Do Not Delay: Breast Cancer and Time, 1900–1970

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> Beware the beginnings for an after treatment comes often too late.
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> Thomas Aquinas

AMERICAN WOMEN UNDERSTAND AND EXPERIENCE the potential dangers posed by breast cancer in very different ways at the beginning of the 21st century than women did at the beginning of the 20th century. Contemporary educational campaigns emphasize that a woman's lifetime odds of developing breast cancer is a frighteningly high one in eight. These greatly increased odds mean that most women today have close friends or relations who have been diagnosed with breast cancer. Screening mammography, tests for breast cancer genes, breast cancer preventive medications, and media attention to the breast cancer dangers associated with different lifestyles, environments, and medications have also insinuated breast cancer into the routines, choices, and concerns of many women today.

Researchers, policymakers, clinicians, advocacy groups, and laypeople have struggled to make personal and policy sense of this increased prominence, incidence, and risk. The considerable powers of evidence-based medicine have been brought to bear on controversies such as the proper age to begin screening mammography, the dangers posed by hormone replacement therapy and oral contraceptives, the use of tamoxifen to

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prevent cancer, and whether and when to test women for putative breast cancer genes. Despite—and, in some cases, as a consequence of—this research, controversies continue.

Missing in these public and scientific controversies is anything more than a superficial awareness of the historical continuities that have shaped the nature and magnitude of breast cancer risk, and our response to that risk. Yet, in so many ways, our individual and collective experience of the dangers posed by breast cancer are a direct consequence of a century of ideas and practices surrounding the causes and prevention of cancer, especially breast cancer.[1]

Most striking are the continuities in how we have understood the relationship between time and cancer. Throughout this century, we have configured time and cancer in two parallel, interacting, yet distinct ways: as a medical and cultural quest to find women earlier in their own personal history of cancer and as a scientific quest to identify and understand earlier stages in the natural history of the disease. While these quests are legitimate, I question their seemingly self-evident logic and importance by analyzing the changing actors, institutions, interests, ideas, and values that have sustained them.

Popular and medical writings and public health messages about cancer since the beginning of the 20th century have consistently exhorted women and men to seek medical attention as soon as they noticed any symptoms that could signal cancer. In the case of breast cancer, women have been told to seek medical attention at the first suspicion of a breast lump or a change in the nipple and overlying skin. This “do not delay” message (hereafter “delay”) was the center of prevention efforts in breast and other cancers up until the 1960s. At that time, the “delay” message began to be eclipsed by calls for annual mammograms and self-breast examinations (which had begun in the 1950s), which in effect made women responsible for *detecting*, not merely responding to, suspicious signs of cancer.

The British surgeon Charles P. Childe, in the first edition of his *Control of a Scourge* (1906), a book read on both sides of the Atlantic in many different editions, laid out the basic “delay” story line and its many supporting subplots. “Cancer itself is not incurable,” Childe wrote. “It becomes incurable from the simple fact that its unfortunate victims harbour and nurse their cancers till it is too late” (pp. 143–4). According to Childe, people delayed seeking medical attention for a variety of reasons: the paralyzing fear of surgery, the temporizing habits of some general practitioners, the pessimism of surgeons, visits to quacks, the use of home remedies, and the stigma of cancer for both individuals and families (due to unfounded constitutional and hereditarian notions). Women particularly delayed seeking medical help for breast cancer because they mistakenly believed that lumps due to breast cancer should be painful, and because they were inappropriately modest about their breasts.

Childe, like so many proponents of public campaigns after him, sounded an ambivalent note about fear of cancer. Fear was both a cause of delay and a necessary and justifiable means to motivate ordinary people to seek medical care for troubling signs and symptoms. Not to employ fear was to allow the public to commit "involuntary suicide" (Childe 1906, 9). Childe understood that the audience for the "delay" message was the educated middle classes, but argued that there would be an inevitable trickle-down effect to less-fortunate members of society.

There has been a remarkable century-long stability to this core "delay" message. One of the most stable parts has been the six (and on occasion more or fewer) "danger signs" of cancer in the educational material of the American Society for the Control of Cancer (ASCC) and its successor organization, the American Cancer Society (ACS), dating from the late teens until the 1970s.[2] These "danger signs" have always included breast lumps among the many vague and common signs and symptoms, such as "a sore that doesn't heal" and "chronic indigestion," about which to be vigilant. These danger signals appeared in countless posters, postcards, trinkets (e.g., faux cosmetic cases), pamphlets, books, movies, and lectures, varying slightly in format and emphasis (ASCC, early 1940s).

While the core "delay" message has been remarkably stable, its style and pitch has varied by era, audience, media, and promoter. A 1930s narrative published in a cancer prevention journal published by the New York City Cancer Committee, for example, told the story of a young (and newly rich) bride who avoids seeking medical care for a suspicious chest lump. Her husband suspects the problem but cannot get his newlywed to see the family doctor, who happens also to be a personal friend. Upon hearing about the situation from the husband, the family doctor invites himself over for dinner. The doctor confronts the newlywed in the living room, tells her to take off her blouse, pays "no attention to her hysterical attitudes," examines her, and sends her by taxi to the hospital where she immediately has an operation. The pathologist's answer that evening is that the biopsy result was "benign," the wife's worries disappear, and her promising life can now really begin (Goodman 1937). The appeals to a good life that was almost lost, the ideal of the paternalistic family doctor, and the expectations of hysterical yet submissive young wives give a Depression-era twist to the core "delay" message.

It is by no means obvious why the "delay" message played such a leading role in medical and lay responses to breast (and other) cancers for so many years. One obvious answer might be that there was epidemiologic or other data that a woman's delay in seeking medical attention for a lump was a significant factor in the harm and loss of life caused by breast cancer. This was not the case and, in any event, it has not been until recent decades that medical evidence—in the form of observational studies and clinical trials—has served as the rationale for specific clinical and public health practices and ideas. Whether there is evidence proving that delay is harmful in breast cancer is currently debated, demonstrating both continued interest in the "delay" message and our own era's commitment, at least rhetorically, to evidence-based clinical practice. A 1999 systematic review (meta-analysis) of existing studies, for example, concluded that "delays of 3–6 months are associated with lower survival" (Richards, Westcombe, Love, et al. 1999). While this conclusion is problematic because of the quality of the data reviewed, the relevant historical observation is that during the heyday of the "delay" message, such robust data were never offered and hardly ever sought.

Early 20th-century gynecologists, surgeons, and actuaries who launched the public campaign against cancer did not explicitly rationalize why they chose "delay" as the central cancer-control message. In private and public, the rationale seemed self-evident on the basis of a set of commonly held assumptions about cancer and the state of public ignorance. Yet it is worth asking why this message, and not another (e.g., avoid chronic irritations, or get annual cancer checkups), if only to begin to discern the less-than-inevitable aspects of the history of cancer. One way to understand the choice of "delay" is that cancer activists faced the problem of justifying a public health campaign against a disease that was not contagious. Unlike the highly visible campaigns against tuberculosis, for example, individuals suffered but were not the vectors of cancer. Voluntary organizations such as the ASCC needed to find a compelling rationale for mass intervention against a disease that, at one level, was only an individual problem. The "delay" message allowed cancer activists to justify their public campaign by analogy to more traditional ones against infectious disease. Instead of blocking the transmission of germs, cancer activists could block the transmission of disease-causing assumptions and behavioral norms between individuals.

