

Ben Williams, [Surviving “Terminal” Cancer: Clinical Trials, Drug Cocktails, and Other Treatments Your Oncologist Won’t Tell You About](#) (Minneapolis: Fairview Press, 2002).

Summary and discussion by Paul Muench (pwmuench@yahoo.com)

[Note: this document is currently limited to a précis of chapters 1-3]

This book has an introduction, three main sections, and an index. Section One (“Round Trip to Hades”) describes the author’s own bout with a brain tumor. Section Two (“A System in Need of Reform”) develops the author’s critique of a number of existing medical practices. Section Three (“What Your Oncologist Won’t Tell You”) discusses a number of further treatment options (the author also maintains an [online discussion of treatment options](#) at the virtual trials website).

Introduction (pp. 1-4: [4 pages](#))

Section One (pp. 5-106: [102 pages](#))

Section Two (pp. 107-166: [60 pages](#))

Section Three (pp. 167-260: [94 pages](#))

Index (pp. 261-275: [15 pages](#))

Introduction

The conventional view of modern medicine is that people diagnosed with glioblastoma multiforme (glee-o-blas-TO-ma multih-FOR-may—**GBM** for short) are certain to die from this type of tumor (whether in 3-4 months, 6-9 months, or perhaps as long as 18 months). A typical patient is either encouraged “to forgo treatment and try to make the best of the time remaining” or prescribed by her doctor “standard treatments that have a known record of failure.” Williams was himself diagnosed with a GBM in the spring of 1995 and hopes that his story “will be a model for those confronting any type of cancer”: “describing what I have learned while coping with this deadly disease is the purpose of this book.” He contends that those diagnosed with cancer “gain strength and courage by witnessing the successful coping strategies of fellow cancer patients.”

Williams seeks to alert his readers to the fact that there are “long-term survivors of this terrible disease” and to encourage patients to become active, self-educated patients who are not afraid to question their doctors and in some cases even to pursue treatment options outside of those conventionally on offer. His book appears to be specifically designed to help patients “to take a more active approach in determining their treatment.” It does so in a threefold way: first, Williams offers himself as a concrete example of someone who has done just what he advocates and who has had the good fortune of becoming just such a long-term survivor. With his own example in view, he then develops a critique of the medical establishment, thereby arming readers with a healthy dose of skepticism and helping them to cultivate a less passive, more critical attitude that doesn’t shy from asking doctors hard questions and doesn’t immediately grant them complete authority over a patient’s course of treatment. With the patient encouraged to take a more active, engaged approach to her or his own treatment, Williams then closes his book with a section devoted to other sources of treatment that he invites patients to examine (including alternative forms of medicine, nutritional supplements, and cutting edge research still in development).

Section One: “Round Trip to Hades” (Chapters 1-6)

Introduction to Section One (pp. 7-9)

Williams opens this section with a brief discussion of the role that cancer has played in his family. Two uncles and an aunt died of leukemia. He and his siblings were exposed to all sorts of pesticides in the 1950’s (chemical companies often sent their father free samples and the kids usually were the ones who did the actual spraying and dusting of crops).

He also recounts how one of his mentors (Richard Herrnstein, coauthor of *The Bell Curve*) was suddenly diagnosed with terminal lung cancer; he died three months later. While aware that “being overly concerned about one’s health can cause needless worry and anxiety,” Williams is stunned by the sudden death of his teacher and friend: “For a human being with such vitality to be struck down so abruptly can only be described as truly awful. Never before had I seen just how cruel fate can be, and how little control we have over it.” Calling Herrnstein “the perfect role model for someone going into the academic world,” Williams singles out for praise his brilliance and wide range of interests, as well as a thoroughness of scholarship, intellectual integrity and a sense of humor. Throughout this book Williams exhibits these very qualities himself and seems to want his readers to come to think of them as the qualities not only of a good scholar but also of a good patient. While much of what happens to us may be outside of our control, Williams seems to suggest that the cultivation of these qualities will best equip his readers to wrest from fate what control they can.

