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# Innovative Nursing Approaches to Addressing Food Insecurity in Communities: Comprehensive Review

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**Abstract**

**Background:** Food insecurity significantly impacts cancer patients, exacerbating their health challenges and complicating treatment. Defined as the lack of consistent access to nutritious food, food insecurity affects a substantial portion of cancer patients in the United States. Nurses are uniquely positioned to address this issue by implementing innovative strategies within healthcare settings to improve nutritional access and support overall patient well-being.

**Methods:** This comprehensive review analyzes existing literature and programs aimed at mitigating food insecurity among cancer patients. The study explores various nursing interventions and community-based initiatives, utilizing a critical interpretive synthesis to evaluate their effectiveness.

**Results:** The review revealed that food insecurity correlates with poorer health outcomes, increased healthcare costs, and reduced treatment efficacy. Successful interventions included medically tailored food pantries and patient navigation programs that connect patients to nutritional resources. Despite the promise of these initiatives, barriers such as funding limitations and insufficient screening practices hinder broader implementation.

**Conclusion:** Addressing food insecurity in cancer care requires a multifaceted approach that includes nursing leadership, community collaboration, and policy advocacy. By integrating food access assessments into cancer treatment protocols, healthcare providers can enhance patient support and outcomes. Future efforts should focus on expanding these initiatives, ensuring that food security is recognized as a critical component of comprehensive cancer care.

**Keywords:** Food Insecurity, Cancer Care, Nursing Interventions, Patient Support, Community Programs.

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## 1. Introduction

A cancer diagnosis may be a distressing event that significantly disrupts professional and familial responsibilities. Concerns over the procurement of sufficient sustenance for oneself and one's family should not dominate a patient's thoughts. Food insecurity is prevalent among cancer patients in the United States. It is essential to clarify that food insecurity, defined as the absence of consistent access to nutritious and safe foods in sufficient quantities for a healthy and active life, is a condition rather than an inherent characteristic (1,2). Food insecurity might differ in terms of length and how patients encounter diminished capacity to acquire nutritious meals or have restricted access. Individuals may endure chronic food insecurity, characterized by prolonged inability to get nutritional and safe foods, or may suffer episodic or temporary food insecurity (3).

The COVID-19 epidemic revealed extensive queues at food banks and pantries nationwide, elevating food poverty to a prominent position in public awareness. Food insecurity has persisted in the United States for several years, with over 10% of families indicating food insecurity in 2020 (4). Food insecurity estimates among cancer patients range from 17% to 55% (2). Within the realm of cancer, food insecurity is a significant, yet underappreciated, health-related social risk factor. In persons with cancer, factors such as female gender, Hispanic ethnicity, younger age, unemployment, and lower family income correlate with food insecurity, reflecting inequities seen in the general population (5-8).

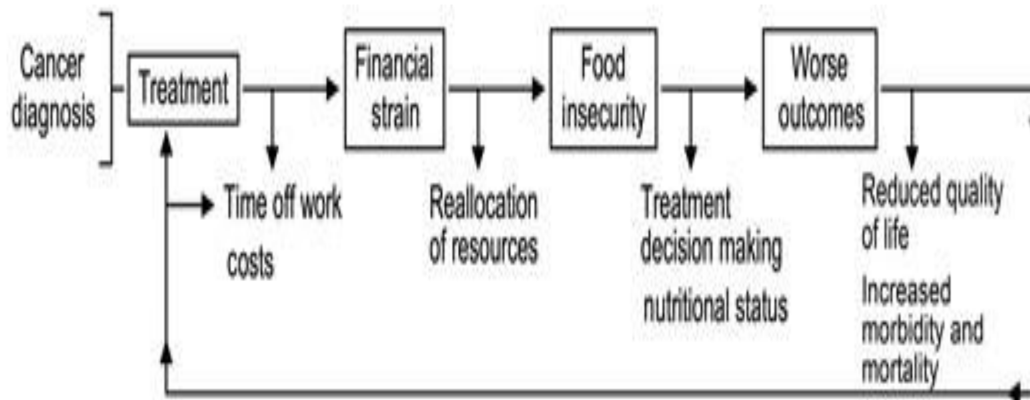
Cancer care and treatment jeopardizes the financial stability of several families, since both direct (e.g., medical expenses) and indirect (e.g., travel) expenditures may impose significant burdens on patients (9). Costly medical treatment, caregiving obligations—whether compensated or not—and the forfeiture of work or insurance benefits may impose financial burden and divert resources from family food expenditures. For individuals experiencing food poverty, a cancer diagnosis may intensify financial hardship and worsen budget deficits, possibly plunging families into a lasting condition of economic distress (10). Even for those with insurance coverage, accessing benefits systems may be a perplexing and protracted procedure, resulting in episodes of significant financial distress (11). A cancer diagnosis not only affects patients directly but also has a cascading impact on families, as caregivers dedicate time and money to assist their loved ones. This article examines food insecurity within cancer care, evaluates existing mitigation strategies, and presents a call to action for addressing food poverty in this setting.