Clearly, the centrality and durability of the "delay" message followed from widely held assumptions about the natural history of cancer, a public health activism born out of frustration over the lack of other effective prevention practices and treatments, and a medical and cultural reflex to make individuals, especially women, responsible for their disease (in contrast to stressing the limitations of medical knowledge and treatment, or just not concerning ourselves with the question of responsibility) (Lerner 1999). But merely listing these beliefs and values does not adequately explain why the "delay" message played such a prominent role in clinical and public health practices and in the everyday lives of women in different generations. A more adequate—if still incomplete—explanation emerges by focusing on the interactions among these beliefs and values and the routines of women, doctors, researchers, public health activists, and other actors in this struggle to make sense of, and respond to, breast and other cancers.

I have sampled and analyzed popular, epidemiological, pathological, public health, and clinical writings on breast cancer; public health movies and messages; and correspondence between (mostly urban) doctors and patients from the 1900–1970 period in order to identify and understand the interactions among these ideas, actors, and routines. (Although my subject is American medicine and society, I make occasional reference to European physicians and writings, insomuch as they played a role in North American developments.) These different sorts of evidence suggest that the actions and beliefs of lay and medical people constituted a self-perpetuating feedback loop, which kept the "delay" message afloat for most of the 20th century. More than just an appealing idea, the "delay" message contributed to changes in the routines of ordinary women, women with breast lumps, pathologists, surgeons, and cancer activists. These actions led to a perception of progress in the war against breast cancer, which in turn reinforced the apparent efficacy of the public messages about cancer—sustaining and encouraging further actions and beliefs. In the closing decades of the 20th century, however, a series of parallel and interconnecting changes in medical knowledge and technology, the social organization of medicine, and societal attitudes and interests increasingly destabilized this balance.

The Apparent Efficacy of Cancer "Taken in Time"

One important set of interactions has been the ways different groups have perceived—and reacted to—the efficacy of breast cancer treatment, which for most of this century meant radical mastectomy with the possibility of additional radium and X-ray treatments. Many clinicians argued from clinical experience that women whose cancers were "taken in time"—that is, removed surgically without delay—had a better prognosis than those women who presented later in the natural history of their disease.

According to the English physician and public health official Janet Lane-Claypon, whose sophisticated and prescient epidemiological studies of breast cancer in the 1920s probably represented the highest-quality data of that time, "it can hardly be doubted that an operation in the pre-cancerous stage would rob cancer of the breast of most of its dangers, and the percentage of cures be greatly increased" (Lane-Claypon 1924, 71). At one level, such statements merely reflected clinical common sense—surgery would cure cancer if the disease was caught "early" in its natural history. Yet, some observers questioned whether existing surgical practices actually removed cancer at an early-enough stage to save lives.

Lane-Claypon attempted to answer such doubts by compiling statistics on breast cancer survival, carrying out a kind of meta-analysis of clinical observations, case series, and case reports in the published surgical literature from the early 19th century to the early 1920s. One continuity Lane-Claypon observed was surgeons' contempt for nonsurgical treatment. "By much the larger portion of patients received into the cancer ward of the Middlesex Hospital have spent their last penny, and, what is worse, they have lost that precious time in which they might have been cured," Sir Charles Bell wrote of 1823 nonsurgical treatment (e.g., breast compression), "in attendance on a set of the most unfeeling wretches that ever disgraced a country" (Lane-Claypon 1924, 8).

Lane-Claypon's more quantitative conclusion was that the mean duration of survival of breast cancer patients who underwent surgery was 5.7 years, as compared with 3.6 years for those who did not. She also determined that survival was increased in women who presented at earlier stages of their cancer. In addition to these survival statistics (which today would be thought unreliable because of selection and lead-time biases), she determined that 43.1 percent of breast cancer patients in the pre-1924 literature had waited over a year to seek medical attention (Lane-Claypon 1924, 71). The combination of clinical common sense, the apparent efficacy of surgery, the correlation between early stage and survival, and the observation of delay (construed as room for improvement), represented a powerful argument for a public health campaign focused on reducing delay.

While Lane-Claypon's work was frequently cited in the (small) cancer epidemiology literature in the 1920–1950 period, it is not clear whether this type of data played anything but a minor role in medical attitudes about the "delay" message. In general, the frequent, quantitative claims in both the medical and public education literature about the magnitude of the benefit when cancer was "taken in time" were exaggerated and unsubstantiated. For example, as late as 1945, an article in a women's magazine could proclaim that "medical authorities tell us that *without discovery of a single new fact*, 30 to 50 percent of potential cancer victims can be saved. That means 4,000,000 to 6,500,000 living Americans" (Anonymous 1945, 7). A 1950s movie intended to change the attitudes and practices of physicians—specifically, to increase their index of suspicion when interpreting seemingly benign symptoms and conducting periodic health exams—visually depicted breast and other cancers as individuals casting two shadows. Small solid ones represented site-specific cancer mortality "when diagnosis and treatment were early" and large nebulous shadows represented the gruesome contemporary situation. The specific and unsubstantiated claim for the early detection of breast cancer was a reduction in five-year mortality from 75 to 25 percent (ACS 1949).

Since the start of the 20th century, the purveyors of the "delay" message also claimed interim success and used it as part of their educational campaign. "The impressive increase in the number of cures reported in 1941 as compared with 1920," began a typical popular report, "is owing to the improvement of diagnostic technique, the growing number of cancer clinics approved by the American College of Surgeons—from 13 in 1928 to 368 in 1943—and, what is vitally important, the fact that people are more and more heeding the symptoms of cancer when they first appear" (Marcosson 1944, 36). Looking forward in time, cancer education materials frequently claimed that more early detection would lead to an even greater number of cures. According to a 1956 cancer publication, "authorities confidently believe that this rate of cure (one in four) could be doubled if more persons could be induced to seek medical help when the first signs or symptoms of cancer arose or would submit themselves to regular cancer detection examinations" (New York City Cancer Committee 1956).

Assumptions about the natural history of breast and other cancers, such as that cancer is uniformly and rapidly fatal, permitted observers to claim—in the absence of adequate controls—that surgery was responsible for apparent cures and prolonged survivals afterward. "It is obvious that the mortality from untreated cancer is 100 percent," wrote one surgeon in the 1930s (Shore 1936, 55). James Ewing, the preeminent cancer pathologist of the first half of the 20th century, reportedly taught that "if a woman neglects a cancerous lump in her breast, involvement of the axilla, or armpit, will occur in approximately six months time" (Adair 1943, 10). Statements such as Ewing's reflected the widely held assumption that breast cancer always spread in an orderly, incremental, and local manner.

