Community-Based Oncology Nursing: Current Status and Prospects – A Secondary Publication

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Abstract: Objective: Currently, it is difficult to determine whether a comprehensive and systematic community-based cancer care project is properly implemented. The purpose of this article is to present the current status and prospects of community-based oncology nursing by reviewing related literature. Methods: A new cancer care model was established through the analysis of existing models and a literature review of community-based cancer prevention, cancer screening, cancer survivor care, and cancer patient hospice care. Results: The Comprehensive Cancer Care Model (CCCM) was established. The CCCM organizes the stages of cancer treatment and the cancer journey on the horizontal axis. On the vertical axis, public health centers, oncology hospitals, cancer convalescent hospitals, primary care physicians, and prayer centers were involved. The levels of participation of human resources among institutions and the degree of interconnection between organizations was observed. Conclusion: It is expected that CCCM will be used for holistic, sustainable, and cost-effective cancer management. In community-based oncology nursing, the team of health promotion nurses in public health centers is in charge of population-based cancer prevention and early detection programs, while the visiting health management team of nurses is in charge of individual-based cancer survivor and hospice programs.

Keywords: Care model; Community; Oncology nursing

1. Introduction

According to statistics from the Korean National Cancer Information Center in December 2021, the total number of cancer cases in 2019 was 254,718 with an incidence rate of 496.2, which was higher than the incidence rate of 428.3 in 2015. The five-year survival rate of cancer patients in Korea is 70.7%. There are a total of 2,147,503 people living with cancer, with a prevalence rate of 1 in every 8 elderly individuals aged 65 and over. Meanwhile, in 2021, a total of 82,688 people died from cancer, accounting for 26.0% of all cancer deaths [1]. In the United Kingdom, the lifetime risk of developing cancer is 50%. As the incidence of cancer constantly increases due to the everchanging lifestyle, environmental factors, and aging, the 10-year survival rate increased from one-quarter to one-half since the 1970s [2].

The prevention, early detection, and systematic management of cancer is crucial. To date, this approach has evolved into highly technical and disease-centered diagnosis and treatment. For a long time, the role of primary
health care in cancer was often perceived as largely peripheral. However, the importance of primary health care in cancer prevention, early detection, survival, and care of patients with terminal cancer has been emphasized in recent years. This was carried out by shifting treatment perspectives from being disease-centered to human-centered, taking into account not only patient preferences and convenience but also the patient’s overall well-being.

The primary support for cancer patients in Glasgow is case management based on the Improving the Cancer Journey (ICJ) service. A social worker, employed by the city council, visits every newly diagnosed cancer patient to develop a personalized care plan to help them stay on track with the disease. The service has supported over 4,000 cancer patients, with over 220 referrals made to organizations for housing support, financial support, complementary and legal services, and exercise classes. Studies have shown a decrease in cancer patients’ anxiety scores after ICJ. In Saskatchewan, oncologists and oncology nurses utilized standardized and individualized care plans for cancer patients based on the Survivorship Care Program (SCP). This program was formalized and implemented statewide to improve patient survival rates. Cancer patients’ perceptions of survival have also improved significantly since the introduction of SCP. Korea has a total of 258 public health centers established in each city, county, and district to prevent, treat, and are the centerpiece of primary health care. Community nurses who work in public health centers, schools, and industries, account for about 20% of all nurses in Korea. The widespread promotion of primary health care and the number of community-centered health organizations are expected to increase. Korea’s cancer management is centered on the National Cancer Center by the Ministry of Health and Welfare. Implementation of cancer screening centers and cancer patients’ medical expenses are supported and covered by public health centers and home cancer patient management. The project was carried out by public health centers, community medical institutions (regional cancer centers, cancer survivor integration, and support centers, hospice palliative care centers, etc.), regional cancer centers, cancer survivor integration and support centers, and hospice palliative care organizations. Health centers that provide primary health care across the country help cover the cost of home-based cancer treatment where visiting nurses provide physical and psychological care to cancer survivors at their own homes. However, most healthcare centers are focused on implementing rehabilitation programs for the elderly population to prevent frailty and facilitate disease management. This poses a problem for the younger generation of cancer patients.

