

Of Babies and Bathwater: A Reply to Coyne and Tennen's Views on Positive Psychology and Health

Lisa G. Aspinwall, Ph.D. · Richard G. Tedeschi, Ph.D.

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Abstract

Purpose We disagree with several conclusions reached by Coyne and Tennen, as well as their interpretation of specific findings.

Results First, we dispute that researchers have advanced the claim that positive thinking can cure disease. Second, we question their exclusive focus on cancer-related mortality, when strong cumulative evidence suggests that optimism is related to positive health outcomes for other major diseases, and that psychosocial interventions may improve other important cancer outcomes, such as reduced pain and increased quality of life. Third, we disagree sharply with their assessment of the literature on posttraumatic growth and the implications of the research they cite.

Conclusion It is premature to abandon efforts to understand and promote positive phenomena among people with various life-threatening illnesses. Instead, well-validated measures of positive phenomena should become routinely incorporated into a broader array of health psychology studies to provide a rigorous test of their role in human health and adaptation to disease.

Keywords Posttraumatic growth · Life-threatening illnesses · Positive thinking · Cancer care · Optimism

Setting the Record Straight: Positive Psychology Does Not Promote False Claims about Cancer Care and Cure

A central aspect of Coyne and Tennen's article, "Positive Psychology in Cancer Care: Bad Science, Exaggerated Claims, and Unproven Medicine," is the assertion that there is a tremendous gap between scientific evidence and the claims of positive psychology. We agree that there is a dangerous popular literature that oversells research findings and promotes dubious claims about positive thinking and health, but disagree sharply with the assertion that either the published literature in positive psychology [1] or individual research scientists who develop interventions for cancer patients promote such beliefs. Indeed, in one of the original conference presentations on which these articles are based, [2] we first reviewed the cultural history of positive thinking in the USA from Pollyanna to Norman Vincent Peale to *The Secret*, with a focus on the personal and social dangers of the belief that one can cure disease through positive thinking. We noted, "These claims are widespread, influential, and often reprehensible, but they are not positive psychology. Positive psychology is the scientific study of positive phenomena from the neurobiology of positive emotions to public-policy efforts to promote well-being. It has applications to health psychology, but does not claim that positive thinking will create wealth or cure disease."

We disagree also with Coyne and Tennen's claims about interventions for cancer patients. Claims that positive thinking or stress reduction will cure disease are not a part of manualized group therapy for cancer patients. In fact, an important element of such interventions is the active debunking of the popular notion that positive thinking will cure disease and discussion of the burden this poses to patients for them and others to hold this belief (Lechner

L. G. Aspinwall (✉)
Department of Psychology, University of Utah,
380 South 1530 East, Room 502,
Salt Lake City, UT 84112-0251, USA
e-mail: lisa.aspinwall@utah.edu

R. G. Tedeschi
Department of Psychology,
University of North Carolina at Charlotte,
Charlotte, NC 28223, USA

2007, unpublished). Lechner (personal communication) notes that this issue invariably arises in her groups for women with breast cancer, and that clinicians have been trained to respond in the following way:

“It is our belief that pretending to be positive, denying negative emotions, denying stress and distress, etc., are counterproductive to both physical and psychological health. We talk about the belief that stress causes cancer, and how there is no empirical evidence to support that claim. We go on to state that this belief can result in a self-blame attitude that is also counterproductive and has the potential to inhibit people from taking important steps to maintain or regain their healthy behaviors. We suggest that “being real” is a healthy way to express emotion and to approach life’s challenges. We admit that the stress response has many physiological effects that might have an effect on disease states, and certainly makes psychological states feel worse, but scientists are still examining this ever-evolving topic. We propose that managing stress, without the intention of eliminating it entirely, can be a useful adjunct to medical treatment. We never never never imply that stress reduction intervention will prevent recurrence. Though participants are aware of the fact that we are measuring stress hormones and immune system functioning, they are also told that these measures aren’t a direct link to longevity because our current state of knowledge doesn’t have any empirical support for that idea”.

Further, in recruitment materials and in the group sessions, “we are careful not to promise any benefits of stress management. We suggest that participating may enhance well-being and provide participants with tools, techniques, and skills to meet the demands of daily life after cancer.”

