eliot G. Middlemarch. First published in 1874. Available from: New York: Dutton; 1965, page 278.
6. Lister J. Address to the University of Edinburgh. August, 1876. In: McDonald. Oxford dictionary of medical quotations. New York: Oxford University Press; 2004, page 61.
Swimming in the Waters of Uncertainty

In medicine, uncertainty is the water we swim in.

American physician and author Lisa Sanders (1956–) [1]

Medical author and journalist, Lisa Saunders is an attending physician at Yale-New Haven Hospital, the institutional inspiration for the hospital depicted in the television series *House MD*. She is a New York Times columnist and author of several books about medicine, including the source of the quote above. She is the youngest “giant” described in the book, and her work cited is the most recently

![Chest X-ray of a patient with SARS](http://commons.wikimedia.org/wiki/File:SARS_xray.jpg)

**Fig. 9.8** Chest X-ray of a patient with SARS. [http://commons.wikimedia.org/wiki/File:SARS_xray.jpg](http://commons.wikimedia.org/wiki/File:SARS_xray.jpg)
published. I especially like the metaphorical aphorism. Of all the sayings in this book, hers is one that is likely to stick with you.

Every diagnosis has a hint of doubt. Does the patient really have appendicitis? Or, as is the case in approximately 10% of nonobese subjects in one study, a normal appendix is found at surgery [2]. Every therapy has a threat of unpredictability. If I give penicillin to a patient with a strep throat, one or more of several things may occur: The patient may improve, which we all want to happen; the patient may develop an allergic reaction to penicillin; diarrhea may occur after a few days; or nothing at all may change with the pharyngitis persisting.

On an international level, the emergence of the severe acute respiratory syndrome (SARS) was certainly a time of uncertainty. Wenzel et al. describe how, in retrospect, the first human SARS victim was a traveler from an agricultural area of China in November 2002. The world began to suspect a problem 3 months later, when seven persons staying on the same floor in the same hotel in Hong Kong contracted the virus and carried it home to five different countries. By April, 2003 SARS, with a death rate of nearly 5%, had been reported in 27 countries, as public health authorities, swimming in a sea of uncertainty, urgently sought to find the cause and a way to stop its spread [3] (see Fig. 9.8).

Just to extend the “swimming” metaphor a bit. The “water” also contains microorganisms, such as the human immunodeficiency virus Ebola virus, or Mycobacterium tuberculosis, to which health providers are not immune. Enter the water with care.

1. Sanders L. Every patient tells a story: medical mysteries and the art of diagnosis. New York: Harmony Books; 2010.
2. Kutasy B. Increased incidence of negative appendectomy in childhood obesity. Ped Surg Int. 2010;26:959.
3. Wenzel RP et al. Managing SARS amidst uncertainty. N Engl J Med. 2003;348:1947.