These sweeping claims, however, were mitigated by long-standing clinical observations of breast cancer's highly variable natural history. For example, the surgeon E.A. Daland observed in 1927 that "one case," then alive at age 80, gave a reliable history of breast cancer of "35.5 years duration" (Daland 1927, 265). A few mid-century surgeons, such as Ian MacDonald, offered a more profound skepticism of the assumptions underlying the "delay" message. Noting that breast cancer patients varied widely in their clinical course, these surgeons expressed skepticism about the efficacy of surgery, and pointed out that often it was the women who "delayed" the most that had the longest survival. They demonstrated many inadequacies in published surgical case series, which they maintained did not typically contain adequate controls, and repeatedly observed that a half-century of the campaign for prompt treatment had not changed breast cancer mortality rates (MacDonald 1951). While these skeptics may have undermined some of the enthusiasm for the "delay" message in academic circles and provided additional incentives for new screening technologies (which might detect cancer early enough to make a difference) and treatments, there is little evidence that they slowed the momentum of the "delay" message in the public arena.

"So Utterly Opposed": Skepticism and Actions of Ordinary Women and Their Doctors

Ordinary women were by no means passive or irrational actors in these developments. Despite appeals to the safety and efficacy of surgery for breast cancer, in the early 20th century, many women—and their general practitioners—feared surgery because of its obvious potential for harm, and because they were unlikely to have known other women who survived the disease with or without surgery. And what women believed mattered profoundly because, as physicians with extensive clinical experience with breast cancer in the era before mammography repeatedly observed, nearly all cancers were first detected by women rather than physicians. "As I read over my records again and again," the prominent Johns Hopkins surgeon Joseph Bloodgood observed in 1923, "the remarkable fact stands out that we have rarely palpated a distinct lump which the patient had not felt" (Bloodgood 1923, 879).

Evidence that women generally avoided surgeons and surgery up until the first few decades of the 20th century comes from surgeons' descriptions of women's delay, clinicians' reports of the large size and late stage of breast cancers in the early decades of the century as compared to later eras, and the many descriptions of women seeking out "quacks" instead of surgeons. While I have not found early 20th-century writings of women with breast lumps who never sought medical attention, there are many records of negotiations between women and their doctors over whether and when to have surgery that shed light on the fears of ordinary women.

Starting with Fanny Burney's recollections of the surgical consultations that preceded her 1811, pre-general-anesthesia mastectomy, such negotiations typically began with a deep reluctance to follow medical advice about surgical approaches to the diagnosis and treatment of breast cancer (Burney 1986). Such fears usually ran up against an equal but opposite force in surgeons' fears of cancers that were not completely and quickly excised from the body. In 1912, Mrs. A. was referred to William Halsted, the Johns Hopkins surgeon who had pioneered extensive surgical approaches to breast cancer (sometimes called the Halsted mastectomy), after her general practitioner tried to treat her breast lump with unspecified medical treatments over three months. Although the lump apparently decreased in size, the woman's physician remained worried about the possibility of cancer. Halsted believed the problem was cancer and suggested an operation. "Thank you for letting me know so promptly about Mrs. A.," the referring physician wrote to Halsted about her struggle to convince the patient to consider an operation. "I expected the diagnosis for I could not see what else the trouble could be. I hope that you were able to make her see the necessity for an operation, she seemed so utterly opposed to the idea that I was quite discouraged as to her prospects. I am so very glad that she went to see you" (Halsted papers, box 1, folder 20).

Patients who already had undergone surgery for their breast cancer frequently wrote to Halsted about their fears of cancer recurrence and more operations, sometimes asking if there was an alternative means—"some slight tests," as another of Halsted's patients put it—which might reassure them that they did not harbor more disease (Halsted papers, box 14, folder 3). One patient wrote Halsted that her mastectomy wound had not healed right and wondered if this was evidence of persisting cancer. Depressed about the impact of the surgery on her life already, she implored Halsted to tell her what he knew about nonsurgical cures for breast cancer. "If these cures can be made without the use of the knife," she wrote. "it seems they should be made known to all, and by law the process exposed. It depresses me awfully when I hear and see such cases, and know that I will never again feel comfortable as long as I live" (Halsted papers, box 21, folder 14).

Women's fears and skepticism frequently led them to disregard medical advice to undergo cancer surgery. In 1927, Ernst Daland described the experience of 100 women who had not had surgery for breast cancer who were residents of two hospitals that cared for "incurables." Twenty-three of these women had been advised to have surgery but had refused; the rest were "inoperable" at the time of diagnosis (Daland 1927). Such "refusers" constitute evidence that many women in the early decades of the century not only feared but probably doubted the utility of surgery for breast cancer. Women's reluctance may also have been influenced by the indirect and veiled way their diagnosis and treatment "options" were often communicated to them.

In the first few decades of the 20th century, many general practitioners' attitudes about breast cancer and its treatments were closer to those of ordinary women than to those of surgeons like Halsted. These practitioners knew that, before 1900, even elite surgical opinion was pessimistic about curing breast or other cancers. Surgeons in the earlier period believed that mastectomies did not cure breast cancer but rather controlled local growth of the tumor (which in the late 20th century has been hailed as a revolutionary insight from new "biological" approaches to breast cancer). This was, to be sure, a powerful rationale for surgery as the presence of a rancid, fungating breast mass was abhorred by both physician and patient. Many observers have commented on the irony that arguably the most famous heroic painting of late 19th-century surgery, *The Agnew Clinic*, Thomas Eakins' depiction of a mastectomy, featured D. Hayes Agnew, a prominent surgeon who had written that "indeed, I should hesitate, with my present experience, to claim a single case of absolute cure where the diagnosis of carcinoma had been verified by microscopic examination" (Agnew 1878, 711).

Starting in the early 1900s, in step with the rising fortunes and numbers of specialists, general and gynecological surgeons—led by those who had established the ASCC in 1914—gradually abandoned this pessimism, at least in public pronouncements (Patterson 1987). Their central dogma was the surgical curability of cancer "taken in time." At the same time, many general practitioners remained less enthusiastic about surgical cures for breast and other cancers.

In 1921, a general practitioner wrote to William Halsted about a patient with a "a growth in the breast. Some three years ago it had the characteristics of a nervous adenoma. In the last six months it presents other peculiarities which require attention from a surgeon. I have referred her to you knowing your well marked conservatism" (Halsted papers, box 22, folder 21). This general practitioner's initial decision not to refer a woman who had "a growth in her breast," instead labeling it with a functional diagnosis and observing her for three years, seems to conform to the stereotype of the ignorant, procrastinating general practitioner that was painted by cancer activists of this period. But his later decision to refer the woman to Halsted, his unapologetic rationale for delay, as well as his appeal to Halsted's "well marked conservatism," all suggest that he was confident that not rushing to surgery for all breast lumps was defensible.

Cancer activists and surgeons not only portrayed general practitioners as procrastinating and overly pessimistic about cancer in their cancer-control writings but also traded stories with each other about patients whose cancer symptoms were initially dismissed by general practitioners. One of Halsted's surgeon correspondents in 1897, for example, wrote indignantly of a patient whose general practitioner—a "female doctor," no less—had told her that her breast lump was harmless, resulting in a dangerous delay of surgery (Halsted papers, box 23, folder 3).