Spiegel and Classen [3] provide a similarly explicit rejection of popular notions about positive thinking and cancer: “The school of thought that espouses a positive attitude (visualize little white blood cells eating cancer cells and they will be vanquished), and the theory that cancer fulfills some unexamined psychological tendency to self-destruction,... There is no evidence that such attitudes have anything to do with getting or dying of cancer. It is bad enough to get cancer without being blamed for it” (p. 3). Further, “...whether or not a supportive-expressive group intervention helps people live longer, the crucial issue is that it helps them live better. The treatment is not focused on conquering cancer or other medical illness, but rather on hoping for the best but preparing for the worst...the focus of this treatment is care rather than cure...” (p. 277).

These statements seem to us to be clear rejections of the notion that positive thinking can cure illness and that the primary purpose of psychosocial interventions is to cure disease or to prolong life. We therefore believe that the assertions that either positive psychology as a field or specific interventions for cancer patients have promoted the idea that positive thinking can cure disease and actively misled people about the health benefits of interventions are simply untrue, and promote a new myth that clinicians and researchers interested in pursuing this work are irresponsible. We turn next to three specific aspects of Coyne and Tennen’s argument that we found particularly problematic: their review (1) focuses narrowly on cancer mortality, (2) neglects other important outcomes of psychosocial interventions for cancer patients, and (3) mischaracterizes the benefit-finding and posttraumatic growth (PTG) literatures.

Throwing the Baby out with the Bathwater, Part 1: Focusing on Cancer Mortality to the Exclusion of Other Disease Outcomes

We appreciate the authors’ careful analysis of the cancer-mortality literature,¹ but question its narrow focus, given emerging evidence for the link between positive phenomena and health outcomes for other diseases. For example, both a recent meta-analysis [5] and new findings from the Women’s Health Initiative [6] yielded significant prospective relationships between optimism and other disease outcomes, including coronary heart disease and all-cause mortality. Further, although there were no corresponding findings for white women, the Women’s Health Initiative study [6] did find a strong positive relationship between optimism and decreased cancer mortality in a sample of nearly 8,000 African-American women when an impressive array of predictors was statistically controlled.

¹ We share Coyne and Tennen’s concern with methodological issues in the study of psychosocial factors in the etiology and progression of cancer and other diseases. We were therefore surprised to see them cite the “unanticipated results” from another recent publication from the Women’s Health Initiative [4] that “low social support and high life stress seemed to protect against the development of breast cancer.” Our confidence in these results is limited for several reasons. The interaction between life events (quintiles) and social support (median split) was marginally significant in a huge sample, and was described in the original article as being completely attenuated after the addition of breast cancer risk factors to the predictive model. Most importantly, when continuous measures of social support were used, the interaction of social support and life events was nonsignificant as a predictor of breast cancer incidence. Thus, the interaction between life events and social support in this study seems not to be reliable. We suggest that the same methodological standards be applied as vigorously to research findings that refute the link between psychosocial factors and cancer incidence as to those that support it.

We believe that there are several aspects of these findings that warrant serious consideration. First, coronary heart disease remains the main killer of men and women in the USA [7]. Second, in contrast to Coyne and Tennen's assertion that such studies are rarely appropriately controlled for prior health or differential access to resources, the Women's Health Initiative study [6] found strong results for optimism when many other highly relevant predictors (among them, age, education, income, health insurance, employment, hypertension, high cholesterol, depressive symptoms, alcohol consumption, smoking, physical activity, and body mass index) were statistically controlled. Third, the pattern of findings regarding the baseline characteristics of optimists compared to pessimists is also noteworthy: optimists were less likely to be classified as having diabetes, hypertension, high cholesterol, or depressive symptoms. They were less likely to smoke, to be sedentary, or to be overweight. They were also younger, reported higher education and income, greater employment and health insurance, and greater religious attendance. Given this profile of baseline characteristics, we make two observations: (1) optimism is associated with some of the best predictors of health outcomes and all-cause mortality, and (2) optimism retained a prospective association with several cardiac disease outcomes and all-cause mortality when all of these factors were statistically controlled. We note also that these analyses controlled for some of the very pathways—namely, health behaviors and psychological distress—through which optimism is thought to be related to health outcomes. We acknowledge that the failure to find a relationship between optimism and cancer-related mortality in the extremely large sample of white women is an important negative finding, but question Coyne and Tennen's neglect of the robust findings for other diseases and all-cause mortality from this well-controlled prospective study.