Chapter 1: “Diagnosis: Glioblastoma Multiforme—‘The Terminator’” [Surgery] (pp. 11-26)

In this chapter Williams recounts the various symptoms he experienced prior to diagnosis and describes the surgery that he then underwent. Symptoms included spatial disorientation, severe backaches, increased tiredness, bad headaches, and problems with coordination. He begins parking his car erratically and notices that he is dragging his feet when he walks except when he makes a concerted effort to walk normally. On one occasion he has the strange experience of being out running, trying to stop, and finding himself unable to make his legs quit moving (until he simply turns around, at which point he then does become able to stop). Williams’ situation illustrates how difficult it can be to diagnose a brain tumor, since many of the initial symptoms can be (and often are) due to other less serious ailments. In his case, the event that seems to make clear that his condition is serious is a meeting of a monthly poker game he hosts for members of the psychology faculty at the University of California, San Diego, where he is himself a professor of experimental psychology. His description of the scene is as follows: “In this particular poker game, I had more than my usual amount of luck. Poker chips accumulated in front of me, but how I dealt with them provided the final piece of evidence for my diagnosis. On my right side, the poker chips were neatly stacked in piles. On my left, they were in one big pile, as if I didn’t know they were there. Neglect of items in the left visual field is a defining symptom of lesions in the right parietal cortex, where my brain tumor had originated.” This image of the poker game also aptly characterizes Williams’ outlook on his medical predicament. Success at poker requires self-composure, a knowledge of probability, and luck. If, in the past, patients who have been dealt a GBM tumor have been encouraged simply to fold, it is Williams’ contention that these same patients may perhaps hold better cards than they or even their doctors may realize.

Williams' first **MRI** ("a series of brain scans that film slices of the brain from top to bottom, side to side, and front to back"), taken March 30, 1995, reveals a tumor "the size of a large orange," later calculated to have a volume of 184 cubic centimeters. His neurosurgeon, Dr. Lawrence Marshall, says that the tumor poses an immediate danger and recommends surgery straightaway. Surgery goes fairly smoothly. Williams is informed that he has an anaplastic astrocytoma, grade III tumor. A week later, however, when he meets with his neuro-oncologist, Dr. Marc Chamberlain, he is informed that this was a misdiagnosis. Based on a full pathology report, Williams' tumor is reclassified as a GBM, "the worst kind of brain tumor there is." Throughout his time in the hospital, Williams displays many of the qualities that seem to make him such a formidable brain tumor survivor. In the face of such a serious, life threatening diagnosis, he tries "to make the best of the situation by cracking morbid jokes" and later engages in a "battle of wills" with one of his nurses when she refuses to bring him a drink of water the day after his surgery for fear that it would make him vomit. Both Williams and his wife are stunned by the revised diagnosis. This may have been heightened partly by how "matter-of-factly" his neuro-oncologist informs them of this new assessment. Williams is told that "people with [his] diagnosis typically live about a year, but because [he] appeared to be functioning at a high level, [he] had a good chance of being among the minority of patients who lived eighteen months." In shock from the new diagnosis, he and his wife "rather blindly" agree to follow the treatment regimen outlined by his doctor. Williams notes that this was to consist first of radiation, followed by chemotherapy (the PCV combination). He also notes that his doctor does not discuss with him the long-term effectiveness of the recommended treatment. Nor does his doctor ask him whether he might like to pursue some other form of treatment. Instead, as Williams puts it, he and his wife were "instructed to call during the week to make arrangements for radiation," as though there simply was nothing to discuss and his role as patient was merely to follow his doctor's instructions. Over the course of his treatment, Williams resists being such a passive patient and ultimately comes to think that successful treatment includes a willingness on the part of patients to be actively involved in determining how their treatments proceed. As the gravity of his situation comes into view, Williams fights back the tears ("since it was clear that no purpose would be served by being morose") and sets his mind to the task of developing "the best strategy" he can for dealing with his "apparently fatal disease."

Chapter 2: "Searching for a Treatment" [Radiation] (pp. 27-44)

