

Research Article

# Cancer Patient Treatment at Home and Applying Scientific technology in Medical Field - A Case at Bai chay Hospital, Quang Ninh

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## Abstract

El-Kass et al (2021) stated Cancer is the leading cause of death in economically developed countries and is a threat to human lives. Cancer and chemotherapy side effects may affect the daily activity of cancer patients and their families on many levels confronted by changes in health status and lifestyles, leading to impaired self-care efficacy. Bai Chay Hospital in Quang Ninh province has been a pioneer in applying technology in medical services. Hospitals increase IT application, move towards paperless hospitals, and at the same time improve operating capacity and modernize. Our study shows that Home care service for cancer patients who want palliative care after cancer treatment or terminal cancer patients has been developed in big cities in Vietnam in order to solve one important thing is the psychological problem, when treating at home and reducing waiting time for cancer patients at hospitals.

**Keywords:** Bai Chay hospital; Quang Ninh; cancer patient; treatment at home; scientific technology

## Introduction

Bai Chay Hospital has received and deployed many advanced and modern techniques to accurately diagnose diseases and treat many diseases with endoscopic interventional methods without open surgery, bringing effective treatment and optimal solutions for the patient. The smart medical model has been deployed by Quang Ninh province since 2017. Up to now, the province has had 3 smart hospitals, including: Provincial General Hospital, Bai Chay Hospital, Quang Ninh Obstetrics and Children's Hospital.

## Research questions

Question 1: Present previous relevant studies?

Question 2: What are technology applications in medical and treatment solution at home for cancer patients?

Next we analyze related studies in below table:

<i>Authors</i>	<i>Year</i>	<i>Content, results</i>
DTN Huy	2015	Risk management issued needed to discuss, confirmed by (TTB Hang et al, 2020; TTH Ha et al, 2019).
Kang et al	2020	Seemingly routine cancer clinic appointments can actually be quite complex, with the average oncology appointment entailing 6.9 discrete stops within the same building
Cinar et al	2020	The usage of telehealth appointments in oncology has risen rapidly since March 2020, and recent society guidelines now suggest several strategies for decreasing the frequency of cancer therapy infusions.
Warrington et al	2019	Electronic systems have the potential to help patients manage side effects of cancer treatment, with some evidence to suggest a positive effect on patient-centered outcomes. However, comparison across studies is difficult due to the wide range of assessment tools used. There is a need to develop guidelines for assessing and reporting engagement with systems, and a set of core outcomes for evaluation.
DTN Huy, TH Le, NT Hang, S Gwoździwicz, ND Trung, P Van Tuan	2021	We can apply machine learning in various sectors including medical. This is confirmed by (VQ Nam et al, 2021; HV Thuc et al, 2020).
VT Binh, DTN Huy	2021	Patient treatment at home will offer extra services to them and help very much and this confirmed by (PM Dat, DTN Huy, 2021; PTB Ngoc et al, 2021).
DT Tinh et al	2021	There are meanings in education as well and this confirmed by (NT Hoa et al, 2021; N ThiHoa, NT Hang, NT Giang, DTN Huy, 2021; DTN Huy, PN Van, NTT Ha, 2021; DTN Huy et al, 2021; N Thi Hang et al, 2021; PN Tram et al, 2021).
HT Hanh et al	2020	FDI investment in such fields accounted
El-Kass et al	2021	Concerning the duration of illness, 44.5% of studied patients started complaining of symptoms of cancer for about two years, and more than one-third of them, 69.3%, started chemotherapy more than one year ago. More than half of the studied patients, 55.3%, had poor knowledge about cancer, side effects of chemotherapy, how to manage these side effects, and level of self-care efficacy. The majority of studied subjects, 87.3%, had a financial burden, and nearly two-thirds of patients, 61.3%, need reassurance to cope with illness. There was high statistical significance between self-care efficacy and daily living activity. Regarding physical problem, the most affected systems were the gastrointestinal and the dermatological system. Also, the majority of patients were independent in walking, dressing, toileting, and feeding, but more than two-thirds of them needed assistance toward the ability to handle finance, shopping, housekeeping, food preparation, and travelling

(Source: Author synthesis)

**Table 1:** Summary of previous studies.

Beside, DTN Huy (2012) paid attention to risk management in such activities and confirmed by (PM Dat et al, 2020; TTH Ha et al, 2019). And Le, K., & Nguyen, M (2020) says it shown meanings in education. While NTT Phuong et al (2020) said banks should involve, this confirmed by (DTN Huy et al, 2021; Hac LD et al, 2021).

## Subject and Methodology

Place, time, research object and design

- Study Design: A cross-sectional descriptive study.
- Research subjects: Patients diagnosed with liver cancer are being treated at Cancer Center – Bai Chay Hospital - Quang Ninh province.
- Research period: from June 2019 to May 2020.

Data will be from real cases of Vietnam hospitals such as Bai Chay hospital in Quang Ninh, from their achievements over years in cancer treatment and recent investments, and method will be mainly qualitative analysis and inductive, explanatory and synthesis method used.

## Research Results

### *Cancer patient treatment at home*

Up to now, many cancer patients who have gone through specific treatment want care at home rather than in a crowded, crowded hospital environment. Stemming from this need, MedicViet Center has deployed a service to care for terminal cancer patients at home.