In such situations, community care extends beyond rehabilitation to provide cancer prevention, early detection, diagnosis, treatment, recovery/survivorship care, hospice, and the implementation of community-based cancer care projects. This is to systematically plan and implement community-based cancer management projects according to the patient’s cancer journey, and to enhance the cancer patient management model. This paper reviewed the literature on community-based cancer prevention, early cancer detection, home cancer patient care, and hospice care for cancer patients to propose new prospects for community-based cancer care.

2. Cancer patient care model

Oeffinger and McCabe found that most cancer survivors were not admitted to large cancer centers or university hospitals to receive treatment but instead received their cancer care in outpatient settings in the community, working with oncologists and primary care providers. Hence, more health centers based on the community-based cancer care model that involve oncologists and primary care providers are needed. The cancer care model in medicine is defined as a shared-care model whereas in nursing, it is defined as a collaborative care model. Medical treatment is limited to the domain of doctors. “Treatment” care is usually correlated
within the domain of professional medicine practitioners, whereas “care” can involve non-professionals as well. Hence, in this paper, the term “care” is used directly and referred to as a shared-care model.

In a community-based shared care model (Figure 1A), primary care physicians usually refer suspected cancer patients to an oncologist, and the oncologist refers the patient back to the primary care physician after one to two years of treatment. Primary care providers ensure the physical and emotional needs of cancer patients are met and facilitate referrals back to their oncologists when problems arise. The SCP covers the patient’s cancer status, treatment summary, list of potential late-life symptoms, and the latest treatment recommendations. The oncology nurse practitioner is the liaison between the oncologist and primary care physician and can follow up with cancer survivors annually or at regular intervals [7]. Oeffinger and McCabe [7] advocated a community-based shared care model, which facilitates the collaboration between oncologists and primary care physicians, i.e., tertiary care providers, and primary, and secondary care providers. However, this model does not involve shared care with public health staff, such as community health centers.

Another model of shared care within a large cancer center or academic hospital is the long-term follow-up (LTFU) program (Figure 1B). This program was designed for pediatric tumor survivors who need up to 10–20 years of care after treatment. This program requires pediatric oncologists, oncology nurse practitioners, social workers, psychologists, and other specialists in the field to follow up with the survivors annually, with a focus on monitoring for cancer recurrence, surveillance for late symptoms, including secondary cancers, and prioritizing health maintenance. Education and counseling are also provided [7]. However, LTFUs are not sustainable without financial support, hence it is difficult to ensure sustainability. Many hospitals have cancer survivorship programs catered to specific diseases that address health issues such as lymphedema, body image changes, depression, weight gain, and heart diseases. The Seoul National University refers patients with stomach and breast cancer who are 4–5 years post-treatment to the Cancer Health Promotion Center, where a family medicine specialist provides follow-ups. The center provides comprehensive care, including secondary cancer screening, chronic management, lifestyle guidance, and vaccination. It was reported that this measure was effective and appropriate for cancer survivor management.

Another example of a shared care model within a large cancer center or academic hospital is the Nurse Practitioner-Led Integrated Cancer Survivorship Care Program (Figure 1C). In the United States, oncologists refer cancer survivors to survivorship nurses 1–2 years after completing treatment. With the help of a group of oncologists, services, and aftercare are provided for survivors. 5 years after treatment completion, the patient is referred to a community primary care physician [7]. A systematic review showed that this program usually began after treatment completion and was typically carried out over six months. Patient assessment, clinical problem management, education, individualized treatment, and supported self-management were provided. Cancer survivors who received personalized care had significantly higher cognitive and social functioning domains and better quality of life as compared to survivors who did not [10]. Oncologist nurses play an important role in the development, implementation, and evaluation of cancer survivorship programs. Organizations can fulfill this role as they have access to a variety of tools to measure the nurses’ performance. Through this, the quality of care provided is ensured to meet the unique needs and concerns of cancer survivors. In addition, collaboration across disciplines can be facilitated to ensure better patient-centered care [11].
Figure 1. Models for delivering survivorship care. (A) Community-based shared-care model; (B) Multidisciplinary long-term follow-up program; (C) Nurse practitioner-led shared-care model. The solid line connotes primary responsibility; dashed line connotes secondary responsibility. Abbreviations: CA, cancer; DX, diagnosis; Off RX, completion of cancer therapy; PCP, primary care physician; Onc, oncology team; LTFU, long-term follow-up program; NP, oncology nurse practitioner.