We turn next to another example of carefully controlled research that should be part of the debate about positive phenomena and health outcomes—the Rasmussen et al. [5] meta-analysis of optimism and health which found a significant relationship between optimism and multiple health outcomes. Overall, the effect size for diverse measures of optimism across all health outcomes was small-medium (0.17) and heterogeneous, with greater effects for subjective health outcomes (symptom reports, pain reports, physician ratings of health status) than for objective ones (survival, immune parameters), but with significant effects in both cases. In the relative minority of studies that assessed the unique contribution of both optimism and pessimism, there was no significant difference in their effect size (see also Howell et al. [8] who reported similar findings in their meta-analysis of positive phenomena and health). Further, the subset of studies that adjusted for some variant of negative affectivity (i.e., neuroticism, negative affectivity, or depression)

produced a significant effect size of optimism of 0.20. These findings suggest that an exclusive focus on negative states as predictors of health outcomes is unwarranted.

On the basis of this evidence and the evidence we reviewed in our original article, we believe it is premature to dismiss optimism and other positive phenomena as potentially important predictors of health outcomes. Put differently, the emerging consensus that the evidence is much stronger for heart disease and other diseases than for cancer mortality should make us curious about the pathways involved. It does not mean we should stop studying optimism. Instead, we should focus on understanding the multiple pathways through which optimism and other positive phenomena may be related to outcomes for different diseases, at different stages of disease, and in different groups of participants.

Throwing the Baby out with the Bathwater, Part 2: Neglecting Other Cancer-Related Outcomes

Within the cancer literature, we believe that focusing exclusively on one outcome—mortality—neglects a great deal about the process of living with cancer as a chronic and life-threatening illness. Quality of life, psychological well-being, and other factors related to coping with cancer and its treatment are important to study. As we noted in our original article, interventions that do not successfully reduce mortality or extend life may be valuable to people with cancer if they improve social support and quality of life, reduce pain and anxiety [3, 9–11] and promote adherence and other positive changes in health behaviors [12, 13]. In this context, understanding how people with cancer and other terminal diseases seek to make the most of the time they have seems to us to be an important question for research and intervention. Further, while there is danger in promoting psychosocial interventions as a way to extend life, there is also a danger in prematurely rejecting interventions that have the potential to improve other outcomes for cancer patients and their families.

Throwing the Baby out with the Bathwater, Part 3: The Importance of Having a Sophisticated, Clinically Informed Understanding of Benefit-Finding and Posttraumatic Growth

Coyne and Tennen choose the related literatures on benefit-finding and posttraumatic growth to further question the usefulness of positive psychology approaches to health, and conclude that “positive psychology has failed, quite miserably we believe, in its approach to examining growth following adversity.” We question several aspects of this

conclusion, and especially their interpretation of a new study [14] they describe as a direct test of the validity of self-reports of posttraumatic growth.

First, Coyne and Tennen are concerned that we do not know what benefit-finding “is,” and offer that the possibilities are downward temporal comparisons, selective appraisal, illusion, coping, or genuine change. They further suggest that we will need to determine the exact nature of benefit-finding before “rushing” to create intervention strategies. Actually, an examination of the developing literature on benefit-finding and growth shows something quite different. To date, strategies to promote posttraumatic growth and benefit-finding have been marked by caution, and have been linked with a conceptual model that has a good deal of research support [15, 16]. To show the care with which these issues are to be addressed clinically, and an appreciation for the complexity of the phenomenon, we offer the following [17]:

“Certainly there is a danger in developing a culture of ‘positive psychology’ that seeks to downplay the reality of pain and suffering for survivors of trauma. We would tend to prefer not to speak of a ‘positive psychology,’ a phrase that implies that work that has more traditionally focused on understanding and assisting persons with emotional suffering and disorders is somehow ‘negative.’ Both positive and negative outcomes are part of the human experience of trauma, but the study of possible positive aspects has, until recently, been relatively neglected in psychological research. As researchers and as clinicians, we have been struck by how most individuals manifest both positive and negative responses to traumatic events, and that the world is not at all divided into the ‘growers’ and the ‘coping failures.’ As clinicians, we work with people who are sometimes feeling strong and, at other times, weak. People who feel hopeful and also hopeless. People scarred by trauma and also remade by it. People who celebrate the change wrought by trauma, people who grudgingly admit to it, people who regret it, and people who show various combinations of these. We have not advocated raising the bar on survivors who have it tough enough already, but in our clinical work, we make clear allowances for experienced benefits to be acknowledged rather than deemed to be mere psychological defenses or illusions” (pp. 292–293).

