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Review

War on cancer and the influence of the medical-industrial complex

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ABSTRACT

The 'war on cancer' arose from a toxic combination. A socialite with powerful friends and a misguided belief that cancer could be 'conquered' within 7 years recruited a flawed US President to lead an 'all-out assault [against] one of mankind's deadliest and most elusive enemies'. Mary Lasker and her Citizens' Committee for the Conquest of Cancer ran a skilful campaign during 1969–1971, comparing the number of cancer deaths with American troop losses in the unpopular Vietnam war. Richard Nixon preferred to compare US cancer mortality with American troop losses in World War II.

'Waging war' against a disease that is so intrinsic to our cellular biology is even more quixotic than declaring a war on terror, drugs or religion. 'War' is more than just a metaphor. It distorts political thinking about cancer with the illusory clarity of victory and defeat. Therapeutic attacks on the 'enemy' are prioritised over strategies to prevent the disease occurring, and where there is 'war', there goes the medical-industrial complex. The therapeutic armamentarium has improved out of all recognition since the 1970s, but it now threatens to bankrupt the health system in the world's richest country, where millions still await access to health insurance under the Affordable Care Act. Elsewhere, entire countries have no access to radiotherapy. The inequalities are glaring.

One may, perhaps, imagine a world where an outbreak of sanity has removed injustice and the roots of terrorism. I cannot imagine a human race without DNA, which occasionally makes mistakes that our cells cannot repair. The language of war, victory and defeat is misplaced and outdated. All cancer patients, everywhere, deserve prompt and equitable access to optimal treatment and pain relief. But we should drop the lazy, simplistic jargon and the distorted priorities of 'war', and focus on prevention to make long-term progress against cancer.

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Not long after the end of the most destructive war in history, which had seen unprecedented developments in atomic physics and in the industrialisation of machinery to kill, US President Eisenhower used his valedictory address in 1961 to warn against the 'military-industrial complex'. He suggested it could lead to more wars, in furtherance of its own profits and the maintenance of its political influence: "In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist." [1]

The 'war on cancer' can be said to have begun in 1969. On 9 December, the Citizens' Committee for the Conquest of Cancer, led by the socialite and publicist Mary Lasker, published full-page advertisements in *The Washington Post* and *The New York Times*,


entitled: "Mr. Nixon: you can cure cancer" (Fig. 1). Lasker had an impressive record. In 1944, she had taken over the Board of what would be renamed the American Cancer Society, increased its income over 100-fold to \$14M by 1948, and transformed it into an agency to fund cancer research. She had argued for universal health insurance. She had also successfully lobbied Congress for massive increases in funding for the National Cancer Institute (NCI) by 1961 [2].

The *Washington Post* advertisement appeared less than five months after the first landing on the moon. It quoted Dr Sidney Farber, oncologist and past president of the American Cancer Society: "We are so close to a cure for cancer. We lack only the will and the kind of money and comprehensive planning that went into putting a man on the moon." The advertisement envisaged "conquest of cancer by America's 200th birthday," just 7 years later. It was archly political, and not at all subtle. It compared the annual number of US cancer deaths with the number of US deaths in a real, contemporary war that had lost a great deal of public support: "Surely, the war against cancer has the support of 100% of the people. It is a war in which we lost 21 times more lives last year than we lost in Viet Nam last year. A war we can win and put the entire human race in our debt." [3]

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Mr. Nixon: You can cure cancer



If prayers are heard in Heaven, this prayer is heard the most:

"Dear God, please. Not cancer."

Still, more than 318,000 Americans died of cancer last year.

This year, Mr. President, you have it in your power to begin to end this curse.

As you agonize over the Budget, we beg you to remember the agony of those 318,000 Americans. And their families.

We urge you to remember also that we spend more each day on military matters than each year on cancer research. And, last year, more than 21 times as much on space research as on cancer research.

We ask a better perspective, a better way to allocate our money to save hundreds of thou-

sands of lives each year.

America can do this. There is not a doubt in the minds of our top cancer researchers that the final answer to cancer can be found.

Already, 4 out of about 200 types of cancer can be cured with drugs. And 37 other drugs will cause temporary remission in 17 other types of cancer.

Dr. Sidney Farber, Past President of the American Cancer Society, believes: "We are so close to a cure for cancer. We lack only the will and the kind of money and comprehensive planning that went into putting a man on the moon."

Why don't we try to conquer cancer by America's 200th birthday?

What a holiday that would be! Cancer could be then where smallpox, diphtheria and polio

are today—almost nonexistent.

If you fail us, Mr. President, this will happen:

One in six Americans now alive, 34,000,000 people, will die of cancer unless new cures are found.

One in four Americans now alive, 51,000,000 people, will have cancer in the future.

We simply cannot afford this.

Our nation has the money on one hand and the skills on the other. We must, under your leadership, put our hands together and get this thing done.

Surely, the war against cancer has the support of 100% of the people. It is a war in which we lost 21 times more lives last year than we lost in Viet Nam last year. A war we can win and put the entire human race in our debt.