To effectively operate a comprehensive healthcare system for cancer patients, health centers need to plan and carry out cancer prevention and early detection programs for the local population as well as treatment for cancer patients in the community. Since 1999, Korean public health centers have been providing basic nursing care, symptomatic, pain, and specialty care for cancer patients, patients undergoing treatment, and patients with terminal cancer and homebound cancer patients. Home cancer patient management projects have been conducted through the utilization of community resources. However, this program mainly targets vulnerable populations with low income. This creates a gap in the service as it does not cover other cancer patients that do not fall under these criteria. In 2006, the program targeted more than 5,000 low-income and vulnerable cancer patients and increased to 12,000 in 2007. However, since 2009, the program has shifted its focus to catering personalized treatment and care for the elderly. This has greatly limited the scope of services provided for homebound cancer patients.

In particular, health centers are equipped with specialized healthcare personnel and can provide integrated nursing care for cancer patients. They can conduct systematic cancer prevention and early detection strategies, including education and promotion projects, and provide various health checkups and medical treatment. This allows nurses to understand the health status of cancer survivors so that those at high risk for recurrence or secondary cancer can be referred to the correct division. Such patients are usually referred to tertiary care centers while low-risk patients are referred to primary care. Care can also be provided for cancer survivors in socioeconomic disadvantaged populations. Meanwhile, the Ministry of Health and Social Welfare can establish an organic with integrated support centers operated regionally, including support centers operated by health and welfare branches, as well as towns operating at the basic local government.
level. Services provided by the New Health and Welfare Center, Dementia Relief Center, Smoking Cessation Clinic, Alcohol Counseling Center, Addiction Management Integrated Support Center, and multicultural family support center can also be connected to meet the complex needs of cancer survivors.

Once diagnosed, patients may receive primary care at a major hospital, such as a teaching hospital or cancer center, and then transition to home care or nursing home to recover and prepare for their next treatment. Community primary care physicians who are unable to share information with oncologists are often not involved in the management of cancer patients. Recently, a patient referral system has been established between major hospitals and local primary or secondary care physicians. Patient information regarding chemotherapy side effects, complication management, and post-operative wound care, and psychological supportive care can be shared between these organizations to provide the best patient care [14]. As the current staffing and capacity of community cancer centers is limited, these centers must be equipped with the proper medical device and infrastructure. Furthermore, a specialized regional and national cancer management system involving several chains of health centers can be established to provide comprehensive cancer care for patients.

However, the designation of regional cancer centers is limited to a few national university hospitals. It is crucial that cancer centers in large private healthcare organizations engage themselves in this system and actively contribute to the cause. A public-private healthcare system should also be established to address these challenges [15].

Despite continuous treatment, patients who are medically diagnosed with terminal cancer are expected to die within a few months. Hospice is a program of care for patients diagnosed with terminal cancer where palliative care is provided. Specialized care for cancer patients near the end of life is crucial. Hospice services can be inpatient, consultative, or home-based. Individuals admitted to the hospital with terminal cancer may be eligible for inpatient and consultative hospice services [6]. In Korea, cancer patients who have given up on treatment and are unable to recover may choose to live in prayer centers or nursing homes.