In this chapter Williams continues his personal narrative, describing the radiation treatment that he undergoes and some of the other treatment options that he considers (and, in some cases, that he also ends up pursuing), while at the same time identifying for his readers several obstacles that stand in the way of his search for the best possible treatment together with some of the resources he is able to draw upon to overcome those obstacles. Though Williams does not experience much in the way of the nausea or headaches often associated with radiation treatment, he does wind up losing most of his hair and towards the end of the treatment (in week six) he has become "much more sleepy and would nod off quickly unless something interesting was happening." As best he can, he maintains a regular exercise routine while receiving radiation and even begins jogging again. After his surgery, his doctor had prescribed an anti-seizure medication (**Dilantin**) since epileptic seizures are common with any sort of brain injury. Williams, however, finds that this medication leaves him "feeling fuzzy in [his] thought processes." Switching to another anticonvulsant (**Tegretol**) makes things worse rather than better and, after consulting with his doctor and reading some scientific studies, he ultimately

decides to quit taking anticonvulsants despite his doctor's reservations: "Confronted with difficult treatment decisions, I decided that I had to keep my wits as keen as possible." He later discovers a study that supports the claim that brain tumor patients without a history of seizures prior to surgery are no more likely to have them after surgery if anticonvulsants are not prescribed. This event serves to awaken Williams to an aspect of standard medical practice that he will become highly critical of: "At this point I realized that medical practice was standardized for all patients, with little regard for the tremendous variability that occurs among individuals. While a given medical treatment might be beneficial for some patients, that same treatment can be counterproductive for others." He adds, "for medical practice to improve, it is essential to consider individual patient characteristics when determining treatment" (a point he will repeatedly return to and which he defends throughout the remainder of his book).

Like many brain tumor patients, Williams anxiously awaits the results of his first post-radiation MRI. He knows that some tumors continue to grow during radiation (the least desirable outcome), some cease growing for two to seven months, about 25% of tumors shrink, and a very small number disappear entirely. Since "a patient's response to radiation is a potent predictor of disease progression, and patients whose tumors shrink are more likely to have longer survival times," Williams is understandably disappointed when he learns that his tumor has not shrunk, though it fortunately also has not grown any larger. His doctors agree that this means he probably has a few months before the tumor will begin to grow again and he accordingly tries to determine his next move.

Shortly after his surgery Williams began researching what his different treatment options were. He spends many a day "either working on [PubMed](#), an online list of medical abstracts (and a godsend for any patient trying to become educated about a medical problem), or working in the UCSD medical school library, reading the complete articles that [he] had found in [his] PubMed research." He also subscribes to a brain tumor e-mail list ([BrainTmr](#)), where patients, doctors, and caregivers have created a kind of cyber-community that gives people a place to turn for emotional support and which also allows them to exchange information about the various treatments being investigated worldwide. While it is clearly not the case that everyone is as able as Williams is when it comes to investigating such matters (not to mention the fact that not everyone has the time or the wherewithal), his example still serves to alert his readers to some of what is out there to be discovered as well as showing them how to go about educating themselves. During the course of his investigations, Williams considers a number of different potential treatments (including boron neutron capture therapy [BNCT], Henry Friedman's treatment involving monoclonal antibodies, Stanislaw Burzynski's antineoplaston treatment, brachytherapy, gene therapy, a treatment involving Poly-ICLC [a broad-spectrum booster of the immune system], and tamoxifen). He is understandably wary of treatments that would require further surgery or that are themselves "known to cause brain damage" either due to the intrusiveness of their procedures or to the toxicity of the agents being used. Perhaps even more importantly, Williams comes to think that treatments that "use a localized application of a clinical agent [are] doomed to failure" since it is unlikely that the agent in question "would contact a high percentage of the tumor cells because [it] would not diffuse very far... from [the] site of infusion." This consideration informs a great deal of his thinking and leads him to emphasize treatment approaches that are *systemic* in nature and that make use of agents with little or no *toxicity*.

Among the treatment options he investigates early on, Williams decides that "the risk in taking tamoxifen [a drug developed for the treatment of breast cancer which inhibits 'protein

