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CANCER THERAPY

Citi Screen Verses National Cancer Institute: Private Versus Public Screening

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Published Online: Sep 24, 2021

eBook: Cancer Therapy

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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Keywords: Breast cancer; Diagnosis screening; Management; Imaging; Targeted treatment; Radiation; Pathology; Individualized therapy.

Introduction

It is fifty years from the National Cancer Act (1971) which gave authority to the National Cancer Institute to create new programs to screen for and treat cancer. Almost all American presidents promised to “launch a new effort to cure cancer in our time”. Richard Nixon invoked his “men on the moon achievement” as a basis for his promise to cure cancer.

On January 21, 1971, addressing Congress, President Nixon declared, “the same... effort that split the atom and took man to the moon should be turned toward conquering this dreaded disease”. Alas, cancer today remains the second cause of death in industrialized countries. Among world leaders, cancer remains the second most common cause of death after cardiovascular diseases [1]. The list of cancer victims includes F. Mitterrand (France), Ronald Reagan (survived colon cancer), Shah Pahlavi (Iran), Georges Pompidou (France), Y Chavez (Venezuela), Fernando Lugo (Paraguay), Lula Da Silva (Brazil), Vaclav Havel (Czech Republic) to name a few.

Many cancers grow slowly, allowing for the opportunity of early detection. The earlier the stage the better the outcome. Five-year survival of stage one ovarian cancer is 95% while for

stage four, it is 5%. Cancer screening programs are most deficient in healthcare. Most screening programs are executed by general practitioners and family physicians who lack proper training and are busy treating other conditions. Specialists in oncology and cancer centers are usually busy with treating cancers and are not involved with screening healthy populations.

The National Cancer Institute (NCI) oversees 71 cancer centers located in 36 states and the District of Columbia. The NCI funds these centers to conduct research and provide treatment regimens. Most of the NCI-designated cancer centers are affiliated with medical schools; though some are freestanding cancer-only centers. U.S. Preventative Services Task Force (USPSTF) is a volunteer panel of experts in disease prevention and evidence-based medicine. USPSTF reviews each topic every 5 years to upgrade, change or reaffirm their recommendations. Although not a direct government agency, USPSTF is cost-conscious, and its recommendations are usually accepted by major insurance companies in the matter of coverage for procedures and services. For example, USPSTF recommends that adults aged 45 to 75 be screened for colorectal cancer. What about patients younger than 45 or older than 75? A similar situation is with screening for prostate cancer. USPSTF is using a

Citation: Petrikovsky B, (2021). Citi Screen Verses National Cancer Institute: Private Versus Public Screening. Cancer Therapy, MedDocs Publishers. Vol. 4, Chapter 3, pp. 19-20.



grading system for its guidelines. Grade A- substantial benefits of screening, grade B- moderate benefits, grade C- very small benefits for selected individuals, grade D- no clear benefits and potential harm, and finally statement I- not enough research data to draw a conclusion. In summary, despite obvious benefits (evidence-based medicine guidelines) public/ government systems have obvious drawbacks:

1. An update every 5 years does not allow it to adjust to new development in the field which appear daily.
2. Introducing cost-effectiveness essential for public use exclude a certain category of people (e.g., over 75) who are interested and can afford screening.
3. Many of the current modalities are Grade C and D and although not useful for the broad population, may be useful and well accepted by a group of highly motivated and well-informed individuals (e.g., total body MRI).

Citi Screen was created to address those deficiencies and to allow motivated individuals a choice to be directed by government bureaucracy or private screening opportunities.

Citi Screen put together a fragmented screening system by creating screening algorithms for the following cancers: lung, ovary, breast, prostate, cervix, thyroid, colorectal, pancreas, and skin, among others. The use of individual screening algorithms, which combine ultrasound, MRI, CT imaging, genetic and tumor markers, as well as other technologies, allows us to detect cancer or its precursor lesions at an early stage. Screening starts with obtaining family, personal, and social history as well as demographics for the identification of risk factors for various cancers. All of this information is entered into a newly created cancer screening computer program, which produces screening recommendations for each individual [2].

Citi screen steps of cancer screening

- Screening for risk factors (healthy individuals at risk).
- Genetic predisposition for specific cancers (blood or saliva test).
- Screening for cancer precursors, e.g., complex endometrial hyperplasia for endometrial cancer.
- Blood screening for early stage cancers. (tumor markers).
- Advantages of Citi Screen over other private screening programs, e.g., EZRA are as follows:
- While EZRA concentrates its screening efforts on one modality, full-body screens, Citi Screen algorithm combines genetics, biochemical markers, imaging technologies which greatly expands screening capabilities.
- Not all patients benefit from radiological screening only: total body screen is not risk-free.
- Citi Screen tailors screening methods to the individual risks of the patients.
- Finally, the Citi Screen algorithm is constantly updated based on changing patients' circumstances (age, new cases in the family, changes in living habits, etc.) and new advances in the science of cancer screening. Citi Screen research group is constantly searching and assessing new scientific reports in cancer screening [3,4].

The best example of screening failure in medicine today is the detection of lung cancer in women.

The most common type of lung cancer in women is adenocarcinoma. In men, it is squamous cell carcinoma, which produces more symptoms and is easier to detect. More than two-thirds of nonsmokers with lung cancer are women, and most of them have adenocarcinoma. Women smokers are more likely than men who smoke to develop small cell lung cancer, a form that spreads fast and has the poorest prognosis [5].

Among persons born in the mid-1960s, prevalence rates of lung cancer have become significantly higher among young women than among young men [6]. A study of computed tomographic screening for lung cancer showed that the prevalence of lung cancer among women was nearly twice as high as that among men of similar age and with similar smoking habits, which raises the possibility that lung cancer progresses more slowly in women [7].

Despite this evidence, screening rates for lung cancer in women remain low. Secondly, there is a discrepancy in screening guidelines:

The American Cancer Society recommends annual lung cancer screening for persons aged 55 to 74 years who are in good health, have at least a 30 pack-year smoking history, and currently smoke or have quit within the past 15 years [8]. The American Academy of Family Physicians has concluded that the evidence is insufficient to recommend for or against screening for lung cancer in persons based on age and smoking history [9]. Citi Screen lung cancer screening program incorporates new data on the high prevalence of the disease in women and allows for an individually tailored comprehensive approach. In conclusion, Citi Screen is the first private comprehensive cancer screening program whose only goal is to maximize the early detection of various malignancies.

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