To the public, cancer patients, their friends and relatives:

Write or wire the President, urging him to put more funds behind cancer research. Or, please use this coupon.

Dear Mr. Nixon:
Cancer research needs more funds. Please provide them in your 1971 budget. Please.

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Mail this coupon to: The President
The White House
Washington, D.C.

CITIZENS COMMITTEE FOR THE CONQUEST OF CANCER

868 United Nations Plaza, New York, N.Y., Solomon Garb, M.D., Emerson Poole, Co-chairmen

Fig. 1. Mr Nixon: you can cure cancer.

Source: The Mary Lasker papers – <http://profiles.nlm.nih.gov/ps/retrieve/ResourceMetadata/TLBBBY>.

This time, the US public was being invited to join a just and noble war – but against a disease.

The lobbying was effective. In his State of the Union address in January 1971, US President Nixon proposed a form of universal health insurance so that "no American family will be prevented from obtaining basic medical care by inability to pay," as well as better prevention programmes. He proposed \$100M for "an intensive campaign to find a cure for cancer," adding: "The time has come in America when the same kind of concentrated effort that split the atom and took man to the moon should be turned toward conquering this dread disease. Let us make a total national commitment to achieve this goal." [3]

When President Nixon signed the National Cancer Act on 23 December 1971, with the Vietnam war still ongoing, he was already looking for his own place in history. He did not use the phrase 'war on cancer' that day – perhaps because he had already declared a 'war on narcotics' only six months earlier [4] – but he did express the hope that the Act would be seen by history as "the most significant action taken during this Administration." He referred to the "national commitment for the conquest of cancer," made in his State of the Union address earlier that year. His speeches were replete with military references to "all-out assault" against "one of mankind's deadliest and most elusive enemies" [5]. Pointedly, however, he chose a different war with which to compare US cancer

mortality, saying that “more people each year die of cancer in the United States than all the Americans who lost their lives in World War II” [6].

In the late 1960s, however, understanding of cancer biology was still limited, and there was outspoken resistance in the scientific community to the focus on cure. Professor Sol Spiegelman, Director of the Institute of Cancer Research at Columbia, was one of many who favoured basic research aimed at prevention. His acid comment mocked the campaign: “an all-out effort at this time [to find a cure for cancer] would be like trying to land a man on the moon without knowing Newton’s laws of gravity.” Spiegelman also criticised the rhetoric of the ‘war on cancer’, saying it had “raised public expectations of impending breakthroughs in cancer research and treatment, [that it] did not meet,” and that “by suggesting cancer could be ‘conquered’ within a matter of years, Lasker [had]... contributed to rising skepticism of modern biomedical science among Americans who had long believed in its inevitable progress.” [2]

During the 10 years up to 2010, the annual NCI budget increased from \$4bn to \$5bn, but the proportion devoted to prevention fell from 11% to 7% over the same period [7].

It may be considered unwise to declare war on terror, drugs or religion. These are concepts, habits and beliefs, not countries susceptible to military conquest. The ‘war on drugs’ has been widely deemed a failure, for example, most recently by the President of Guatemala at the World Economic Forum.

It seems even more unwise to declare war on a disease, especially on cancer, a uniquely diverse constellation of diseases that stems from spontaneous or induced errors in the complex genetic systems that have evolved over millions of year to regulate the reproduction of our own cells. When we recall that the most obvious strategy for controlling cancer is to prevent it by first understanding its causes, it may be seen as positively absurd that the most widely used metric of success in the war against cancer has been just the number of deaths, or, at best, trends in the annual number of deaths per 100,000 population (death rates).

The war metaphor has been all-pervasive for 40 years [8], however, so its origin is at least of passing interest [9]. In 1832, the Prussian military strategist (and former child soldier) von Clausewitz defined war as “an act of force to compel our enemy to do our will,” and as “the continuation of policy by other means.” He summarised war as a triad of violence, chance and “an instrument of policy [governed by] pure reason.” [10]

In 1996, 25 years after the National Cancer Act was signed, one former NCI director, commenting on the first decline in overall cancer mortality in the US, could even write [11]: “Happy birthday ‘War,’ you deserve a pat on the back. And you received a very nice birthday present.” Debates on whether the ‘war’ was being won or lost have often been summarised with the brevity of a military communiqué – we’re losing the war; we’re winning the war – leaving the protagonists camped in fortified positions, with little hope of dialogue. In the 1980s and 1990s, eminent epidemiologists such as Bailar and Smith [12,13] and Doll [14,15] argued diametrically opposed evaluations of progress in the ‘war against cancer’ from essentially the same mortality data. Like military reports, the communiqués have tended to focus on body counts, and they have often ignored a great deal of important information, such as the damage to human lives, as well as to the economy [16–19].

Clausewitz’s definition still seems adequate to describe military conflict, but it is hopelessly inadequate for public health policy for cancer control. The ‘war against cancer’ is not a military campaign in which the outcome is victory or defeat. ‘Victory’ against cancer can never be so clear-cut, as if it were a war that will be won if we are only prepared to devote enough technology or military force, as if it were the moon landing, or the wars in Iraq and Afghanistan. Rational cancer control policy does not require ‘continuation by

other means’: it is simply the relentless application of evidence and priorities to the deployment of available resources [20].