Depending on the patient's condition and requirements, doctors and nurses come to take care of them 1-2 times a week. Every time you go to the doctor, you will prescribe medicine for the patient. With common drugs, the team receives drugs from the pharmacy department and gives them to the patient. When the patient needs intravenous fluids, the nurse will come to take vital signs and advise the infusion according to the doctor's orders, which usually takes 2-3 hours.

In the case of a terminal cancer patient with a very large tumor recurrence, the primary duty of the nurse is to change the dressing, wash the wound, and instruct the patient to keep the wound free of infection. Or when a doctor visits a patient with long-term constipation, then the nurse comes to take care of stools or place a urinal. With complicated procedures that cannot be performed at home, the team will transfer the patient to the hospital.

Patients with advanced cancer often have pain. To control this pain there are times when morphine is used. This medicine is only available in hospitals, so if family members go out to buy it, they don't have it, so patients often suffer and manage the pain on their own.

(Source: medicviet.vn)

### *Cancer patient treatment at hospital*

We will refer to a case at Bai Chay hospital in Quang Ninh province.

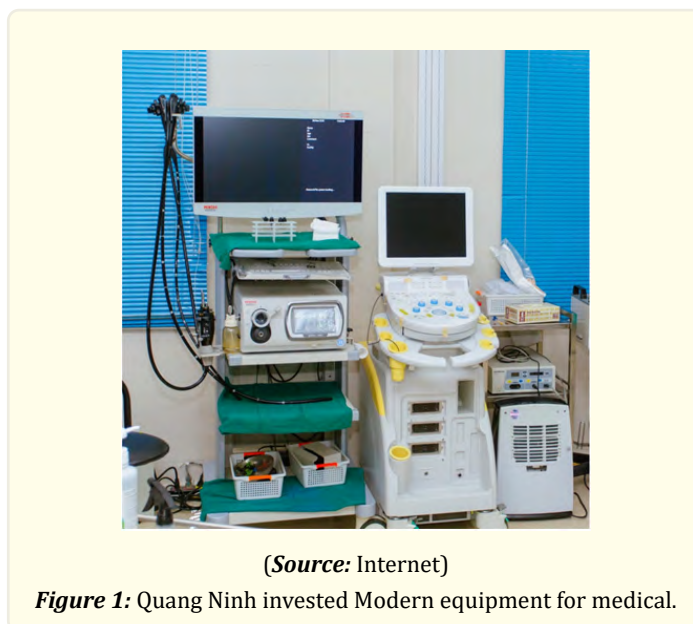
The application of science and technology (Science and Technology) to medical activities in order to improve the quality of medical examination and treatment and health care for the people is of particular interest to the Quang Ninh Health sector. As a result, Quang Ninh is considered as one of the leading localities in the country in this field.

Bai Chay hospital has applied Smart medical model

Pioneering the implementation of the project to build a smart hospital, Bai Chay Hospital applies smart medical examination cards with the goal of improving and shortening the medical examination and treatment process, providing high-quality medical services, guiding to patient satisfaction. In addition to not having to wait in line for medical examination registration and hospital fee payment, smart medical examination cards also help clinics to coordinate and stream patients, check and manage medical examination and treatment history on the Internet. software system, helping to control the patient's medical examination and treatment process conveniently, avoiding overload at peak hours. Patients can also look up the paraclinical results such as tests, ultrasounds, X-rays... to monitor their own health status easily on the hospital's website.

(Source: quangninhcdc.vn)

Next, Thanks to the application of IT, doctors and nurses solve their work faster and more conveniently, easily look up information, monitor the patient's condition after each visit, avoid confusion in treatment and prescriptions. The application of information technology (IT) at Bai Chay Hospital has been modernly and synchronously invested in accordance with the project of building a smart hospital since 2016. As a result, the medical treatment management process at the Hospital has been gradually improved. Automation with automatic barcode scanning system - smart kiosk, smart KCB card, KCB registration and online results; HIS hospital overall management software; PACS medical image storage and transmission software; software to store LIS test results... Applying IT in medical examination and treatment registration, hospital fee payment has brought practical benefits to patients such as: Saving time and effort in travelling; reduce procedures, healthcare papers..Therefore we emphasizes roles of construction also (DTN Huy, 2012).



Last but not least, Hung, N.T et al (2022) showed the quality of life of patients at levels of no effect, little influence, much influence and great influence all accounted for 25%.

## Conclusion

Crisp et al (2014) pointed Escalating cancer rates and an increase in the complexity and duration of chemotherapy regimens have brought the issue of cancer treatment at home to the forefront. For the participants of this study, home chemotherapy was offered as a potential treatment choice. Patients shared their experiences of receiving chemotherapy at home, and identified home as being a “natural habitat” in which they were better able to adapt to their circumstances. Patients were able to redistribute their resources including time, energy, and finances in ways that were meaningful to them. They felt the care provided was enhanced and they were more receptive to teaching.

On the other hand, Home care service for cancer patients who want palliative care after cancer treatment or terminal cancer patients has been developed in big cities in Vietnam in order to solve one important thing is the psychological problem, when treating at home and reducing waiting time for cancer patients at hospitals.



(Source: Internet)

**Figure 2:** Doctors in surgery at Quang Ninh hospital.

### Research limitation

Authors can expand study for women cancer treatment solutions.

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### Conflicts of interest

There is no conflict of interest.

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