Frederick Hoffman, a Prudential Insurance actuary/epidemiologist and ASCC activist, clipped the following exchange between a patient/reader and an advice-giving general practitioner/journalist, which appeared in a 1913 St. Louis newspaper—probably because it demonstrated the problem that cancer-control activists faced in the everyday practices and beliefs of general practitioners. "The lump on my breast, of which I wrote," began a women reader, "has been growing about a year. It does not pain me generally but occasionally I suffer from it. I have been told that kerosene rubbed on it was good for it, and I have tried that but it has hurt me very much.... I am very much worried." The general practitioner responded that "you probably used kerosene when you had irritated the skin by intense rubbing. Bathe the spot thoroughly and apply a pad of antiphlogistan" (Hoffman 1913). For Hoffman and other ASCC activists, the lack of surgical attention and physical examination, the local remedies, the temporizing, and the failure to consider the cancer diagnosis placed the general practitioner, along with the much-ridiculed quack, on the dark side of the struggle against cancer.

In discussing the fate of a woman who presented with advanced cancer, another of Halsted's correspondents wrote in 1912: "Poor thing. She is another victim of the quacks" (Halsted papers, box 10, folder 20). Despite the real antipathy toward quacks and the furious ASCC and AMA campaigns against them, one wonders if some of this venom was displaced from conflicts between specialists and general practitioners, in which debates about authority and legitimacy had to be conducted with more overt civility. As evidence for this, many of the tirades attacked both quacks and general practitioners in the same breath—for example: "Notwithstanding our ignorance of the cause, and despite the pessimistic utterances of the former type of family doctor (who didn't bother to make unpleasant examinations for trivial complaints), despite the blatant mockery of the unhuman sharks who declare in flaring advertisements that the knife is useless, the truth is this: CANCER IS CURABLE IF TAKEN IN TIME" (Brady 1913).

The practices and beliefs of pathologists represented additional obstacles to the success of the "delay" message. At the turn of the 20th century, pathologists had much more difficulty distinguishing between benign and malignant lumps than they would in later decades. Diagnostic techniques such as aspiration biopsy were not yet widely performed, and pathological diagnosis was acknowledged to be less than perfect (Webb 1974). Tissue diagnosis generally required a major, risky operation that might not provide the hoped-for answers. These realities in the early 20th century led to a greater role for clinical judgment in the treatment of breast cancer, potentially widening the already-large divide between specialist and generalist and the one between cancer expert and ordinary surgeon.

One surgeon, for example, referred a patient to Halsted in 1916 with a good deal of anxiety and self-reproach. Two years earlier, the surgeon had removed a mass that appeared to be benign. He had consented to the patient's wish to forgo pathological examination of the mass but had kept the specimen in alcohol. When the patient returned two years later with a new mass in the same breast, he sent the original specimen to the pathology laboratory, where a diagnosis of adenocarcinoma was made. "I told Mrs. X not to delay any longer," he wrote with obvious regret, "but to get ready and go to the Johns Hopkins Hospital immediately for an operation" (Halsted papers, box 10, folder 9).

In the conflict between cancer specialist and general practitioner, each side accused the other of acting out of greed rather than in the best interest of the patient. The conflict was not only over temporizing, the value of surgery, clinical skill, and access to patients—the explicit terms of the debates—but also over what might be considered a style of practice. The "delay" message justified and promoted a style of practice that accentuated acute, fast-paced, diagnosis-driven care as opposed to a more familiar, lifelong, slower-paced, person-oriented one.

A 1913 newspaper article told women who experienced out-of-the-ordinary uterine bleeding to insist that "your family doctor conduct you at once to an expert gynecologist. It can do no harm other than a slight fee, which the specialist, in spite of a popular notion to the contrary, can very well do without and doesn't care a hang about" (Hirshberg 1913). Writing in the early 20th century, the prominent Philadelphia surgeon John B. Deaver argued that the main problem with early detection was the public's lack of confidence in the specialist class (Deaver 1904–32). This lack of confidence arose from suspicions that specialists were motivated to perform unnecessary procedures to enrich themselves. And specialist attention was expensive: for example, Halsted's standard, but highly variable, operating fee for a mastectomy was $500.

General practitioners frequently described the patient's "means" and pleaded for special financial accommodations in their referring letters to surgeons. In 1894, a general practitioner wrote Halsted concerning the cost of a mastectomy and was not satisfied with Halsted's apparently vague reply. Linking financial obstacles and their shared belief in the dangers of delay to the difficult task of overcoming his patient's fears of surgery, he wrote to Halsted, "I feel that delay is dangerous to her and am doing all I can to pressure her to come to you. I dislike to appear over particular about the fee but think it might hasten her decision if you would give us an approximate idea of the amount; would it be over a hundred dollars?" (Halsted papers, box 25, folder 1).

In the early decades of the 20th century, general practitioners' and ordinary women's fear of surgery was also reinforced by a low threshold for surgery, so much so that many elite surgeons believed that the mere suspicion of cancer was an indication for a radical operation. In effect, surgeons often held onto two parallel and mutually reinforcing idealizations: that women should seek medical attention for any lump or vague symptom that could be construed as a danger sign of cancer, and that surgeons should err on the side of radical cancer surgery if there was the slightest suspicion of cancer. But this "take no prisoners" surgical approach probably kept women away from surgeons.

There were even hints of physician enthusiasm for operating on women who had breast "pre-cancers" in the era before pathologists had discovered, defined, and reached a consensus about such entities. In 1927, the New York physician Henry C. Coe wrote to Joseph Bloodgood, a cancer-control activist and Halsted protégé who had a particular interest in the pathology of breast cancer, that he was "beginning to believe that the 'cure' of cancer by surgery in the future will depend upon our increasing ability to recognize a well-defined 'precancerous stage'—how, I do not know. My own clinical observations and experience with three members of my own family, in which a small 'lump' in the breast was promptly recognized and radical operation done, lead me to be even more radical than you. Why should not every accessible 'lump' be widely excised?" (Kelly papers, box 22, "Bloodgood letter collection: letters concerning biopsy" folder).

Also contributing to surgeons' low threshold for breast cancer surgery in the 19th and the early 20th century was their disgust at operating on women with advanced cancer and their lack of confidence in pre- and postmortem pathological diagnosis. In the late 19th century, the prominent Philadelphia surgeon Samuel Gross wrote to his fellow surgeon John Ashurst with obvious revulsion about a woman who had been referred to him for surgery whose breast was wholly occupied by a mix of ulcerations, growths, and infections. After unsuccessfully treating the woman and watching her die, Gross carried out an autopsy and could only conclude that his patient died "of sheer exhaustion from the stinking discharge" (Ashurst papers n.d.).