kinase C activity—an intracellular enzymatic reaction that is involved in glioma cell proliferation’] was minimal compared to the potential benefit it might provide. [His] enthusiasm grew after reading laboratory studies in which tamoxifen increased the effectiveness of both radiation and chemotherapy.” He decides, accordingly, to take **tamoxifen** while undergoing the standard radiation and chemotherapy treatment that his doctor had recommended. Much to his surprise, however, his doctor refuses to prescribe tamoxifen, claiming that combining it with the other treatments “might be harmful.” Williams points out that he thinks it would be “foolish not to take a chance, given that the standard treatment would probably be ineffective.” His doctor, however, becomes “increasingly insistent” that Williams follow his advice and says that if he insists on developing his own treatment then he will have to find another doctor. Though Williams is eventually able to convince his doctor to prescribe tamoxifen (but only after his radiation treatment is completed), this example helps to illustrate a significant obstacle that patients may face: the very doctors who supposedly have their patients’ best interests in mind. Williams notes that he thinks his doctor may have felt that it was “presumptuous of [him] to think that a few weeks of intensive research on [his] part could produce a better treatment than his many years of education and clinical experience.” Earlier this same doctor had patiently answered his various questions about some of the treatment options he had uncovered but then added “that he felt he was being given an academic examination” by Williams. While Williams does not mean to slight medical expertise, he is also keen that his readers keep in mind just how ineffective standard treatments for GBM’s have been. It is one thing for doctors to insist that patients follow their medical advice when they have an established track record; it is quite another when they continue to insist on standard treatments despite how ineffective they have been and especially when there exists some evidence that other agents are effective, at least for some patients. Throughout this period Williams never loses track of the fact that he is a “victim of one of the deadliest forms of cancer.” Making decisions is “genuinely painful” for him. Does he have all the information he needs? Is he sufficiently aware of all the risks involved? The only option he will not take is a “tranquil acceptance of his fate.” If he has to die so be it, but, like Dylan Thomas, he is “not about to go quietly into that good night.”

Chapter 3: “Improving My Odds of Survival” [Chemotherapy and Supplements] (pp. 45-62)

In this chapter Williams describes four rounds of chemotherapy he underwent and his resulting four MRI’s (he had one MRI taken after each round of chemo he completed). He also discusses several supplements he adds to his treatment with the hope that they “may increase the effectiveness of chemotherapy.” As he pursues his “strategy of combining every agent [he] could find that showed meaningful evidence of treatment efficacy,” his doubts continue to grow about traditional treatment regimens whose own slowness to incorporate new agents he ties partly to the “rigidity of the requirements of our drug approval process.” Williams notes that there are “conflicting views on chemotherapy within the neuro-oncology community” and says that “it is not clear that adding chemotherapy to the standard radiation treatment provides any benefit for glioblastoma patients.” Most doctors hold that it extends “median survival time by two to three months, but a number of clinical trials have failed to support even this small benefit.” As a result many doctors do not recommend chemotherapy for glioblastoma patients due to the small likely benefits and the unpleasant effects of the treatment itself. Williams stresses here, however, that this reservation about chemotherapy only applies to grade IV GBM tumors: “For gliomas with lower grades of malignancy...there is considerable evidence that

chemotherapy provides a significant increase in survival time.” Despite these statistics, Williams decides nevertheless to undergo chemo: “Because my residual tumor remained undiminished by radiation, and because additional surgery seemed too risky, chemotherapy was my best bet for survival.” He notes that while it is true that for most GBM patients chemotherapy only increases their median survival rates by a few months, “a minority of glioblastoma patients (15-30 percent) do receive significant benefits.” This becomes most clear when two year survival rates are compared: Williams claims that 2 to 10 percent of those who receive standard radiation alone survive for two years or more versus 15 to 30 percent of those who receive standard radiation plus chemotherapy.