On the 40th anniversary of the National Cancer Act in 2011, NCI Director Dr Harold Varmus explicitly discarded the metaphor of war against cancer as inaccurate, “because cancer is a complex group of diseases arising from fundamental aspects of our biology” [21]. In discarding the metaphor of war, Varmus echoed the head of the new White House Office of National Drug Control Policy, Gil Kerlikowske, who had immediately called for an end to the ‘war on drugs’ on his appointment in 2009, saying that the bellicose metaphor was a barrier to dealing with the nation’s drug issues [22].

For both these men, charged with implementing US policy to control two major scourges of public health, the 40-year-old jargon of war is both inaccurate and counterproductive.

If politicians continue using the jaded metaphor of war against cancer, however, the public may come to see the ‘war’ as lost, because millions of people world-wide will continue to be diagnosed with cancer each year for the foreseeable future. Many of those patients will die from their disease. Death rates are falling in some developed countries, but the global number of deaths will rise, and it may not drop below the current figure of 8 million or so for decades to come, mainly because the world population is increasing and ageing. In many countries outside the USA, also, the risks of death at a given age are increasing, including from largely preventable cancers, such as those of lung and cervix. Politicians would be wiser to drop the simplistic military notions of winning and losing, and to focus on making progress against cancer, step by step [23,24], even if that seems less compelling as the message they send to their electorates via the media.

The media also have a responsibility. Front-page stories in the popular press on the latest breakthrough in cancer research reflect the huge public appetite for good news about a disease that is still so common, still widely feared, and still so often lethal. When such stories appear too frequently, however, the public may become cynical about progress. Reporters could cut the clichés and shun the hyperbole. They could ask instead what advantage the latest breakthrough might bring, how many years before a new treatment might be available, how many patients might be expected to benefit, and at what cost. A more nuanced approach to reporting progress against cancer might be more informative [25].

In 1971, the ‘military-industrial complex’ was joined in the lexicon by the ‘medical-industrial complex’ [26], defining the conglomerate of business agencies in the healthcare system of which the primary function is to make profits, not to provide health care. Like its military counterpart, the medical-industrial complex was soon accused, by Dr Arnold Relman, editor of the *New England Journal of Medicine*, of promoting over-use of its products and services, increasing the risk of conflicts of interest for practitioners, and exercising an undue influence on health policy [27].

The long-term impact of the medical-industrial complex has recently been summarised in an essay by the eminent physician Dr Bernard Lown [28], the 1985 Nobel peace laureate for his work on International Physicians for the Prevention of Nuclear War. In an uncanny echo of Eisenhower’s warning on the military-industrial complex, Lown offers a mediaeval parallel about the undue influence of corporate medical interests on national policy. He suggests that while the Renaissance led to an escape from the oppressive religion of the Dark Ages, a new, medical renaissance is needed today to escape the commercialisation of health care: “We need to free ourselves of a similarly oppressive belief system, the all-pervasive conviction that markets can regulate all human interactions. These beliefs are anchored in myth and propelled by self-interest. They have ceased to serve the public good. Central to a market society is the stimulation of wants and artificial needs. The result is the commoditisation of everything in sight... Doctoring has

not been spared. In health care the corporate sector has discovered the ideal commodity. Unlike other commodities, the consumer, qua patient, can never be sated. Every aspect in the human life cycle, every twist and turn in the aging process to the inevitable dissolution and death, every uncomfortable emotion, lends itself to medicalisation. The dysfunctionality of health care in the United States in no small measure relates to market dominance.”

One example of this influence is provided by a research programme on the availability and impact of cancer drugs. This research was funded and deployed by the pharmaceutical industry to support the notion that cancer survival bears a direct relationship to how quickly a given country licenses new cancer drugs for the market, and how widely the drugs are used [29]. The report used a new and incorrect method of calculating survival, including for 12 countries where the data did not exist, then correlated the national ‘survival’ of patients diagnosed in the early 1990s with the availability of drugs in 2002 (some of them not even licensed till the late 1990s) [30,31]. Despite these and other basic flaws, the report received wide and approving publicity [32] and was cited in parliamentary debate on policy about cancer treatment [30,33–35].

A more recent case study is provided by US President Obama’s policy to widen access to health insurance. The Affordable Health Care Act was challenged all the way to the Supreme Court by 26 of the 50 states, and the health insurance lobby, ostensibly on constitutional grounds [36,37]. It is a shocking fact that only the failure of that legal challenge will now enable health insurance to be offered to 30 million people who have none, in the richest country on earth, currently spending 16% of its gross domestic product on health.

Examples of inappropriate corporate influence on health policy and the provision of health care can be found in many countries [38]. Relman was right: we may need to learn to live with the medical-industrial complex, but knowing it is there may help protect society from some of its worst excesses.

‘War on cancer’ is a simplistic metaphor that has long outlived any use it ever had. Politicians and the media should stop using it.

Conflict of interest

The author declares no conflict of interest.

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