Bloodgood wrote in 1922 that, up until then, the Halstedian dictum "if you suspect cancer, better to do a complete operation" was upheld by himself and others (Bloodgood 1922). (The term "complete operation" was standard for describing the radical mastectomy, evoking a standard that defined any operation that did not meet it as "incomplete," and thus morally perilous as well as surrounding a horrendous mutilation with a vague, evasive, and euphemistic quality.) "If we must make a mistake and, being human, we will make them," the surgeon J.S. Rodman argued in a similar vein in 1923, "I prefer doing a radical operation and leaving only a scar, thus doing too much rather than too little and having the patient die a hopeless cancer death." Rodman's specific rationale included the surgeon's inability always to distinguish between chronic mastitis and cancer, and the belief that the former might turn into the latter (Bloodgood 1923). Halsted remarked in 1915 on the "great responsibility" inherent in not doing the operation when breast cancer remained even a remote possibility, and recalled that earlier in his career he operated "because I did not dare do otherwise." While he "dared do otherwise" more frequently with the passage of time and greater experience, Halsted noted that those (untreated) cases "still keep me apprehensive" (Halsted papers, box 1, folder 29). "Although not uneasy," Halsted wrote in 1915 to the husband of a patient whom he offered to visit at home, "I shall be apprehensive until I can assure myself that Mrs. B is not mistaken in the conviction that her swelling is diminishing" (Halsted papers, box 1, folder 29).

In addition to surgeons' fears of mistakenly diagnosing a malignant biopsy specimen as benign, the low threshold for cancer surgery existed because many physicians and laypeople believed that there was a continuum between various benign conditions and cancer. Thus, even surgery for benign conditions could be justified (Bloodgood 1923). Finally, the low threshold was itself supported by the actions of women early in the century. Since women frequently presented to doctors in late stages of their disease, the perceived prognosis from breast cancer was grim, reinforcing surgeons' "take no prisoners" approach to suspicious lumps.

"Delay" and the Existential, Moral, and Medical Uncertainties of Doctors and Patients

Another important reason for the durability of the "delay" message is the way it linked the factors we have considered so far—the apparent efficacy of surgery, assumptions about cancer's natural history, the rising stock of specialists, the practices of pathologists and surgeons, and the beliefs and actions of ordinary women—to a widely held set of beliefs about individual responsibility for disease. The "delay" message made women responsible for their disease while at the same time minimizing for clinicians some of the existential, moral, and medical uncertainties of taking care of individual patients. Few clinicians, even surgeons, saw enough patients with cancer, breast or otherwise, to have more than a fragmentary personal angle on the kind of aggregate picture of the disease built up by years of accumulated clinical experience and recorded in textbooks or by the kinds of statistical models that were being constructed by epidemiologists. Nevertheless, clinicians had to reconcile the needs and demands of, and anxieties raised by, individual patients with this aggregate reality.

In 1907, surgeon E.B. Hayworth wrote to Halsted about a disturbing case:

> A patient on whom I have twice operated in the past year for carcinomatous involvement of axillary and cervical glands recently consulted a Yonkers (N.Y.) physician who severely criticized my surgery in her case and advised her to consult you immediately. Her name is Mrs. [O.] of Pittsburgh, Pa. Briefly her history is that 10 or 11 years before Prof. Rope, of Brooklyn, removed her breast for suspected malignant growth without opening the axilla or removing any of the axillary glands. When she consulted me about 1 year ago, the axillary glands were all enlarged—two being size of hens eggs and adherent to adjacent tissues etc. and she was suffering pain in this region. Upon clearing out the axilla and working along the axillary vessels to the neck I found such extensive involvement of the lymphatics in region of neck and continuing down in towards mediastinum that after removing all possible accessible glands we desisted. The patient made prompt recovery—pathological report from our pathologist at the West Penn Hospital showed carcinomatous infiltration in all the removed glands. To let the patient down easily, I told her the examination showed them to be semi-malignant and that x-ray treatment

> should be followed to prevent a return. About 2 months ago she returned with a tumor in anterior part of axilla along edge of pectoral muscle which we removed making an additional incision below the clavicle to inspect another hard lump there which seemed to so infest the axillary vessels that I feared attempt at removal. The patient has never yet presented herself for a course of x-ray treatment. The case is interesting from the long period existing between the removal of the breast and the involvement of the axillary glands. If you think my handling of the case was proper I would be glad to have you so express yourself to Mrs. [O.]—as I believe from the criticisms of her Yonkers physician she is under the impression that the surgical treatment she received at my hand was improperly performed. (Halsted papers, box 10, folder 28)

I quote this letter at length to stress the moral complexities inherent in the routine care of women with breast cancer and to show how the gulf between individual experience and aggregate notions of disease sustained these complexities. In this short letter, Dr. Hayworth managed to criticize the surgeon who first operated on Mrs. O. for not removing her axillary glands (and therefore performed an incomplete operation, because Halsted and others believed these glands were station stops on cancer's spread to more distant parts of the body), express amazement at the long interval between her initial presentation of breast cancer and her later recurrence, convey worry and frustration at his own inability to completely excise all cancerous tissue in the first operation, defensively describe additional attempts at surgical removal of cancer, implicitly blame the patient for waiting until her lymph nodes were the size of "hen's eggs" before seeking medical care and later for not getting X-ray treatments, and plead for vindication of his actions from the preeminent breast cancer surgeon of his day.

Clearly, the issues of blame and responsibility took center stage in this letter. These issues played so large a role in part because of the gaps between the particular circumstances of Mrs. O.'s case and different aspects of the breast cancer ideal-type: between the first surgeon's decision not to open the axilla and the Halstedian surgical ideal of removing all cancerous tissue and then some, en bloc, itself justified by a localistic, orderly model of the natural history of breast cancer; between Dr. Hayworth's decision to "desist" in the middle of the second operation and that same ideal; and between the patient's implied delay and her failure to present for X-ray treatments, on the one hand, and medical expectations of the compliant patient, assumptions about the natural history of cancer, and a positivism about existing treatments, on the other.

The "delay" narrative did not close these gaps but provided a way to simplify the very precarious moral implications of choices made in real time in situations that did not always conform to idealized pictures of disease, doctors, or patients. "Delay" provided a way for doctors not only to shift blame toward each other and onto patients, but also to make a simple connection between the idiosyncrasies of a specific individual's case and a model of the disease's typical course (as in Dr. Burns's surprise over the long interval between Mrs. O.'s initial surgery and her first recurrence) and therefore bring order to, and make less threatening ("the case is interesting..."), a morally perilous situation. The "delay" message allowed physicians to blame time or the patient rather than their surgery or disease concepts if bad outcomes ensued. It also gave them a way to measure and defend their own actions against their peers. Dr. Hayworth and other doctors could reassure themselves that some unanticipated and feared events were exceptions to the rule and thus not their fault.

The apportioning of blame that is evidenced in Dr. Hayworth's letter was common but not always offered in such a transparently condescending style. Another of Halsted's correspondents introduced a patient to him in 1914, writing "I know, Dr. Halsted, that you will do everything possible for her. I am only sorry that she did not come to me sooner, but this is the best we could do" (Halsted papers, box 12, folder 13). Regret and sadness for the patient as well as some gesture of joint responsibility soften but do not fundamentally alter the assumption that delay had led to worse consequences for the patient.