Second, we disagree with multiple aspects of their assessment of the respective literatures on benefit-finding and growth, including whether these constructs are interchangeable, whether patient reports of growth are driven primarily by investigators’ beliefs that growth should be experienced, whether reports of growth are corroborated by close others, whether patients and trauma survivors can

distinguish among multiple domains of growth, whether people can remember and accurately report on psychological changes following traumatic events, the time course of such changes when they do occur, and their relation to psychological distress. We briefly address each of these points in turn and then reprise them in our discussion of Frazier et al. [14].

1. Distinctions between benefit-finding and posttraumatic growth. Although both qualitative and quantitative studies report remarkably similar results in terms of the large percentages of people with life-threatening illnesses who report benefits and growth, [18, 19] there is evidence that benefit-finding and posttraumatic growth are distinct constructs [19, 20]. Therefore, researchers should not apply results from one construct automatically to consideration of the other.
2. Development and validation of the posttraumatic growth inventory. Although Coyne and Tennen describe existing quantitative measures such as the Posttraumatic Growth Inventory (PTGI) as “crude” and suggest that survivors report benefits only because researchers expect them to do so, this measure was developed based on interviews with trauma survivors, not based on preexisting theories or assumptions. It has demonstrated a robust factor structure, [21, 22] and qualitative studies with persons with life-threatening illness have validated the domains tapped by the items [19]. Reports of growth in cancer patients have been shown to be unrelated to socially desirable responding, [23, 24] contrary to Coyne and Tennen’s assertion that such reports are driven by patients’ beliefs about what investigators want or expect to hear from them.
3. Observer corroboration of posttraumatic growth. There is more sophistication in this research area than Coyne and Tennen cite, relying instead on the study by Frazier et al. [14] to support their claims. For example, there are at least three studies [25–27] that show that trauma survivors’ reports of growth are corroborated by observers who know them well. Additionally, the degree of corroboration by observers varies by domain of growth, such that the Appreciation of Life factor of the PTGI was rated more highly by trauma survivors than by the corroborators [27]. This difference is unsurprising, as appreciation of life is a more private and less easily observed aspect of growth. These less easily corroborated aspects of growth, if they represent the reality on which people operate, nevertheless can be important for how people adjust in the aftermath of trauma.
4. Distinctions among domains of growth versus generalized reports. Importantly, such findings suggest that respondents can make distinctions among domains of growth, and do not generalize growth to all domains.

People who report distinctions among the various domains of growth may have a more nuanced and reflective approach to this experience and be less prone to self-deception. We note also that cancer patients make distinctions among these domains, [28, 29] which makes the argument that growth is merely illusory or self-enhancing more suspect. Further, in response to concerns that the PTGI is biased because it asks only about positive outcomes rather than negative ones, Baker et al. [30] published a version that included items that tapped negative changes in exactly the same areas as the positive items. Respondents reported both kinds of changes, but much more positive change. Finally, although many people may report positive psychological development over time (and this may or may not be illusory in itself), reports by persons who have experienced traumatic events tend to be significantly greater [29, 31–33].