## 2. The Influence of Food Insecurity on Cancer-Related Outcomes

Food insecurity may stem from cancer treatment and its effects on family finances; nevertheless, it also predicts worse clinical results (12,13), possibly increasing healthcare expenses and prolonging the resumption of regular activities (Figure 1). Food insecurity among the general population is a subject of continuous investigation; nevertheless, the correlation between household food insecurity and the health and well-being of cancer patients and their families remains poorly understood.

Food insecurity in oncology. Framework delineating food insecurity in relation to cancer and its associated upstream and downstream components. This generic depiction of the process transpires within a wider socio-environmental framework that encompasses psychological elements, healthcare accessibility, comorbidities, and other considerations.

**Figure 1.** Food Insecurity in Cancer. Framework delineating food insecurity in relation to cancer and its associated upstream and downstream components. This generic depiction of the process transpires within a wider socio-environmental framework that encompasses psychological elements, healthcare accessibility, comorbidities, and other considerations.




Ensuring sufficient nutrition is essential for the efficacy of cancer treatment (14). Food insecurity during and post-cancer treatment may compromise therapeutic objectives and treatment efficacy, while also exacerbating the challenges associated with alleviating the adverse effects of many cancer therapies. Standard medications induce hunger suppression, alterations in olfactory and gustatory perception, nausea, vomiting, diarrhea, and challenges in mastication and deglutition, significantly disrupting and perhaps exacerbating dietary habits, resulting in unintentional weight loss (15-18). Adapting to changes in preferences and symptoms necessitates adaptability in food procurement and preparation, which is challenging amid food shortage.

Food poverty has several adverse behavioral and social implications pertinent to cancer treatment, including diminished adherence to therapy, impaired cognitive ability for intricate decision-making and planning, and restricted access to survival and self-care services (19,21). Food insecurity is associated with mental health disorders such as stress, anxiety, depression, and suicidal ideation, in addition to negative physical health outcomes that often co-occur with cancer, including obesity, hypertension, cardiovascular disease, and type 2 diabetes. Given that several individuals impacted by cancer have heightened susceptibility to this and other ailments, initiatives aimed at mitigating food poverty and ensuring patients maintain proper nutrition across the cancer treatment continuum are crucial (22).

Figure 1 presents a conceptual framework of food insecurity within cancer treatment, consistent with prior models examining comprehensive financial damage related to disease (9,23). Longitudinal study is essential to enhance our comprehension of the specific points in the cancer care continuum when food poverty is most prevalent and its interaction with patient outcomes. This information would enable us to construct comprehensive frameworks of the pathways contributing to food insecurity in cancer patients. Moreover, comprehensive prospective research designs are essential to ascertain the long-term effects of food insecurity alleviation initiatives; this would facilitate future program formulation and the establishment of best practices to combat food insecurity.

## 3. Efforts to Mitigate Food Insecurity

Addressing food insecurity for individuals with cancer and their families is essential due to the intricate demands encountered throughout treatment and survival. The National Academies of Sciences, Engineering, and Medicine (NASEM) 5 A's social care framework delineates strategies for alleviating the detrimental health impacts of health-related social risk factors, such as food insecurity: awareness (integrated workflows for identifying social barriers within a patient population), adjustment (modification of care models to reduce the impact of social barriers on health), assistance (direct or indirect provision of resources to tackle social barriers), alignment (connection and investment in existing community assets to

address social barriers), and advocacy (promotion of policies to reform the infrastructure that permits social barriers to obstruct healthcare access) (24).

Encouragingly, some comprehensive programs aimed at mitigating food insecurity among cancer patients, aligned with the NASEM model, have been established via nonprofit, community, and hospital efforts. Three exemplary initiatives include the Food to Overcome Outcomes Disparities (FOOD) program at Memorial Sloan Kettering Cancer Center, Feed1st at the University of Chicago, and the Center for Food Equity in Medicine, a community-oriented nonprofit organization. We outline the inspiration, programming, and preliminary results of these efforts below.