Based on the above data, we have proposed a Comprehensive Cancer Care Model (CCCM) (Figure 2). As described by Oeffinger and McCabe [7], cancer treatment on the horizontal axis includes early diagnosis, treatment, and prevention. Treatment on the vertical Axis includes institutions that treat cancer (university hospitals, cancer centers), cancer Nursing hospitals, primary care physicians, health centers, nursing homes/convalescent homes, and local cancer survivorship. Supportive care centers, hospice organizations and medical practitioners are also connected to non-professionals to a certain degree. Oncology nurse practitioners and health center outreach nurses can exchange standardized and relevant information to ensure coordinated cancer care in the hospital and community.

3. Community-based cancer prevention

According to Article 4 of the Cancer Control Act, the national and local governments are obligated to implement necessary cancer management, including early detection of cancer. The Secretary of Health and Human Services should implement cancer prevention programs to reduce the risk and occurrence of cancer.

The main components of the cancer prevention program include the development and dissemination of evidence-based cancer prevention guidelines, cancer prevention awareness, and practices. It is in charge of implementing and monitoring projects [6]. Municipal cancer prevention programs have been proven effective in preventing cancer, hence the public healthcare organization of each local government needs to actively facilitate such projects. However, prefectural cancer prevention is not emphasized in the current cancer prevention program but is included in the integrated health promotion program. Community health survey and
organizational arrangements should be conducted to implement a systematic plan for the early detection of cancer.

![Diagram of Comprehensive Cancer Care Model (CCCM)](image)

**Figure 2.** Comprehensive cancer care model [CCCM]. Solid line connotes primary responsibility; dashed line connotes secondary responsibility. Abbreviations: H-CNS, hospice clinical nurse specialist; O-CNS, oncology clinical nurse specialist.

A survey was conducted on university students to assess their adherence to the Top 10 National Cancer Prevention Guidelines. An average score of 33.10 out of 50 points was obtained, indicating a relatively poor adherence level of 66 out of 100 points. One of the criteria included in the guidelines was “Practicing safe sexual behavior to prevent sexually transmitted infections,” which received the highest average score of 4.36 points, seemingly reflecting the typical characteristics of undergraduates. Scores of other guidelines are as follows: “Safety tips to reduce exposure to carcinogens” = 36 points, “Smoking cessation” = 3.46, “Consuming vegetables and fruits” = 3.26, “Eating less salt” = 3.25, “Exercising at least 5 times a week for 30 minutes daily” = 3.06, “Avoiding alcohol” = 2.96, “Maintaining a healthy weight, receiving Hepatitis B vaccination and hysteroscopy” = 2.90, “Following guidelines for early cancer screening” = 2.62.

To evaluate the impact of the European Code against Cancer (ECAC), 8,171 adults in eight European countries were surveyed online. 21% of Hungarians, 16% of Poles, 15% of Portuguese, 13% of Spanish, 10% of Irish, 7% of Finns, and 2% of UK residents reported having heard of the ECAC before. However, the overall awareness of the public of ECAC is low, despite over 30 years of promotion. Experts have reported that in Europe, the ECAC focuses on policy development rather than communicating directly with the public. In Korea, surveys should be conducted on the citizens’ awareness of the Top 10 National Cancer Prevention Guidelines and establish policies based on the results.

The 12 European Cancer Prevention Recommendations include not smoking at home or work and avoiding sun exposure, especially for children. If radon levels are high, radiation exposure is investigated with concern for women health to limit hormone replacement therapy as a treatment.

Hepatitis and human papillomavirus (HPV) vaccines are important as they can prevent cancer. Korea has been offering free HPV vaccination to female adolescents aged 12–13 years old since June 2016. However, only 47.8% of those born in 2003, 43.7% of 2004-born, and 14.5% of 2005-born children had been
vaccinated as of January 2018, and the HPV vaccination rates in Korea are low as compared to other countries. Factors that influence HPV vaccination include education, the subject’s immunization status, the healthcare provider’s recommendation, and the purpose of HPV vaccination. Accurate information about the safety and effectiveness of vaccines should be strongly advertised to increase vaccination rates.