5. Recall for posttraumatic growth. Coyne and Tennen assert that people cannot make good judgments about their past states of mind, and cite studies of personality change [34] and relationships [35]. In doing this they neglect a crucial aspect of trauma experience, namely that truly traumatic events are markers that divide the life narrative into before and after the event. Recalling personality or feelings in a relationship may be quite different from the kind of recall that can happen as the result of a clear marker event such as trauma, one that involves a variety of memory systems, that can be enhanced or impaired by emotions [36]. More complicated is the fact that when speaking of posttraumatic growth, we are looking at changes in the aftermath of trauma, and memory for the details of the traumatic event itself are not necessarily crucial to this process. Perhaps the traumatic event may make it much easier for people to assess personal change by setting a clear temporal dividing line. A “new normal” is the result, one that makes it clear to people that from one point in time until now, an articulation of change is possible, meaningful, and valuable. For this reason, the research Coyne and Tennen cite may not be as relevant to persons experiencing life-threatening illness as they claim.
6. Temporal factors in responses to trauma. We must also be careful to consider that measuring growth at one point in time may yield different conclusions than at another point in time. Early, initial reactions to trauma that might produce reports of growth might be quite different than those that we would see after significant time for cognitive processing. This is certainly a reason to call into question the methodology of the Frazier et al. [14] study that looked only at an 8-week period in the aftermath of trauma. There is also evidence that people who give more extreme initial reports of growth may moderate over time and appear more realistic [37].
7. The relationship of posttraumatic growth to psychological adjustment and distress. The relationships between measures of psychological adjustment or well-being and growth have been difficult to pin down. The problem may very well be in the understanding researchers have of the experience of posttraumatic growth and benefit-finding, and the definition of psychological adjustment. First, distress may coexist with growth for some time as people process their trauma experience, or as they continue to endure a chronic or terminal illness. Concepts such as coactivation [38] suggest the joint activation of positive and negative thoughts about the event or experience may help people process its negative aspects. Second, in any sample, there may be people who represent varying trajectories and relationships. For some, there may be benefits that have been found and changes in health-related behavior, but little in terms of growth. Others may have significant growth, such as a deepening of relationships with others, while still experiencing great distress. Still others may report both growth and a reduction in distress, as they come to accept their medical situation. The lack of clear relationships in group data can easily mask the varieties of personal experience represented. Finally, psychological adjustment defined primarily as an absence of distress will not be closely related to growth, while adjustment that emphasizes eudemonic aspects is more likely to show a relationship with growth [39].

For these reasons, we sharply question Coyne and Tennen’s interpretation of a recent study by Frazier et al. [14]. Although this study does not seem to take any of the above-reviewed factors into account, Coyne and Tennen rely on it to question the validity of reports of PTG. This is indeed strange, as Coyne and Tennen argue for methodological rigor, yet do not address the problems with this study and draw unwarranted conclusions from it. Given the weight they put on this study in order to call into question the large literature on PTG, we will more specifically address why the emphasis on the Frazier et al. study as a way of addressing the validity of reports of growth is ill-advised. The authors of this study (which included Tennen) were much more cautious in their conclusions than Coyne and Tennen choose to be in their article here. But we suggest even more caution, considering the limitations of this study.

Frazier et al.’s article title refers to self-reported growth versus “genuine” growth, and they refer in the body of the paper to “actual” growth. However, they never measured actual growth—all the measures are self-report. One supposed measure of actual growth is a difference between two

responses to a reworded version of the PTGI administered 8 weeks apart among participants who reported potentially traumatic events in the interval between the assessments. Events reported included a loved one's experience of life-threatening accident, assault or illness (28%), sudden and unexpected death of a close friend or loved one (27%), other events that were life-threatening, caused serious injury, or were highly distressing (11%), unwanted sexual attention (8%), or motor vehicle accident (6%). Of 348 college students who reported these events, only the 186 who found them to be significantly distressing were retained for analysis, and 64 additional participants were excluded because their data were "questionable for various reasons," resulting in a final sample of 122 (35% of those reporting traumatic life events). This procedure raises two questions—why nearly half of the participants who reported such events did not find them to be significantly distressing, and whether the study over-represents students who reacted strongly to events many of their peers did not rate as particularly distressing. Further, the events reported by students may produce different responses compared to life-threatening illness, and most cancer patients studied are middle-aged or older, whereas this study is comprised entirely of young adults. The authors say that they used undergraduate students because they are at the peak age for trauma exposure, but they are certainly not at peak risk of cancer and many other illness health psychologists work with, though they might be for other events that have very different implications, such as parental and grandparental bereavement, academic failure, and romantic dissolution.

To measure "actual" growth, Frazier et al. reworded items from the PTGI, so that instead of "I have a stronger religious faith," students were asked whether "I have had a strong religious faith" for the past two weeks. It seems unlikely that respondents would report a difference over an eight-week period to such a question. Furthermore, students were asked these questions completely out of the context of a traumatic life event. The researchers also reported "actual" growth using instruments that they claim represent the five domains of growth on the PTGI, including life satisfaction, gratitude, and well-being. However, these constructs are not what is measured by the PTGI and not what posttraumatic growth is about. For example, Durkin and Joseph [39] considered the relationships of different types of well-being to PTG, using scales that the Frazier group also used in their study. Durkin and Joseph reported correlations ranging from .08 to .20 with the PTGI, indicating that these measures are hardly proxies for PTG. In addition to the fact that the PTGI measures domains that are not necessarily related to measures the researchers chose, it asks about change, not absolute levels. Furthermore, the researchers used the PTGI in a very unusual manner, asking respondents about growth over the past two weeks. Previous studies have used the PTGI by asking for people to report growth in the time

since their traumatic events, often substantially longer than the time frame used in this study.

