Special Section: Open Forum

Affective Forecasting and Its Implications for Medical Ethics

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Through a number of studies recently published in the psychology literature, T.D. Wilson, D.T. Gilbert, and others have demonstrated that our judgments about what our future mental states will be are contaminated by various distortions.[1] Their studies distinguish a variety of different distortions, but they refer to them all with the generic term "*affective forecasting*." The findings of their studies on normal volunteers are remarkably robust and, therefore, demonstrate that we are all vulnerable to the distortions of affective forecasting.

In these studies, the researchers ask their subjects to predict their own future emotional responses to a particular event. Examples are taken from common experience, and, because the subjects are frequently university students and faculty, the vignettes are selected for their saliency to that group. For example, subjects are asked to predict how they will feel if their favorite team wins or loses a game, or if their preferred candidate wins or loses an election, or if they are offered or turned down for a job, or if they are granted or denied tenure. When the event actually occurs, the same subjects are then asked to report their reactions. The predicted responses are compared with the actual responses and the results show that in many ways we are off target in estimating our actual future reactions.

Although theses psychological studies include no medical examples and make no claims about their application to medicine, it strikes us that this work has very significant implications for medical ethics, even though we find very little notice of the connection mentioned in the medical or bioethics literature.[2] In what follows, we shall summarize some of the cognitive psychology study findings that seem to be most relevant to medicine, explain where the phenomenon occurs in medicine, and explain the ethical implications that we see as following from these observations.

We are grateful for the questions and useful comments we received from our audience when material from this paper was originally presented. The insightful remarks helped us to appreciate what we needed to explain further and to see how our ideas applied to additional domains of medicine:

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Varieties of Affective Forecasting

When people imagine their future reactions they tend to focus on some specific feature of the future outcome. That singular focus allows them to overlook concomitant features of their future. They thereby exaggerate the importance of that singular feature and, therefore, systematically (erroneously) predict their (future) reactions to events that would be related to that feature. This sort of distortion has been labeled "focalism."

A related problem arises in people's estimation of how intense a future feeling will be and how long it will last. Although people are rather accurate at estimating the intensity and duration of a positive reaction, they systematically overpredict the intensity and the duration of their negative emotional reactions. In the psychology literature this sort of distortion is called "durability bias."

People also fail to take into account how much their own psychological "immune system" will work to ameliorate their response to negative events. Denial and repression are powerful mechanisms of mental life that augment our ability to cope with whatever befalls us and to go on. Another particularly interesting coping phenomenon that Gilbert and Wilson describe is the "illusion of external agency." Instead of recognizing that one is successfully contending with a great hardship, people tend to see their acceptance and accommodation in terms of some good bestowed by something outside of themselves. In other words, humans have a remarkable ability to look on a horror and see a silver lining. We noticed this phenomenon of human psychology at work after the disasters associated with Hurricane Katrina. People frequently made comments to the affect that the hurricane was terribly devastating, but that they now had the opportunity to rebuild New Orleans and repair some of the city's serious problems. Although these abilities to adapt are commonly shared—to the point that we even mention them in songs—people do not take these coping resources into account when they calculate their future reactions to untoward events. This phenomenon of ignoring our ability to cope and failing to take it into account in predicting our future affect is called "immune neglect."

The robustness of these study findings suggest that not only is affective forecasting a common phenomenon that affects all people, it is part of "normal" mental activity, and for most people it should not be categorized as aberrant. Because of the common distortions in estimating our future responses, we reach unjustified and negative conclusions about our own emotional responses to future events. These ubiquitous phenomena impair judgment and, consequently, affect choices and behavior, tending to make our decisions and our actions irrational.

Affective Forecasting in Medicine

Once we recognize that affective forecasting is part of normal human psychology, we are alerted to consider just who in the medical environment is susceptible to its effects. Patients are. The families of patients are. Clinicians are. And policymakers are. This important insight illuminates and explains responses and behavior that otherwise seem peculiar, ornery, or perverse.