There was a subtle progression to a less overt style of victim blaming in cancer education materials as the 20th century progressed. In 1920, the ASCC arranged a diorama exhibit on cancer built on a simplistic and overtly moralistic choice faced by a woman with a breast lump—the right way and the wrong way. In the diorama depicting the right way, one woman says to the other, "All persistent lumps or other unusual conditions in women are suspicious.... It might be cancer.... Please see a good doctor." The second woman goes to the doctor and gets correct diagnosis and treatment. After two weeks in the hospital, she tells her friends, "Yes the doctor says I am cured. Now I shall help spread the message of early treatment." In the diorama depicting the wrong way, a woman delays and ends up not only with cancer but broke. "Two years has exhausted all our savings," she pleads to a bank officer. "I must get a position to support my children" (Ward 1920).

As late as 1944, C.C. Little, an ASCC executive and the principal initiator of its Women's Field Army (WFA) volunteers, depicted delay and popular fears of cancer as a "profound psychosis" in WFA training material. WFA training was built on the "creation and maintenance of *personal responsibility*. This is the most important matter of all. The Field Army worker must appreciate that she has undertaken more than an ordinary share of individual responsibility in the fight against cancer" (Little 1944, 108). As pioneers in personal responsibility, WFA volunteers were supposed to get at least twice-yearly cancer exams.

By the 1940s, however, the blame-giving message was usually presented in a more sophisticated manner, although no less moralistic. "If she does not watch for those signs, or if, after discovering them, she does not seek competent medical care until cancer has passed its early most curable stage," an author of an article in a women's magazine in 1945 asserts, "she has no one to blame for the consequences but herself" (Marshino 1945, 177). "There were the usual problems that arise in all families, the sons' marriages and the widowhood of one," another typical popular article related, "whose wife, tragically enough, suspected that she was a victim of cancer but told nobody, and paid the ultimate price for her secret" (Palmer 1947, 152). In another 1948 popular article, typical of a gentler variant of the "delay" narrative, a woman wrote about the guilt and indecision that surrounded her delay in seeking care for a lump in her right shoulder blade. When it turned out to be benign, she regretted the 2 years of self-inflicted agony (Holmes 1948).

By the 1950s, the ACS had begun its "little red door" campaign, an attempt to make walking into an ACS office less threatening, as part of its continual attempt to modulate the fear-inspiring effects of the "delay" message (Anonymous 1951). In some educational materials, the ACS changed the label of the delaying group from "certain to die" to "dependent on new discoveries" (American Cancer Society 1952a, 7). The ACS also encouraged more nuanced delay narratives by offering a $500 prize for the best breast cancer story, defined as one about "noticing" the first symptom, which could then be popularized (Anonymous 1952).

Both to hammer home the issue of personal responsibility and to stress the mechanistic and orderly vision of cancer that was the basis for the "delay" message, popular writers frequently used analogies to familiar technologies. This enabled them to point out the seemingly absurd situation that people often take better care of their machines, possessions, and surroundings than their bodies. A 1923 ASCC poster showed a picture of a forest fire accompanied by the following text: "AS WITH A FIRE SO WITH CANCER. Prompt and efficient action is necessary to prevent spreading and final DESTRUCTION!" (ASCC 1944). Other "delay" public health literature made analogies between proper lawn care and care of one's own body (Rigney 1936, 47). Similarly, *Journal of the American Medical Association* editor Morris Fishbein analogized in 1947: "If a waterpipe breaks in your house, you call a plumber just as soon as the first few drops of water seep through the ceiling" (Fishbein 1947, 259). A 1952 cartoon film, *Man Alive*, was built on an analogy between cars and bodies, mechanical trouble and cancer. The movie lampooned men who would take preventative precautions with their car but not their own bodies (American Cancer Society 1952b).

Other stylistic qualities of the early detection message as it appeared in voluntary and public health campaigns also help explain the centrality and durability of the "delay" message. As others have frequently pointed out, this message was consistently and intentionally enveloped in images and narratives that emphasized the dangers of delay—that is, the message was built on fears of cancer (Patterson 1987). These images and narratives were gripping, direct, and easily understood. In 1948, the American Cancer Society launched a "1 every 3 minutes" (someone dies of cancer) poster campaign (Anonymous 1948, 15). In later decades, they employed a similar and progressing "one in *N*" campaign about cancer incidence. In 1949, ACS publicity director James Hauck wrote philanthropist and cancer activist Mary Lasker about his worries over the ACS's statistically oriented fear campaign after a satirical article on ACS campaigns titled "one out of one will die" appeared in the popular press (Lasker papers, box 95, "ACS 1949, January through April" folder). Cancer activists dealt with these objections in print as well. "There have been some comments to the effect that these cancer-detection clinics, all the talk of cancer, the cancer campaigns, are breeding a race of 'cancerophobes,'" one popular piece recounted. "It is true that some people overdo the cancer hunt and can worry themselves into an illness trying to avoid one. But most observers agree that the lives saved by intelligent preventive measures more than make up for the few additions to the ranks of hypochondriacs" (Spencer 1948, 31).

The "delay" narrative also played on early- and mid-century conceptions of appropriate female behavior and attitudes. Finding cancer "in time" was linked to norms for maternal, marital, household, and civic responsibilities. Two ACS movies, *Choose to Live* (U.S. Public Health Service 1940) and *Time Is Life* (American Cancer Society 1950), each begin with women worried late at night about the possibility of a breast lump. A voice-over consciousness (male in the earlier film, female in the later one) tells us their deepest fears and attempts at denial. By the light of day, both women decide not to delay after they are depicted cleaning their houses and taking care of their husbands and children. By mid-century, there was a subtle shift in the style of these messages that incorporated elements of popular psychoanalytic concepts and images—for example, that delay was a form of unhealthy and unconscious adaptation to reality that led to negative consequences in addition to a lower probability of surgical cure. In *Choose to Live*, the climax of the main character's attempts at denial and delay is when she "accidentally" drops milk onto the floor of the druggist and flees while the spill expands like a pool of blood on the pharmacy floor.

This more Freudian version of the "delay" narrative reached its height in the 1960s. In a 1964 report of psychiatric evaluations of women with breast cancer who delayed (which was defined as either admitting delay or—with great circularity—having presented to medical attention in the late stages of cancer), the long history of the "delay" campaign is itself cited as evidence of these women's failure to take adequate responsibility. "Although there have been intensive efforts to inform the public thorough periodicals, radio, television, and other media," the psychiatrist author recounts, "many women with obvious signs of disease of the breast present themselves for treatment when the disease is so far advanced that only palliation is possible" (Gold 1964, 564). According to the author, the main reasons for delay are to be found in women's retarded psychosocial development, specifically a failure to develop pleasurable breast sensations and associations. And in what reads like a cruel parody, the century-old fears of breast cancer surgery were now reconfigured as individual pathology. When one woman asserts, "I was worried about being disfigured," this was understood as "evidence both of her narcissism and her low self-esteem. Her self-destructiveness was further indicated by the many ways in which she denied the evidence in her breast" (Gold 1964, 576).