Healthcare organizations, with the help of experts in the field, have developed cancer-type risk reduction programs, including HPV vaccination, organizations, and sorority houses. These organizations work with cancer communities, including schools and survivors, to deliver programs targeting specific cancer types like colorectal and breast cancer. Examples include community-funded breast cancer prevention programs to increase mammogram screening for breast cancer. Although these programs are community-based, their development has been primarily focused on the medical field. They are institutionally driven and often funded by endowments, which can be problematic in terms of sustainability.

4. Community-based cancer screening

Korea’s national cancer screening program is conducted through public health centers by the National Health Insurance Corporation and is provided free of charge to those eligible. In addition, there is almost no cost burden with the support of health insurance. However, the annual cancer screening in 2021 for six major cancers: stomach, liver, colon, breast, cervix, and lung was only 55.1%. In Australia, the federal and state governments have partnered with the National Bowel Cancer Screening and Breast Screen Australia to establish an organized, systematic, and comprehensive screening program for signs or precancerous conditions in an asymptomatic population. It aims to improve the chances of survival through early detection of cancer. Similar to Korea, adults aged 50–74 years old should undergo a fecal occult blood test and mammograms for women. In a major trial, breast cancer mortality was reduced by up to 28%, and participants in colorectal cancer screening had less advanced cancer at the time of diagnosis and higher survival rates. This program was widely publicized, accessible, and cost-effective, yet from 2014 to 2015, only 39% of eligible individuals completed colorectal cancer screening, and 54% of eligible women completed breast cancer screening. Therefore, finding evidence-based interventions to promote cancer screening is a challenge. At the same time, lower socioeconomic groups are at higher risk of developing cancer and are less likely to participate in screening.

ASWAS, a community-based comprehensive total breast cancer screening program in Kerala, India, was implemented between 2011 and 2014 with the cooperation between the local mammography center, district health service (DHS), and state-owned tertiary cancer centers (TCCs). The locals were first sensitized through workshops and convening with the village leaders. Experts from tertiary cancer centers will then train the health center supervisors on how to screen for oral, breast, and cervical cancer. 100–150 women volunteered. Suspected breast cancer cases were identified and the volunteers were trained to identify the symptoms. Trained volunteers visited every home and interviewed women to identify those with preliminary symptoms and referred them to the camp for further testing. A total of 8,200 community members volunteered and visited a total of 1,049,410 women in 81 villages in the province. 93% of volunteers followed the symptom risk factor screening checklist and 81% were reported to have symptoms ($n = 5353$), which then attended the cancer camp. As a result, a total of 23 breast cancer cases were identified.

A home-based health intervention delivered by a female community health volunteer (FCHV) in Nepal, is a program that improves cervical cancer screening through home-based health education. Cervical cancer screening rates among women in Nepal are relatively low at 2.8% (25–64 years), 1.5% (15–49 years), and 5.4% (30–65 years). Therefore, there is a need for an appropriate, cost-effective, and sustainable cervical cancer
screening program. The World Health Organization (WHO) recommends an inexpensive test for cervical cancer screening programs, namely visual inspection of the cervix with acetic acid (VIA), which was included in The National Guide for Cervical Cancer Prevention and Screening in Nepal. The FCVH has been working in the community-based public health sector for more than 25 years. VIA screening was widely utilized to educate women and encourage their participation in cervical cancer screening, with hopes to ultimately reduce cervical cancer mortality in Nepal. FCHV volunteers received three days of training and were assigned several households for visitation and provided a 12-month home-based health education package to eligible women to ensure that they received free VIA screenings. Female community leaders were also trained through the Cancer Screening Navigator Program. The results of this program have shown a significant improvement in breast and cervical cancer screening rates.\[23]\.