Patients' reactions to their diagnosis, prognosis, and uncertainty may show the effect of affective forecasting. Many patients are inclined to believe that the worst will happen (e.g., I will be the one in 10,000 who dies) whereas many others repress or deny any thought of the risks that they face. Patients who aren't in denial have a tendency to focus on the unwanted consequences of treatment (e.g., the headache, the scar, the risk) and to exaggerate their negative impact. They tend to exaggerate the duration of their bad feelings (how devastated they will feel living without a breast) and ignore the full context of their lives, which is likely to go on without any significant transformation. They also tend to overlook their ability to cope with whatever happens (e.g., receiving a diagnosis of cancer).

When affective forecasting persists it can have serious consequences for the affected patient. A patient who is in denial or one who focuses on some untoward consequence or unlikely risk is likely to refuse treatment or fail to comply with a treatment regimen. Whereas a denier may fail to appreciate the need for the intervention, a patient who is in the grip of focalism is likely to have a distorted overestimation of the costs and risk involved because of magnifying them and minimizing the benefits to be had. Some patients may avoid seeing a doctor out of a distorted fear of not being able to bear hearing bad news, whereas others may avoid disclosing problems or symptoms to their physician out of augmented anxiety over being rejected for complaining. Such biased reactions show the effects of affective forecasting.

Families of patients also show signs of affective forecasting. Focalism and durability bias lead them to the conclusion that the patient will not be able to bear any bad news. Family members often tell the treating physician that they know the patient far better than the physician and that their loved one will lose the will to live if confronted with the truth of the diagnosis or prognosis. This common reaction is frequently bolstered by a politically correct (and frequently trumping) appeal to culture. Family members will report that in their culture it is disrespectful to speak with a patient about the diagnosis or prognosis. This claim is commonly made by the Japanese, the Chinese, Filipinos, Indians, and, in fact, by families from anywhere in Asia. The claim is made by the Spanish, the Russians, the Greeks, the Italians, the Croatians, the French, and in fact, by families from almost everywhere in Europe. The claim is made by families from all over Africa, the Caribbean, and Latin America. And the claim is made by Orthodox Jewish families from around the world. And because almost everyone in the United States and Australia comes from one of these other continents or groups, they typically invoke the claim that in their culture patients should not be told bad news. When this common phenomenon is seen through the lens of affective forecasting, it looks more like a universal human phenomenon than an exotic feature of some distinctive culture.

Clinicians are also vulnerable to the effects of affective forecasting in their communication with patients. Although there are a few rare patients who rightly qualify for a therapeutic exception from informed consent, doctors may be more inclined to regard patients as being unable to bear bad news and be convinced, without evidence, of claims by loving family members that their relative should be kept in the dark. Furthermore, physician–patient communication may be disrupted by focalism when a doctor becomes overly concerned that speaking frankly will lead a patient to reject the doctor in favor of another who will be more guarded and dissembling.

Affective forecasting can also have a serious effect on a physician's treatment decisions. Focalism directed at a recent bad outcome, a feared side effect, or an unforeseen treatment consequence that the physician magnifies on behalf of a patient can also distort clinical judgment and lead to clinical decisions that are not supported by evidence. Such biased aversion to a particular treatment can lead a physician to withhold offering the treatment, thereby limiting the patient's options in ways that do not reflect the patient's values.

Seeing the distortions of affective forecasting in healthcare policy decisions may be harder to recognize because we are inclined to believe that policies reflect evidence and that group decisions are more likely to be immune to the quirks of individual psychology. Once alerted to the possibility, however, the effects can be discerned. Perhaps it was focalism-magnified imagined panic that explains the Environmental Protection Agency (EPA) decision to report that the air quality at Ground Zero shortly after 9/11 was acceptable,[3] and why the Bush White House interfered with the EPA interpretations and pronouncements regarding air quality, and why Mayor Giuliani urged financial industry personnel to return to the area.[4] Without such an account the decision is just mysterious or an instance of short-sighted politics runs amok. Clearly, as recent studies have demonstrated, the consequences have been devastating to workers on the site.[5]

Affective forecasting can also be employed to explain our peculiar policies governing transplant organ donations. Evidence shows that a policy of presumed consent to organ donation increases the number of organs for transplantation and there are good psychological explanations for why this would be so.[6] Evidence also shows that families that donate organs of a deceased loved one tend to be satisfied with their decision, and they tend to feel thankful that some good comes out of their tragedy.[7] The extreme shortage of organs for transplantation is also an irrefutable fact.[8] Yet, the United States first had a policy of optional request for organs, and then, only after sustained pressure from the transplant community, did US policymakers reluctantly move to accept a required request policy. The justification for not adopting a presumed consent policy instead of first optional request and now required request seems to be a concern that families would be devastated and infuriated by the removal of organs for transplantation. Because there is no evidence to support these fears, and because opting out would protect those who are distrustful of the system or averse to organ donation for other reasons, it seems reasonable to conclude that policymakers have succumbed to affective forecasting distortions.