## 4. Culinary Solutions to Address Outcome Disparities

The Immigrant Health and Cancer Disparities Service (IHCD) at Memorial Sloan Kettering Cancer Center found that 56% to 70% of patients in New York City safety net institutions and 18% to 30% of patients at comprehensive cancer facilities experience food insecurity (5,25). Community emergency food services often fail to satisfy the needs of these patients due to limited operating hours, paperwork prerequisites that may marginalize undocumented immigrants, insufficient meal quantities, and a scarcity of nutritional and appetizing food choices (26). To meet this need and bridge existing gaps, IHCD initiated FOOD, a network of medically specialized food pantries, with cancer nutrition education and food navigators, integrated inside 15 safety net and comprehensive cancer center clinics around the Greater New York metropolitan region (27).

Patients are evaluated for food insecurity and recommended by physicians and social workers; FOOD personnel also engage with patients in waiting areas to tell them about the program. The food pantries provide a bag of medically adapted foodstuffs sufficient for 5 lunches and 5 meals for one individual, with selections depending on the patients' culinary preferences (27). During program enrollment, FOOD patient navigators assess other critical needs, including financial aid, housing, transportation, prescription payment support, and immigration or other legal requirements. Navigators direct these patients to IHCD's comprehensive multidisciplinary patient navigation program, the Integrated Cancer Care Access Network, which may connect them with community-based and other services to meet key requirements (28).

Throughout the COVID-19 pandemic, the predominant worry among Integrated Cancer Care Access Network patients was food accessibility (59%), while the most sought-after resource was food (70%). Enrollment in meals increased by around 40%, and the program adapted to include meal delivery to mitigate patients' exposure to the virus. A randomized controlled trial comparing FOOD interventions (clinic pantry versus monthly food voucher plus pantry versus grocery delivery plus pantry) revealed statistically significant improvements in food security scores (29) across all three intervention groups at six months of study enrollment compared to baseline (30). Memorial Sloan Kettering Cancer Center's experience with FOOD illustrates those diverse strategies, customized to the patient demographic and their nutritional requirements during their cancer treatment, administered via the cancer clinic, may enhance food security for at-risk patients (30).

## 5. Obstacles in Alleviating Food Insecurity Among Cancer Patients

Despite the commendable and vital efforts of these groups, food insecurity programs are likely to fail in addressing the substantial number of patients in need without extensive governmental actions and corresponding financial resources. Community-based initiatives that address food access deficiencies not covered by healthcare systems are mostly financed via contributions and temporary grants requiring reapplication (31). Consequently, programs may be executed for limited durations to showcase a quick return on investment. Funding priorities fluctuate intermittently, hence affecting organizations' capacity to maintain and expand their initiatives. In this context, healthcare partners may have difficulties in establishing and sustaining referral procedures that connect patients requiring assistance to community agencies addressing food poverty (32-34).

The absence of screening for food insecurity in oncology environments significantly hinders the development of effective mitigation strategies, since patients experiencing or at risk of food poverty often

remain unrecognized. Universal screening enables clinicians to tackle food poverty in their practice by promoting enrollment in federal assistance programs, provide information on local food banks, and facilitating referrals to social workers. Universal screening must be conducted with social and cultural sensitivity. While the majority of adult patients, including those with cancer, studied in primary care settings deem it appropriate to screen for food hardship and associated social risk factors, food insecurity is recognized as stigmatizing, raising legitimate concerns over potentially harmful unintended effects (35).

Upon screening, there may be insufficient infrastructure to link or refer patients to the comprehensive services needed by those facing food hardship and cancer. Cancer and its therapies often result in metabolic abnormalities, food-related symptoms (e.g., appetite changes, nausea), and malnutrition, underscoring the need for diet quality and nutritional advice during and post-treatment. Moreover, post-treatment, enhanced dietary quality is associated with increased survival rates in breast, colorectal, and several other malignancies (36). Access to competent dietitians is not widespread, and professional guidance may be only moderately beneficial, or possibly detrimental if patients lack the financial resources to get sufficient food and implement suggestions.