The Making and Unmaking of Cancer Clinics

While women and general practitioners generally perceived the "delay" message as prudent and workable and had less fear of surgery by the middle of the 20th century, there was still one major obstacle to the success of the message and its messengers: the social reforms proposed to implement the "delay" message were often perceived by physicians in private practice as threats to their incomes and autonomy. These threats came from proposals and experiments that promoted the provision of diagnostic and/or therapeutic cancer services in special cancer clinics organized either by federal and state governments or by voluntary agencies such as hospitals.

Cancer activists had multiple compelling reasons to promote such clinics. First, cancer diagnosis and treatment was specialized and few private doctors possessed the expertise or technology to provide high-quality care. While this was most obvious in the provision of radium therapy, where the available supply was dramatically limited and its use dangerous, radiation therapy and advanced surgical techniques posed similar challenges. A 1950s popular piece imagined that a cure for cancer would be found in the near future and that we would have no way to distribute such insights to the nation as a whole. "Suppose that right now—today—a scientist somewhere developed a drug that would arrest cancer," the author of this piece imagined. "Could your state quickly reach every one of its cancer victims? Or suppose some laboratory developed a drug that would control cancer pain in one part of the body. Could your state hurry the drug to those it might help?" (Howard 1950, 73–4).

Second, the rationale for some kind of government subsidy for such clinics was tied to the observation that some women delayed because of the anticipated costs of cancer diagnosis and treatment. Third, many people who worked for the ASCC/ACS and at the National Cancer Institute understood that cancer cures were a long way off. While the provision of cancer detection services was neither popular among, nor fee-generating for, most physicians, it was understood as a way to return something tangible to today's public for their financial (through taxes and contributions) investment in cancer research. Finally, agencies such as the ASCC/ACS wanted to create opportunities for service among their many volunteers and, in so doing, create a reservoir of emotional and human capital for the future (Lasker papers, box 95, "ACS 1949—Research Committee" folder).

The Women's Field Army, created by male leaders of the ASCC in alliance with national women's groups in 1935 to lead the crusade against cancer, initially planned to agitate for specialized cancer hospitals and detection clinics. WFA training materials contained a discussion by James Ewing in which he argued for the major role of cancer hospitals and advised WFA volunteers not only to raise money for them but to encourage patients to use them (Little 1944). Leaders were aware that such efforts would be greeted with suspicion by general practitioners. Volunteers were taught to balance the WFA message and activism with the needs and concerns of general practitioners. "In many states," the WFA training material warned, "you will find that the mere mention of aiding indigent patients by transportation and other means will arouse suspicion and antagonism." Volunteers were told that by carefully balancing the needs of general practitioners with those of the larger society, the "WFA is one of the greatest guarantees that has yet been devised for maintaining the influence of the general practitioner and for protecting his interests" (Little 1944, 109).

Cancer detection clinics, such as the Cancer Prevention Clinic for Women in New York City, which was started in the 1930s, responded to local needs and the gaps in the contemporary medical system. Elise L'Esperance, a physician and cancer activist who helped start the Cancer Prevention Clinic, explained that it was started because the New York Infirmary's tumor clinic, which provided cancer treatment and diagnostic services to people with cancer symptoms, was overwhelmed by women "eager to know if they had cancer" (L'Esperance 1944, 5). This prevention clinic was run by women doctors and volunteers in order to encourage more women with breast and other symptoms to seek care. These clinics also represented the expanding new frontier in the battle against cancer and time—the gradual shift from early action to early detection.

By mid-century, the ACS's enthusiasm for the WFA, cancer detection clinics, and other end-runs around private fee-for-service practice began to cool. In 1949, Louis Dublin, a progressive insurance industry epidemiologist and ACS activist, wrote a long internal tirade against the way the ACS was backing away from cancer clinics, arguing that a voluntary organization like the ACS would fail its rank and file if it concentrated all of its resources on research (Lasker papers, box 95, "ACS 1949—Research Committee" folder). In addition to evident political anxieties, internal ACS documents demonstrate that its leaders also grew increasingly skeptical of the effectiveness and expense of cancer clinics. In one 1949 memo, ACS executive John Kilpatrick computed that it cost over $5,000 to detect one case of cancer (Lasker papers, box 95, "ACS 1949—Research Committee" folder). Along with jettisoning its small budget, physician dominance, and "ladies' home garden" mentality, the mid-century transition from the ASCC into the ACS solidified a commitment to private fee-for-service medicine.

The cancer establishment's declining support for cancer clinics led to a much closer alignment between private practitioners and the "delay" message, resulting in the post–World War II slogan "Every physician's office a cancer detection center." The publicity material for a 1950s cancer prevention film aimed at general practitioners, for instance, noted the added economic value for doctors in encouraging apparently healthy people to submit to cancer examinations: while only 1 percent of patients submitting to cancer exams might turn out to have cancer, half were likely have other medical problems (ACS 1949).

At mid-century, however, the promise of detecting cancer in truly asymptomatic, apparently healthy individuals was still mostly unrealized. "Do not delay," with its focus on the patient who detects a warning sign or symptom in the routine course of life, still ruled the day. Starting in the 1950s, however, private practitioners were able to begin reconfiguring their work and their offices into cancer detection centers with the aid of new technologies such as the PAP test, developed and promoted by the ACS, which had been specifically "tinkered with" to meet the demands of private medical practice (Casper and Clarke 1998).

Perception, Action, and More Perception

With the different actors in the "delay" narrative having worked out many of the rough spots by mid-century, women with breast lumps went more frequently to surgeons and these lumps were much more commonly benign or had a more favorable prognosis than in previous eras. There are many lines of evidence to support this contention.

As early as the 1920s, physicians observed a dramatic decline in women's self-reporting of delay in seeking medical attention for cancer symptoms. A mid-1930s discussion of cancer education compared women's delay in 1911, when the average duration between onset of symptoms and medical visits was 16.7 months, to 1933, when the duration was 8.1 months (Shore 1936). In the late 1940s, the ACS reported that surveys had found a decline in the relative numbers of women who delayed seeking cancer care between 1923–38 and 1946–47 (from 79.3 percent to 70.6 percent) (Robbins and Leach 1947).

Not only did women appear to be delaying less as the century wore on, they were presenting at earlier stages in their natural history of breast cancer. Deaver, writing in the 1920s, was astounded by the changing composition of women who presented with breast lumps, observing that women now, "due to propaganda," often presented with "imaginary" breast lumps (Deaver 1927, 4–5). In 1922, Bloodgood remarked with astonishment that he was advising no surgery in over half the patients with breast complaints (Bloodgood 1922). Bloodgood also observed that the negative breast biopsy rate on the Hopkins surgical service, about 1 percent in the 1890s, had risen to 75 percent by 1923 (Bloodgood 1923). Robert Greenough, writing in 1935 about breast cancer patients presenting to Massachusetts General Hospital, noted that while 74 percent of cases showed axillary involvement (a bad prognostic factor) in 1914, that figure had dropped to 40 percent in 1926. "This, I believe," Greenough concluded, "is a clear indication of the value of public education" (Greenough 1935, 234).