Genetic testing of children for adult onset disease provides another example that shows all of the signs of affective forecasting distortions.[9] Every association of geneticists[10] and genetics counselors,[11] as well as the American Pediatrics Association,[12] has taken a stand on not testing children in affected families for adult onset disease even when parents are eager to have the knowledge. Although pediatricians see significant advantages in informing very young children (e.g., before they start school) that they have been adopted,[13] that they were created by assisted reproductive technology,[14] or that they are HIV+,[15] strangely they fail to see the same advantages in the case of genetic diseases. Instead they speak of the "unbearable certainty of knowing" and issue definitive and univocal guidelines advising against testing except in rare situations where parents can make a compelling case for overriding the reigning view.

This stance effectively forecloses the possibility of having a child tested when the evidence suggests that children do adjust to knowledge of the familial nature of a condition and that they even manage to deal with other fatal diagnoses. The position, therefore, smacks of the distortions that are characteristic of focalism and durability bias.

Another telling example is the pervasive hostility to physician-assisted suicide. Setting aside the religiously based arguments against it, the main opposition seems to stem from focalism distortions. People who oppose physician-assisted suicide tend to argue that giving such powers to doctors will lead us down some slippery slope to terminating the lives of the nonconsenting or will coerce disabled and undervalued people to opt for premature death, opening the floodgates to Nazi-age genocide.[16] Yet, doctors already have the power to hasten deaths by withholding or removing life-sustaining treatments, providing increasing doses of life-threatening pain treatment (the double effect phenomenon), and initiating a course of terminal sedation.[17] Instances of abuse of any of these powers that we already grant physicians are extraordinarily rare. Furthermore, studies from places where physician-assisted suicide is currently practiced legally show that its employment has not run amok, and abuse of the power is almost nonexistent.[18] Again, the tremendous fear in light of evidence to the contrary suggests a psychological cause, and again, the distorting influence of affective forecasting could explain the reactions.

Implications for Medical Ethics

If our analysis of affective forecasting in medicine is at all persuasive, the phenomenon has to be taken into account in our ethical analyses. We have claimed that affective forecasting biases compromise patient decisionmaking and adherence with treatment. We have also tried to show how it leads family members and physicians to be reluctant to divulge information, fearing that it will overwhelm the patient and claiming that their reluctance is a matter of cultural difference. We also have provided instances to suggest that policymakers promote irrational agendas.

Autonomy and the legitimate limits of paternalism are the critical philosophic concepts employed in these analyses. They play an important role in formulating moral conclusions about where to set the boundaries for appropriate interference and when to be critical of clinical and policy decisions involving affective forecasting. Because these key moral concepts are both subtle and complex, they require some clarification and untangling.

The moral importance of respect for autonomy is broadly acknowledged. Yet, it is easy to overlook the fact that the term *autonomy* is used to denote three related but distinct concepts in morality. (1) In its core Kantian sense, *autonomy* is a self-regulating ideal that instructs one to be a good ruler over oneself and to abide by the conclusions of one's own reasoning. *Autonomy* in this core first person sense is also the ability to take responsibility for one's own actions. (2) Another related concept tells us how we should treat others who are autonomous; we should "respect their autonomy." Respect for autonomy requires us to presume, as far as possible, that they are acting as good rulers over themselves and for reasons that they reflectively endorse. Respect for auton-

omy as a second person concept directs us to leave others who seem to be autonomous alone to act on their own values and priorities. (3) For those who are not currently autonomous but who may become autonomous in the future or be restored to autonomy, we should promote or restore their autonomy. That is, we have a responsibility to third persons. We should sometimes paternalistically interfere with nonautonomous others acting on their own preferences and do so for their own good, even when we can expect them not to welcome the interference.