Pharmacies are the most visited healthcare service in Australia where 94% of adults in the state visit a pharmacy every year. An Australian Quality Care Pharmacy Program suggested that community pharmacies should provide health promotion activities to residents. Community pharmacies are one of the most effective environments for promoting cancer screening. A study has found that encouragement from pharmacists to screen for bowel and breast cancer appeared to have significant potential. This is especially true for low-income populations who are at high risk for cancer but are less likely to participate in screening.\[20]\.

5. Managing cancer patients in the community

In Korea, the Cancer Care Act requires the Secretary of Health and Human Services to provide home-based treatment to cancer patients, including pain management, palliative care, nursing and counseling services, and educational programs by health centers and community health organizations, cancer survivorship integration centers, hospice, and palliative care organizations. In addition, the project included integrated health promotion in community health centers and also provided support for cancer patients and their families in the community.\[6]\ Health center-integrated promotion teams can work with local cancer centers to help cancer survivors in quitting smoking and drinking. Physical rehabilitation, nutritional, and oral health services were also provided to prevent secondary cancers and promote overall patient well-being. Hospice palliative care was provided for patients with terminal cancer along with pain management in collaboration with specialty organizations. This aims to minimize the patient’s suffering when nearing the end of life. However, the integrated health promotion project is a population-based project, hence it is difficult to provide individualized services for cancer patients. As previously outlined in the CCCM, the integrated health promotion team will be responsible for population-based cancer prevention and early detection, while the home health care team will provide patient-based services that address post-tumor symptoms, psychological issues, and recovery.

To provide better care for homebound cancer patients, it is important to first understand the challenges and issues posed. These patients are most likely to report symptoms of fatigue, pain, loss of appetite, distress, sadness, sleep disturbances, dry mouth, etc.\[24,25]\ Based on these findings, systematic and specific interventions for home cancer patient care that are currently described as centered on pain management and personalized nursing services need to be revised and supplemented to better address these symptoms.

Homebound cancer patients often experience physical, psychological, and social challenges. Therefore, integrated health promotion programs ought to implement integrated interventions\[9]\ such as the Integrated Arbitration Program,\[20]\ Good Life Cancer Survivorship (GLCS) program,\[27]\ and others. Integrated interventions developed in Korea are primarily funded through research papers or theses, and the program was not sustainable once the primary research was completed. GLCS is a community-based survivorship care model developed by community-based Carrington Health and hospital-based Eastern Health Oncology to complement existing hospital-
Based oncology rehabilitation programs. Based on existing knowledge, infrastructure, and information systems, GLCS encourages cancer survivors to refer to allied health care in their local community health settings. GLCS was designed for survivors who were ready to engage in a self-management program provided by Carrington Health’s allied health services. The benefits of physical activity in oncology rehabilitation are widely recognized and are especially important for breast cancer patients. Musanti [28] summarized a leading community cancer athletic program for cancer survivors, including McKenzie’s Dragon Boat Racing Teams, the Young Men’s Christian Association (YMCA’s) Livestrong movement, and the Foundation for Life (CFFL), a nonprofit cancer foundation. Fitsteps for Life (FSFL) was also developed by the Center Foundation for Life CFFL. Interestingly, dragon boat racing teams have used boating exercises to reduce the progression of lymphedema disability.

The YMCA’s Livestrong movement is a 12-week program that is carried out twice a week with 75-minute sessions, led by specially trained instructors. This program was supported by the YMCA and is free to cancer survivors. FSFL is a program that helps patients with any type of cancer, comorbidities, and disabilities. Individualized, supervised exercise and nutritional guidance were provided for free. Cancer survivors who consistently participated in these exercise programs have been shown to experience less fatigue, improved quality of life, and had a greater sense of well-being, including a reduced risk of breast and colon cancer. Exercise provides opportunities for people with the same problems to socialize without barriers and is beneficial if done consistently. The National Health Service (NHS), Clinical Commissioning Groups, and Macmillan Cancer Support offer a variety of tailored and supervised exercise programs. These programs are usually free but have a predetermined duration or time limit. For example, Cancer United (based in West Sussex, UK), a program of the registered cancer support charity organization, developed CU Fitter, a fee-based, cancer-specific exercise program with no restrictions on the duration of participation [29]. Through pairing with instructors who are familiar with the participants, these exercise programs can be motivating. Cancer-specific exercise programs are often considered enjoyable and effective for women diagnosed with breast cancer but speak otherwise for other cancer survivors. Curves is a women-only circuit training facility with multiple locations across North America that provides support unrelated to cancer treatment, which may be attractive to some breast cancer survivors [30].