In addition to the standard chemotherapy treatment his doctor recommends, Williams also adds several agents uncovered by his PubMed research which may work conjointly with the chemo and possibly enhance its overall effectiveness. For a chemo agent to target a brain tumor effectively, it must have the ability to permeate the **blood-brain barrier** (“part of the brain’s defense system against potentially toxic material”). Agents that do manage to cross the barrier (either because their chemical properties enable them to do this or because tumor cells often—thought not always—“have a disrupted blood-brain barrier”) still may not be effective: “Tumor cells defend themselves against chemotherapy by use of a pump-like mechanism that actively extrudes the chemotherapy agent from the cell. Because chemotherapy only kills dividing cells, this rapid extrusion decreases the likelihood that the agent will be present at the time of cell division.” Williams researches agents that have the ability to “block the mechanism of extrusion” and decides to add both **tamoxifen** (which he discussed in the previous chapter) and **verapamil** (a calcium channel blocker). The main danger associated with verapamil is its tendency to lower a person’s blood pressure; Williams’ internist agrees to prescribe it for him provided that he agrees to monitor regularly his blood pressure levels. Based on the recommendation of Dr. Victor Levin (at the M.D. Anderson Cancer Center in Houston), he also decides to add to his treatment package the drug **Accutane** (13-*cis*-retinoic acid, also known as isotretinoin: an acid form of vitamin A which unlike most vitamin A “is not stored in the liver and therefore is less likely to cause the liver toxicity associated with excessive vitamin A intake”). Before he does so, however, he contacts Dr. William Yung, Levin’s collaborator, to learn how they have been administering it. He is told that “the drug [Accutane] could not be taken continuously because the body quickly learns to flush it out. Their protocol was to use the drug for three consecutive weeks at a time, interspersed with one-week periods in which the drug was not taken.” Positive MRI results after his first round of chemotherapy encourage Williams to add two further agents, **melatonin** (“the hormone naturally secreted by the pineal gland to control the diurnal cycle”) and **PSK** (polysaccharide krestin, “a mushroom extract that Japanese physicians have used for ten to fifteen years in the treatment of cancer” [from the mushroom *Coriolus versicolor*—“turkey tail”]). Despite studies in Italy and Japan that indicate that these agents can nearly double survival rates of patients with different kinds of cancer (including glioblastomas), Williams is surprised to discover that American neuro-oncologists seem to have ignored these findings and only rarely to have added them to their treatment regimens. Finally, during his third round of chemotherapy Williams also decides to begin taking **GLA** (gamma-linolenic acid, an essential fatty acid). He is again amazed to discover how little interest has been shown by the U.S. research community in studying GLA using animal models (a prerequisite in the U.S. for human trials of a drug). The main side effects he experiences from adding these six agents are: (i) tamoxifen causes him to get blood clots in his legs (which need to be checked by ultrasound to determine their seriousness and which he finds “could be controlled

if [he] took two aspirin per day and long walks on the beach”); (ii) verapamil occasionally causes his blood pressure to drop to low levels (“at which point [he] would lower the dosage”); and (iii) Accutane leads to cracked lips and dried skin.

To keep himself eligible for Friedman’s monoclonal antibody treatment, Williams chooses **BCNU** (carmustine) for his first round of chemotherapy (see table below). His doctor prescribes **Zofran** (one of the anti-emetic drugs developed in the 1990s), which proves “remarkably effective in preventing nausea and vomiting.” Williams claims that in “one year [he] received six rounds of chemotherapy, and [he] never became sick as an immediate result.” The first time the BCNU is to be administered, he notices that it is “in a plastic bag and totally unshielded from the light.” These conditions flatly contradict what he has read in his *Physicians’ Desk Reference* (PDR), which says that BCNU is “supposed to be stored in glass bottles...and it should be shielded from light by a dark cover. Otherwise it rapidly loses its cytotoxicity.” From this episode Williams draws a more general moral for his readers: “I realized...that patients need to be as educated as possible, and they must closely monitor the treatments they receive...Patients must become knowledgeable about the dosages and side effects of the treatments they will receive, and they need to be constantly vigilant to ensure that drugs are prescribed in the manner intended.”

Throughout this period Williams battles with depression and anger over his condition. To alleviate some of the anxiety and uncertainty he and his wife get a couple of kittens and he spends “even more time researching the treatment of brain tumors.” He recounts how they were extremely anxious when a postchemotherapy MRI would arrive, and he continues to find himself “prone to contemplate [his] imminent demise...fully expect[ing] to be dead in a few months.” Williams’ story, however, takes a turn for the better during chemotherapy. After his first round, his doctor informs him that there has been some “meaningful reduction in the residual tumor.” At first he doesn’t appreciate the significance of what his doctor is saying until his doctor practically has to yell, “This is good news!” This proves to be a pivotal moment in their relationship as patient and doctor: “From that point on, my relationship with Marc Chamberlain lost its adversarial quality, and our interactions were friendly and positive.” Due to the effectiveness of the first round of chemotherapy, his doctor recommends that Williams take another round. He decides to switch to **PCV** (a combination of procarbazine, **CCNU** [lomustine], and **vincristine**) and takes two rounds of this. His second and third MRI’s are increasingly positive, each showing substantial reductions in tumor size. The procarbazine, however, causes stomach aches that are more or less continuous other than just after eating and the vincristine makes his jaws ache and his toes numb. As a result, he switches back to BCNU for his fourth round of chemotherapy. When his fourth MRI arrives the tumor appears to be gone: “There was no enhancement in the regions of the brain where the tumor had been most evident, and I was convinced that it had, indeed, been eradicated...the treatment finally seemed to have worked.”