Taking note of these distinctions is particularly important in clinical medicine because patients are called on to make critical medical decisions, and their decisionmaking ability may be impaired at the same time. Rational thought processes can be impaired by disease, by medication, by mental illness, by a mood disorder (e.g., depression), by denial or repression, by fear, or by some psychological distortion like affective forecasting. It is because of the seriousness of what may be at stake and the vulnerability of their rational faculties when people are in need of medical treatment that doctors are granted the authority and the responsibility to determine whether or not a patient has decisional capacity. A physician's failure to make that assessment can be as much an instance of medical negligence as missing a diagnosis or providing inappropriate treatment. Patients who have autonomy and can take responsibility for their own actions must be treated with respect and allowed to proceed according to their decisions. Yet, when a patient's autonomy may be temporarily impaired, the physician has a duty to make the assessment, to take steps to prevent a patient (or family) from making serious and unreasonable decisions, and to try to restore autonomy.

Recognizing the effects of affective forecasting and being willing to interfere is a special challenge for medicine. People in the sway of affective forecasting distortion say just the sorts of things that people worldwide tend to say. They also make very common decisions precisely because affective forecasting is a common human phenomenon and it leads people to the same sorts of distorted conclusions. Yet, physicians must learn to be alert to instances when patients and families reach conclusions that are the effect of affective forecasting and recognize that, although those in its grip can speak and behave in ways that appear normal, choices that are generated by warped thinking should not be taken to be autonomous.

Most people would rather act on the principles that they endorse and the evidence at hand rather than be swept away by psychological forces acting on them. Philosopher Harry Frankfurt[19] explains this point in terms of acting in accordance with our higher order volitions. Gerald Dworkin[20] explains it in terms of future-oriented consent. The idea is that we are acting autonomously when we are making choices according to our own values and doing the things that we would be happy to have done once the distorting emotion or psychological affect is removed. Some degree of paternalism may, therefore, be justified to prevent people from making decisions based on distorted estimates of their future responses. To restore the autonomy of patients or family members who are in the grip of affective forecasting, and, in an urgent situation, physicians may be justified in imposing treatment on a patient who is in the grip of some autonomy-defeating mental state and who is refusing treatment as an effect of distorted judgment.

Of course the degree of intervention must be justified by the circumstance. Urgency and the high likelihood of imminent seriously harmful consequences can justify dramatic interventions. More commonly, a physician will only be justified in educating, reeducating, urging, encouraging, cajoling, speaking authoritatively, or engaging in some form of cognitive behavioral therapy (CBT).

Aaron T. Beck of the University of Pennsylvania first introduced CBT for the treatment of depression in 1967.[21] This treatment modality is now considered the fastest growing and most heavily researched psychotherapy in the contemporary scene.[22] CBT is predicated on the idea of biased information processing about either external or internal events leading to a skewed interpretation of experience. The distortion leads individuals to make "cognitive errors" that may include overgeneralization, selective abstraction, and personalization.[23] Dysfunctional beliefs are then incorporated into an individual's cognitive structures in a stable, enduring pattern called *schemas*. The schemas, in turn, contribute to dysfunctional behavior and distress.

Affective forecasting is certainly a form of cognitive distortion and amplification, but the phenomenon could also be recast or described in other psychological terms. Affective forecasting conceptually fits under the rubric above as circumstances in which CBT could be effectively employed. CBT involves the application of both cognitive and behavioral techniques to assist patients (persons) to reshape their ideas regarding a particular situation. By focusing on faulty perceptions characteristic of a particular disorder, patients become aware of their aberrant thoughts and learn to use treatment and behavioral modification for cognitive restructuring and correction of faulty thinking. CBT could be especially helpful with affective forecasting distortions of the medically ill and their family members. It would involve either a physician taking the necessary steps or the participation of a therapist in addressing the problems. Because the mechanism of distortion seen in affective forecasting can involve typical psychodynamic defensive mechanisms (e.g., denial, repression, projection, identification with the aggressor), other forms of psychotherapy may also be effective in restoring autonomy to patients (and others) who are in the grips of cognitive distortions of these sorts.