An online community is defined as a virtual social space where people gather to provide information or support, learn, and socialize. Cancer survivors and caregivers can also provide peer support through the Internet, social media, and online health communities. Launched in 2000, the American Cancer Society’s Cancer Survivors Network (CSN) is an online peer support community designed to provide cancer survivors and their families with experience-based knowledge and social connections. According to our survey of user experience, the most popular site features were discussion boards (81.1%), search functions (63.8%), and member resource libraries (50.2%). It has been beneficial for patients with rare cancers and can be used by people who are homebound, staying far from treatment centers, or dealing with sensitive matters such as sexual dysfunction [31].

Breast cancer survivor online communities were explored to understand the community characteristics and usage frequency [32], whereby 111 websites were assessed, with 65.8% having a broad focus (health, cancer, or general), and 34.2% being breast cancer-specific. 85.7% of users include site managers, employees, and community members, with 8 sites overseen by health professionals.

6. Community-based hospice for cancer patients

Individuals with advanced terminal cancer and irreversible conditions require treatment with the support of hospice palliative care. The law requires the Secretary of Health and Human Services to develop and disseminate guidelines for hospices to manage the symptoms and pain of these patients. This can be carried out by establishing and operating inpatient, consultative, and home-based hospices. It involves policy development
and dissemination of a specific hospice type, and the strengthening of public relations [6]. The National Cancer Center was designated as the central hospice center to carry out systematic hospice and palliative care projects. They shall research the status, diagnosis, treatment, and care of terminally ill patients in the assigned region [7]. General hospitals that meet the criteria set by the Ministry of Health and Welfare are designated as regional hospice centers. Medical institutions with certain facilities and personnel that meet the criteria are also designated to provide palliative care services. As of April 2021, there were 86 inpatient hospice agencies, 11 nursing home hospice agencies, 39 home-based hospice agencies, 33 consultative hospice organizations, and 9 pediatric palliative care organizations. With this, cancer patients can be referred and connected to home-based hospice organizations to receive specialized hospice care according to their needs.

The Cancer Survivor Integration Support Project is composed of the Central Cancer Survivor Integration Support Center and 13 regional cancer survivor support centers but does not specify the regional cancer survivor integration support organizations responsible for providing actual services. The hospice business has designated several specialized hospice organizations in each region to provide services to people in need. To ensure an efficient and systematic cancer survivor support project, existing cancer centers in large private medical institutions have established regional cancer survivor integrated support centers as well [15]. The government aims to improve the efficient use of healthcare resources and the quality of life of home-based cancer patients. Chronic shortages and frequent turnover of home health care workers, lack of experience with cancer patients, and patient preferences for hospitals make it difficult to provide specialized end-of-life care. To address this, regional hospice centers and health centers can work together to provide more specialized services to terminal cancer patients. The most important aspect is to connect terminal cancer patients from tertiary care centers to local palliative care providers and their homes to receive individualized care and ensure that they have access to sufficient medical and hospice services.

Hospice care has provided emotional support in 95.1% of patient visits, followed by health counseling (22.9%), community liaison (22.1%), wound care (21.1%), health counseling (22.9%), fluid therapy (17.3%), community linkages (16.9%), and wound care (12.1%). Volunteers served as companions in 86.6% of visits, with other services such as information provision (71.3%), family counseling (21.3%), back massage therapy (16.2%), and foot massage (13.0%). Out of a score of 5, the overall satisfaction with the provider’s trustworthiness and professional demeanor was 5, and satisfaction with the overall service was 4.45. Satisfaction with the cost of free care was 4.85, satisfaction with the emotional support provided to the patient’s family was 4.80, satisfaction with the patient’s condition or care was 4.81, satisfaction with explanations about the patient’s condition was 4.75, and satisfaction with providing information and supporting decision-making 4.60.