A further challenge hindering the implementation of food poverty alleviation initiatives at cancer centers may be a reluctance to accept the "food is medicine" paradigm (37). The concept of food as medicine reframes food insecurity from a solely societal concern to a manageable component of human health, acknowledging nutritious consumption as a vital element of cancer therapy (38). Clinicians include food access assessment and therapy in the comprehensive care of patients. This change in viewpoint may need significant research investment, personnel training, and ongoing support from healthcare institutions. Neglecting food insecurity and other socioeconomic determinants of health compromises individual cancer therapy and contradicts the fundamental aim of cancer centers to prevent, detect, and cure cancer. While multicomponent strategies to alleviate food insecurity may not apply to all healthcare systems managing cancer patients, larger institutions can serve as models for assessing and addressing food insecurity, which can subsequently be tailored and expanded to various contexts.

## 6. A Request for Engagement

Programs approved by the National Cancer Institute (NCI) have a unique obligation to provide the utmost standards of cancer treatment. We recommend that NCI-designated programs develop and execute effective multicomponent, community-focused strategic plans to mitigate food insecurity among their varied patient groups and those treated at affiliated hospitals and local clinics. The NCI Community Oncology Research Program, a nationwide network focused on cancer clinical trials and care delivery, might be extended to include initiatives that tackle socioeconomic determinants of health, including food poverty. We urge institutions to deliberately comprehend the whole array of options accessible to patients beyond their communities—beyond those adjacent to the hospital's operational base—and to establish mechanisms for screening and connecting patients to services. Cancer centers may provide financial support to community groups that are already delivering relevant services. We suggest a symbiotic partnership in which community groups integrate their local networks and contacts with the cancer center's expertise in patient medical requirements and referrals. The primary objective is to facilitate the enhancement of care and reconceptualize food access as an integral component of the cancer treatment strategy.

## 7. Consciousness

Limited information exists about the progression of food insecurity from diagnosis to survival. Comprehending the food security status of people and demographic patterns may enable more precise referrals, interventions, and programs for cancer populations. By instituting standardized, universal food insecurity assessments and electronic medical record documentation across the continuum of care, clinicians and researchers can monitor and address food insecurity during cancer treatment, thereby enhancing comprehension of its impact on patient outcomes and treatment choices (39). The advantages of evaluation must be weighed against the potential for stigma. In high-need environments, support may be extended to all patients, rather than only to those identified as food insecure. Previous studies indicate that

around fifty percent of patients who get information on food and other community resources during medical visits disseminate this knowledge to others (40-42). Systematic documenting of food insecurity evaluations may facilitate automatic referrals to programs and assist healthcare systems in identifying individuals with significant needs. Analyzing the food insecurity evaluation inside the NCI's All of Us Research Program would provide prospective, longitudinal data to comprehend food insecurity as a cancer risk factor in a varied national population (43).

## 8. Modification

Most healthcare organizations must modify their standard clinical procedures to include the evaluation and mitigation of patient-centered social obstacles. The first patient intake is often conducted by a nurse or medical assistant, using online registration forms or a mix thereof. To enhance the probability of recognizing and effectively addressing food adversity while reducing patient stigma, healthcare staff training must include knowledge of food insecurity and legitimate, patient-centered intervention strategies. Intervention may include providing dependable, high-quality referrals to resources within the healthcare system and the patient's community, including community health professionals. Social workers are essential and specifically educated to help individuals enroll in government-funded assistance programs, like the Supplemental Nutrition Assistance Program and school breakfast and lunch initiatives, to foster sustained support.

Clinical personnel, such as cancer navigators, community health workers, nurses, nutritionists, social workers, and child-life specialists, along with medical staff including students and residents, must be educated in a biopsychosocial model of patient care and, within their designated roles, guarantee the fulfillment of patients' fundamental nutritional requirements. By understanding the NASEM notion of adjustment, physicians may evaluate how medical advice may need modification in light of food poverty. Furthermore, professionals assisting cancer survivors should persist in conducting food insecurity assessments and making recommendations for patients beyond the conclusion of treatment. The cancer experience persists after the completion of treatment; comprehensive survivorship guides with wellness protocols and resources are crucial for the healing process and event-free survival (44).

## 9. Promotion of a cause or proposal

Food insecurity is not an unavoidable consequence of the financial hardship associated with cancer. The NASEM social care framework (24) urges institutional leadership to promote policies aimed at preventing food poverty for patients and their families across the cancer treatment continuum. Healthcare institutions possess a robust framework and resources to include community groups tackling food poverty in discussions, such as by including members on community advisory or other stakeholder boards. Major hospitals with government relations teams may significantly contribute to the advocacy of federal and local food security measures.