Summary and Directions for Future Research

A careful understanding of the concept of posttraumatic growth is necessary to design and interpret the literature [40]. What is becoming clear is that benefits and growth are related but still distinct, [19] that the various domains of growth may operate distinctively in some populations, that time since the trauma may be important, and this issue can become complicated among persons who are enduring continuing difficulty, such as cancer survivors, versus those for whom the trauma has been relegated to the past [18]. Just as we noted for the relationship of optimism and health, the complex relationships found to date suggest that there may be many interesting moderators of posttraumatic growth and multiple trajectories of responding to serious illnesses and other negative life events over time.

Such complex phenomena call for more study, not less. In particular, we need to distinguish among various pathways to posttraumatic growth, rather than calling the concept into question. For example, recently developed measures of cognitive processing and changes in belief systems can aid researchers to further understand the processes involved in growth [41]. We welcome the idea of creating the ideal research strategies, but only recently has there been support for studies in this field given the previous bias toward disease models. When researchers begin to look at an area that has been relatively neglected, research will need to build over time, and we will tend to see more subtle, nuanced and sophisticated approaches as we proceed. We would like to see more prospective studies, using both well-validated quantitative measures and qualitative approaches that allow researchers to remain open to the experiences of the people they study. Studies examining growth across cultures would enrich our understanding of the diverse ways people process traumatic experiences [42].

Conclusion: Implications of Positive Psychology for Research and Intervention in Health Psychology

We stand by our original arguments for balanced scientific investigation of the role that both positive and negative phenomena may play in etiology, progression, and management of serious illness, and for the prospective examination of their multiple respective pathways to psychological adjustment and disease outcomes in different diseases. We recommend that positive phenomena become fully integrated into our studies of mental and physical health, so that studies regularly include examination of variables that have shown some indications of healthy outcomes for some diseases in at least

some people. If we do not measure such things, we will never find them, and never learn about them. Just as we have learned not to ask the question, “Does psychotherapy work?,” we need to find out for whom interventions to promote positive phenomena (whether conducted under the umbrella of positive psychology or not) work, when they work, and what kinds of outcomes might we see for particular interventions.

We differ from Coyne and Tennen in that we encourage development and rigorous testing of interventions that will help us to see the causal sequences involved in these processes while providing support to those who suffer. Interventions that are tested well are akin to experiments that can tell us something about causal mechanisms. Drug trials are sometimes done this way, and based upon clinical observations. We do not always have to understand the exact mechanisms before moving forward or using an approach that improves health or well-being. For example, aspirin’s mechanism of action is not well understood, but it is widely used, and continues to find new uses. Perhaps most importantly, we argue that an intervention does not have to cure disease or extend life to be useful to people with cancer. We also think that researchers who are close to the people they study will do the most to advance the field and produce information that is useful for health psychologists. Just as people with cancer and other serious illnesses deserve the benefits of the best research designs and theories we can muster, so too do they deserve researchers who listen to their experiences and try to understand them.

Finally, we submit that it is irresponsible to ignore, denigrate, or deny the reality of the experiences of people who report benefits and growth while enduring life-threatening illnesses and other traumas, and to forego the opportunity to find ways to facilitate and enhance these experiences. It is not necessary to wait for the perfect studies to be accomplished and a neat and tidy “conceptual home” to be created. In the real world of people who face life-altering circumstances and their own deaths, there are many ways of responding and great complexities in how they do so. While we attempt to generate resources to do large-scale prospective and long-term studies of people suffering from different illnesses, measuring both their subjective experiences and the observations of others, we can still proceed from the literature we have amassed on benefit-finding and growth. We can design reasonable interventions that produce no harm, and may facilitate growth, while being careful not to raise patients’ or families’ expectations that our interventions will cure cancer or other illnesses.

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