Physicians have important tools for helping patients cope with their fears. To do so, physicians have to begin by helping their patients recognize and respond to universal fears. Patients typically fear pain, especially intractable pain. Physicians can provide reassurance that medicine has the tools to alleviate pain and that they will provide palliation without stint. Patients also typically fear abandonment. Again, physicians can provide the assurance that they will stand by the patient to the end. And patients fear losing things, like their normal body function and their normal appearance, which they have always valued. Physicians can help patients put these impending losses in perspective and help them to appreciate the real changes in their lives without exaggerating their impact and without magnifying their likelihood.

An example of the kinds of problems we have witnessed may illustrate our concerns and, perhaps, make our position more palatable.

> MK, a bright, well-educated, articulate, middle-aged woman was diagnosed with a tumor on her jaw. A biopsy suggested that her par-

> ticular cancer would be very responsive to chemotherapy. Nevertheless, MK refused the treatment, saying that she didn't want to lose her hair. Her caring doctor accepted her decision as an expression of MK's values and priorities. He respected what he counted as her autonomous choice as the tumor grew. He stood by her and provided the best available palliation for the effects of the fungating, malodorous, and maggot-infested lesion, and he cried at her bedside when she died.

Although MK's doctor was obviously caring, attentive, and respectful, in our view he clearly missed in the fulfillment of his medical responsibilities by counting MK's decision as an autonomous choice and by failing to recognize that she did not have an appreciation of the facts that was commensurate with the situation. If he had recognized that she was in the grips of affective forecasting he could have intervened in a way that might have made a difference. Because there was no tremendous urgency in starting treatment and no dramatic benefit to be gained by starting treatment immediately after their first encounter, no doctor would have been justified in forcing it on an unwilling patient. However, MK's doctor would have been well justified in engaging the tools of CBT to help restore MK's autonomy. He could have explored her fears and concerns and responded to them in ways that could help her to set them aside. If she had offered that she was particularly concerned about her appearance, he could have pointed out that hair usually grows back and that a fashionable wig could make the hair loss undetectable. He could have helped her to consider which people's opinions really mattered to her and how those people would feel about her losing her hair or losing her. He could have also assisted her to understand that the untreated growing tumor was likely to have a much greater effect on her appearance than her loss of hair. Through such paternalistic conversations a doctor may have been able to help MK to develop a more realistic appreciation of her situation and ultimately to accept promising treatment. In this case, failing to recognize that MK's rejection of treatment arose from distorted judgment and failing to take measures to restore and support an accurate appreciation of the facts amounted to a failure in professional responsibility.

Similarly, physicians can use their professional skills to help family members cope with the situation at hand and to overcome the distortions of affective forecasting. Their fears of harming a loved one with bad news are likely to be exaggerated by focalism and durability bias.

A physician's skillful employment of CBT can help family members to reach a more realistic prediction of the patient's response. The physician can also help them to see how withholding information creates distance and alienation and that the patient instead needs intimacy and support. The physician can also help by reminding family members how lies are usually exposed and how people are angered by being deceived. Families can be helped to see that there are important and unavoidable issues for them to address and that creating an extra problem of deception is counterproductive. Ultimately, a family can be aided most by the doctor assuming the duties of the physician. The doctor can call on the authority of experience and assure the family that informing the patient is the best course. In doing so, the doctor can also assume the burden of disclosing the information and inviting family members to be present so that all can share the grief and support one another in the decisions that lie ahead.

Because affective forecasting can also distort physician judgment, in order for doctors to maintain their own autonomy and continue to act in accordance with their professional commitments, they have to be alert to its impact and check their own decisions by referring to the evidence at hand and well-established principles of medical ethics. When a physician considers that a particular patient may be unable to cope with bad news, it is important to consider just why that seems to be the case and whether affective forecasting may be distorting the doctor's judgment. As a general rule, because patients tend to trust their doctors when they believe that they are being treated with honesty and respect, physicians should, therefore, communicate honestly even when the prognosis is poor and even when a patient is near the end of life. Truth telling is an important principle of medical ethics because honest communication shows respect, it promotes an effective therapeutic relationship, and it preserves trust. (Of course there are times when this concept would be challenged: children too young to understand, the elderly who are confused, the rare individuals who meet the standard for a therapeutic exception and simply cannot manage hearing the facts as they will be overwhelmed to the point of dysfunctionality.) Although it is common for doctors as well as family members to fear the fallout from giving bad news, the studies of affective forecasting provide convincing evidence that a patient's reaction is likely to be less dramatic and more short-lived than expected.