Mitigating food poverty in cancer patients necessitates a nationwide initiative that broadens eligibility criteria for current benefits programs and establishes avenues for food-related treatments to be reimbursable by health insurance policies. Most food access initiatives for those with cancer are being maintained by charity funding. Alternatively, or in conjunction with these investments, insurance or health system payment for food access programs may be seen as a way to maintain healthcare-based food security efforts. Pathways might be established to allow food access groups to invoice Medicare, Medicaid, and private insurance for culturally appropriate nutritional counseling services and food delivery. Certain Medicaid systems are testing the provision of food and nutrition services for participants, including California's Medi-Cal plan and Kentucky's and New Jersey's WellCare plan.

Cancer care organizations should consider these five strategies—standardized and patient-centered screening, enhanced care coordination, direct food assistance, sustainable community partnerships, and advocacy for food security initiatives—as effective methods to mitigate food insecurity among their clientele (45, 46). These strategies are formulated considering the framework and assets of NCI-designated programs, which act as exemplars and pioneers in the progression of cancer care nationwide. NCI-

designated cancer centers might enhance their influence on food insecurity prevention and mitigation by intentional outreach and engagement with the NCI Community Oncology Research Program. A significant number of cancer patients do not get treatment in major medical facilities. These methodologies are pertinent to both extensive academic and community cancer care environments and may function as benchmarks for developing locally relevant solutions (47, 48).

## 10. Conclusion

In the present healthcare system, cancer treatment often results in significant disruptions to both physical health and financial security. Numerous patients experience worries not just over their illness but also about the adequacy of meals throughout active treatment and survival. NCI-designated cancer centers, as national authorities in cancer prevention and control, possess the platform and resources to tackle food poverty among cancer patients. Dependence on governmental and non-governmental groups to address this problem is inadequate and diverts attention from the obligation of healthcare institutions and insurers to enhance patient outcomes and provide well-coordinated and equitable treatment (49).

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**النهج التمريضية المبتكرة لمعالجة انعدام الأمن الغذائي في المجتمعات: مراجعة شاملة**

**الملخص**

**الخلفية** :يؤثر انعدام الأمن الغذائي بشكل كبير على مرضى السرطان، مما يزيد من تحدياتهم الصحية ويعقد العلاج. ويُعرف انعدام الأمن الغذائي بعدم القدرة على الوصول المستمر إلى الغذاء المغذي، وهو أمر يعاني منه جزء كبير من مرضى السرطان في الولايات المتحدة. ويتميز الممرضون بموقع فريد يمكّنهم من معالجة هذه المشكلة من خلال تنفيذ استراتيجيات مبتكرة داخل المؤسسات الصحية لتحسين الوصول إلى الغذاء ودعم رفاه المرضى بشكل عام.

**المنهجية** :تحلل هذه المراجعة الشاملة الأدبيات الحالية والبرامج التي تهدف إلى الحد من انعدام الأمن الغذائي بين مرضى السرطان. تستكشف الدراسة التدخلات التمريضية المختلفة والمبادرات المجتمعية، باستخدام التحليل التفسيري النقدي لتقييم فعاليتها.

**النتائج** :كشفت المراجعة عن ارتباط انعدام الأمن الغذائي بنتائج صحية أضعف، وزيادة تكاليف الرعاية الصحية، وانخفاض فعالية العلاج. وشملت التدخلات الناجحة إنشاء مخازن غذائية مصممة طبيًا وبرامج توجيه المرضى التي تربطهم بالموارد الغذائية. على الرغم من الوعد الذي تقدمه هذه المبادرات، إلا أن عقبات مثل محدودية التمويل والممارسات غير الكافية لتحديد الحالات تعيق تنفيذها على نطاق واسع.
**الخاتمة** :يتطلب معالجة انعدام الأمن الغذائي في رعاية السرطان نهجًا متعدد الأوجه يشمل القيادة التمريضية، والتعاون المجتمعي، والمناصرة السياسية. من خلال دمج تقييمات الوصول إلى الغذاء ضمن بروتوكولات علاج السرطان، يمكن لمقدمي الرعاية الصحية تحسين دعم المرضى ونتائجهم. يجب أن تركز الجهود المستقبلية على توسيع هذه المبادرات لضمان الاعتراف بالأمن الغذائي كعنصر أساسي في رعاية مرضى السرطان الشاملة.

**الكلمات المفتاحية** :انعدام الأمن الغذائي، رعاية السرطان، التدخلات التمريضية، دعم المرضى، البرامج المجتمعية.