The NHS in the United Kingdom is working to increase access to palliative care for people with advanced cancer. In a retrospective cancer registry of 2,474 patients who died of cancer between 2010 and 2012, 64.6% of all patients received palliative care with an average of 2 contacts over 6 weeks. Patients with long-term illnesses or those who experienced a health-related event during treatment were more likely to receive palliative care. Patients aged over 80 who were diagnosed with lung cancer and prescribed narcotic pain medication but did not receive chemotherapy were significantly less likely to receive palliative care [34]. These patients should be included in assessments to determine if they require palliative care.

7. Conclusion and recommendations

This paper reviewed the current hospital-centered approach to cancer patient care and community-based cancer prevention. The literature on early cancer screening, home cancer care, and hospice care for cancer patients
was reviewed and a CCCM was proposed based on the review results. The CCCM is depicted on the horizontal axis, including the cancer journey, health centers, cancer specialty hospitals, cancer care centers, primary care physicians, nursing homes, and convalescent centers, which contribute to the workforce in cancer care. This model describes a population-based cancer care model in community health centers and an individual-based cancer care model for cancer survivors. Based on our findings, we have a few recommendations.

Firstly, the validation of the comprehensive cancer management model constructed in this study was presented. The efficient coordination of information exchange among key personnel in each institution at each time is important for efficient and systematic cancer management. Therefore, further research is needed to specify the content and extent of the linkage and to verify its feasibility.

Secondly, there is a need to support comprehensive cancer care and implement collaboration across boundaries. Comprehensive cancer care involves hospitals and public health care (health centers), cancer specialty hospitals (universities, cancer centers), and primary care physicians. This involves the participation of cancer care professionals (physicians, nurses, medical social workers, etc.) and those working in the scope of cancer care (doctors, nurses, medical social workers, etc.). Relevant organizations and personnel play an important role in cancer care so it is important to triage patients according to their risk and allocate resources appropriately.

Thirdly, the systematization of community-based oncology care is recommended. Integrated health promotion team nurses should play a responsible role in population-based cancer prevention and early detection programs. Existing initiatives can be leveraged to implement the National Cancer Prevention Top 10 guidelines, improve hepatitis and HPV vaccination rates, and develop cost-effective and sustainable evidence-based cancer prevention programs. To improve screening rates for the nation’s six deadliest cancers, the organization has launched a new program, such as using community health volunteers to promote awareness and improve screening rates. Health center outreach nurses should actively engage in patient-based cancer survivorship care initiatives. Appropriate and sustainable evidence-based cancer survivorship care protocols and programs should be developed and implemented, along with collaboration with relevant organizations. For the management of patients with terminal cancer, close relationships with hospice organizations should be formed to provide them with the best care.

Fourth, the role of nurses in oncology care needs to be expanded. Oncology nurses are the liaisons between cancer care centers and cancer treatment centers. Health centers and primary care providers play an important role post-treatment. Oncology nurses should assess the cancer survivor’s condition, and based on their risk level, assign them to the relevant organizations or centers. Nurses can also prepare to take on the role of a case manager thereafter.

Lastly, to revitalize the cancer survivor integration support project, we are currently transitioning from a system with only 13 regional cancer survivor support centers to a system that includes 10 regional hospice centers and a dozen regional hospice agencies, to provide increased and better services. We also recommend designating a regional cancer survivor integration support organization. Efficient and systematic cancer survivor integration and advocacy programs should be implemented for the treatment and integrated support of cancer patients. Existing cancer centers can also act as regional cancer survivorship centers to provide practical support to cancer survivors.

**Disclosure statement**

The author declares no conflict of interest.
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