Similarly, when a physician decides that a particular medical intervention would be too disfiguring (e.g., a Van Ness rotationplasty, a hemicorporectomy) or that the side effects or risks of an intervention are too great (e.g., prolonging the life of a very premature infant) or that a treatment would involve too much suffering or loss of dignity (e.g., ventilator support, resuscitation), it is important for the physician to consider whether the doctor's own vulnerability to focalism and durability bias is directing a decision that properly belongs in the hands of others.

Addressing the problem of affective forecasting in health policy seems more difficult. For policymakers, the solution to every problem appears to be setting down another rule. Although thoughtful regulations and proper enforcement provide us with security and important protections, policies directed by distorted thinking hamper us with needless burdens and pointless harms. So, when the focalism-magnified fears that move policymakers resonate with the focalism-magnified fears of the public, policies distorted by affective forecasting can have political caché. Furthermore, because framing issues in terms of fear and loss and sounding the alarm about some imaginable possible harm is likely to garner media attention, policymakers, be they medical committees, legislators, or regulators, are inclined to ride the waves of fear even when the forecasted harmful outcomes are highly unlikely. The only insurance against such failings is strict adherence with Mill's doctrine of requiring evidence of harm to others to justify the promulgation of policies that have the effect of restricting liberty or deviating from clearly recognized moral principles.[24]

Conclusion

The past 40 or so years of medical ethics have been marked by promoting the primacy of autonomy. Although we remain strongly committed to the moral

principle of respect for autonomy, we have also been arguing that you cannot respect something that is absent. When people's ability to take responsibility for their actions and to be a good ruler over themselves is impaired, others should be trying to restore autonomy rather that pretending to honor something that does not exist. We have also been suggesting that, in these cases, the ethics of medicine is different from the ethics of everyday life in two important respects. First, circumstances that provoke fear arise commonly in clinical practice and, second, important outcomes may be at stake. For these reasons we maintain that physicians have a moral responsibility to assess their patients' decisional capacity, particularly when a patient is refusing treatment that is likely to provide significant benefits or avert significant harms. In this, we are following the lead of other authors who discuss decisional capacity and its limits and making decisions about patients who understand the facts of a situation but who cannot properly appreciate their significance.[25] In this paper, we have specifically called attention to the distorting effects on judgment that can be wrought by affective forecasting and explained the ways in which it can take hold in medicine. We have also maintained that when autonomy is obviously impaired (e.g., by loss of consciousness, by hallucinations) or even subtly impaired by some judgment-distorting phenomenon like affective forecasting, medical paternalism of some form is in order.

In other words, as we see it, paternalism is frequently an important part of good medical practice. In its more subtle forms, medical paternalism is appropriate in the assessment of decisional capacity, in the encouragement of patients to accept treatment or adhere with a treatment plan in repeatedly trying to educate, and as an intervention to restore or promote patient autonomy by counteracting affective forecasting.

As we see it, well-measured medical paternalism is not a moral problem, but a professional duty of physicians. The moral problem that merits physician awareness and attention, however, is affective forecasting masquerading as medical beneficence (i.e., unjustified paternalism). There, a significant danger lies in clinicians or policymakers allowing their distorted fears to move them. The actions and policies that reflect unchecked affective forecasting result in the imposition of biased conclusions on others in the name of promoting great good. When such actions and policies usurp the decisions of others and limit liberty without a sound evidentiary base, significant ethical boundaries are crossed. To avoid these moral hazards, clinicians must be alert to the invisible effects of affective forecasting and be careful to distinguish distorted judgment from appropriate medical paternalism. Policymakers also have to be aware of how their judgments can be distorted by affective forecasting and how their desire to benefit people can be misdirected and cause great harm.

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