Women's decision not to delay interacted with pathological practice in other ways as well. The increasing use of new methods of intraoperative diagnosis, such as frozen sections, lessened lay and medical fears of unnecessary "complete operations." Observers noted that pathologists in the first few decades of this century had lowered their threshold as to what constituted cancer (Bloodgood 1923). Pathologists also developed new concepts of early and "precancerous" entities, such as Foote and Stewart's description of lobular carcinoma-in-situ in 1941, which raised the number of pathological diagnoses for women who had better prognoses, thereby increasing the apparent efficacy of treatment (Foote and Stewart 1982).

Women's decisions to present to their doctors in greater numbers and with less delay made the management of breast lumps more difficult in some ways. In 1935, Bloodgood noted that it had become harder in recent years to distinguish benign from malignant disease on clinical grounds, and there was more unnecessary surgery than in earlier decades (Bloodgood 1935).

While the ASCC claimed that the reduced delay and its attendant benefits resulted from its educational campaign, other experts questioned whether there was a cause-and-effect relationship between the two. Reimann and Safford, writing in 1928 about their experience at Philadelphia's Lankenau Hospital, demonstrated that the decline in delay among patients with cancer had begun long before the 1914 onset of the ASCC campaign, and the rate of decline did not appear to be influenced by all the post-1914 "delay" publicity. Since the declining delay may have been a mere epiphenomenon, Reimann and Safford wondered whether the possible downsides of the ASCC campaign warranted more attention: "Should the propaganda be increased until every newspaper every day carries some warning, until every radio set in every home every day enunciates at least once, 'be careful of cancer,' until every week is cancer week? This is obviously a reductio ad absurdum. Popular cancer propaganda in the United States, and we suspect in other countries also, has some undesirable aspects. It has unduly disturbed the peace of mind of many normal individuals and made veritable 'cancerophobes' of many. Other disadvantages will occur to the thoughtful physician which it is, perhaps, unprofitable to discuss in this paper. Some re-arrangement of methods seems desirable" (Reimann and Safford 1928).

Despite some dissonant voices, the larger and healthier subset of women presenting to doctors with cancer-related complaints strengthened the belief that both modern treatments and the public health campaign built on the "delay" message worked. Some public health activists even argued that it was a woman's duty to report immediately to a doctor with a suspicious lump because such actions on a large scale would lead to better statistics, less fear of cancer, and even more early detection. "If you have a lump in your breast," wrote the author of a 1935 "delay" piece for laypersons, "you have a duty to other women. Every time a woman comes early and joins the numbers of the intelligent woman whose examination revealed that there was no need of operation or whose lives were saved by early operation, the life saving gospel of early attention gains further prestige with the public and spreads to save more lives" (Kilbourne 1935).

Because of the larger and healthier denominator, the ratio of breast cancer deaths over women diagnosed with breast cancer decreased in those early decades. This created the impression that cancer education, via decreased delay, had led to a genuine improvement in the health of ordinary women, which in turn led women to delay less and to increase the impression of effectiveness. Thus, there existed by mid-century a self-sustaining feedback loop in which attitudes and beliefs about the natural history and treatment of breast cancer and the efficacy of early detection led to behavioral changes that changed the perception of aggregate data about cancer, which in turn sustained attitudinal and behavioral changes. This powerful set of reinforcing perceptions and behaviors managed to keep the "delay" message at center stage through most of the 20th century even as skeptical voices questioned the efficacy, style, and implications of the campaign.

Conclusion

Starting in the 1960s, the "delay" message gradually lost its prominence in public health efforts to control breast and other cancers. This decline could be understood as a straightforward response to social and biomedical advances: as a broad reaction against victim-blaming, unwarranted assumptions about the natural history of cancer, suffocating gender norms and roles, and unquestioned scientific authority, on the social side; and reflecting progress in prevention (SBE and mammography) and treatment (less radical surgery and chemotherapy), on the biological side. But knowledge of our century-long war against time suggests that this explanation of the decline of the "delay" message is too simplistic and ignores the powerful momentum of prior choices and the continued importance of older values, interests, and still-unanswered questions about the nature and meaning of cancer.

First, the shift in the time frame for diagnosing cancer from the point at which a woman could feel a breast lump to an earlier point has in some ways increased the perception of personal responsibility for disease and the potential for victim-blaming. As I noted earlier, women have been given the responsibility for detecting, not merely for responding to, the earliest signs of cancer. The "delay" message thus has not so much disappeared as has experienced a partial eclipse from more technologically based surveillance techniques. Second, biomedical advances, such as the development and deployment of screening mammography, have themselves been shaped by cultural shifts, such as an increasingly assertive and skeptical consumer culture within and outside of medicine, the rise of feminism, and the beginnings of disease-specific, gender-oriented lay advocacy.

Finally, the underlying values, interests, and unanswered questions that have shaped the war against time continue to influence many contemporary controversies. For example, these influences and the momentum and consequences of past developments have helped usher in what might be called the "risk-factor era" of breast and other cancers, in which we fight cancer at such an early stage that it exists only in some probabilistic sense, made visible by laboratory insights, aggregate data, and problematic extrapolations to individuals. In this troubling, ironic, yet hopeful era, surgeons and advocacy groups tout the successful movement to replace radical mastectomies with much more limited and breast-conserving surgery for evident breast cancer, while women increasingly opt for prophylactic surgery for "mere" risk of disease. Pharmaceutical companies subsidize breast cancer advocacy while they directly market risk-lowering drugs to a perplexed and frightened public. Policymakers, researchers, corporate leaders, clinicians, and others have made a controversial bet about the future by devoting a great amount of material resources, societal attention, and hope to genetic knowledge and to genetic tests that promise to wed early detection to a more precise and biologically tangible risk assessment.

These developments are too often framed myopically as challenges posed by new biomedical knowledge and technology, and whose solutions lie solely in the generation and critical evaluation of the best medical evidence. While medical experts must thoroughly evaluate the evidence for or against different practices and policies, it may be equally or more important to have a more critical understanding of, and more societal debate about, the historically conditioned values, interests, questions, hopes, fears, and routines that have sustained the way we have responded to the relationship between time and cancer over the last 100 years.

ENDNOTES

1. Although my subject is breast cancer, the focus of most medical and lay prevention-related ideas and practices for much of the 20th century has been cancer in general, not site-specific cancers. As a result, I will occasionally draw on, and switch back and forth between, citations about breast cancer and about cancer in general.
2. When I refer to cancer activists, unless otherwise specified, I am referring to the leaders of these organizations. The ASCC was started in 1913. Male surgeons and gynecologists dominated its initial leadership. Its renaming as the American Cancer Society in the middle 1940s was one small part of a radical transformation of the organization's style, leadership, budget, and priorities. See Patterson (1987), especially chapters 3 and 7.

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