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A Cross-sectional Survey of Public and Private Cancer Care in Nigeria and Romania

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Abstract

Background: The world is experiencing an increasing number of people with cancer. Cancer care is an important but expensive specialized care requiring continuing research and funding. Private and public participation are key areas of care. We explored key elements of patient care in two centers; Medisprof Cancer center, University of Calabar Teaching Hospital (UCTH).

Methods: This was a descriptive cross-sectional study. A researcher-assisted questionnaire was used to collect data, which was inputted and analysed using EpiInfo 7. Descriptive statistics were presented in tables and graphs.

Result: There was no statistically significant difference when all the responses in the areas of cancer care were compared for variance. Overall, 98% and 88% of patients were satisfied with services received at Medisprof and UCTH respectively. However, lack of communication between hospital departments and patients was reported in 5% at Medisprof and 64% at UCTH with 88% of the patients wanting to be better informed about the hospital services and availability. In Medisprof, on the other hand, only 5% of respondents undergoing diagnostic tests and imaging wanted to be better informed about the services.

Conclusion: Patient satisfaction and communication about services are integral parts of oncology patientcare. Effective oncology patient care can be achieved in both private and public hospitals with effective communication of services, proper navigation to the point of service stations and physician-patient communication.

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Introduction

Patient care is the most significant aspect of the health management process.

In oncology practice, it is even more important for caregivers to offer and implement timely interventions to forestall the sequelae of disease complications.

Healthcare has basically been provided by Government (Public) and Private sectors in various proportions depending on Health Systems Management, priority of government toward health and the operators of health finance management in various countries. The actual delivery and utilization of the healthcare services is of prime importance and best measure of the health systems.

The organized private sector has sustained and maintained the health status of many countries. Some studies have compared costs of cancer treatment between private and public hospitals. In a study in Iran, the indirect cost of breast cancer treatment was higher in public compared with private hospitals [1]. Cost of treatment was a measure drawback for patients attending private hospitals. In the contrary, a study by American Hospital Association reported that patients who have private insurance undergoing cancer surgery had higher insurance spending in NCI centers than in community hospitals, but with no difference in care utilization [2].

The burden on small physician-led private healthcare facilities in acquiring the necessary technology to achieving affordable high-quality outcomes, and maintaining a comfortable work-life balance, has led to a migration of these physicians to employment models. Notwithstanding, properly run private healthcare facilities provide quality care for patients. In New Zealand with publicly funded national health system providing free essential healthcare, 61.6% of cancer patients received care publicly [3]. In this study, patients who received private healthcare appear to have better survival from breast cancer compared to those who received public care.

Government contribution in healthcare spending needs to improve. In Nigeria, only about 3% of Gross Domestic Product (GDP) is spent on healthcare, and 64-90% of patients pay for cancer care 100% out of pocket [4][5] because a comprehensive cancer plan by government is yet to function. In Romania, private medical services are expensive due to prohibitive costs of the procedures and treatments; hence, patients need to have a contract with local insurer, Casa Nationala de Asigurari de Sanatate (CNAS).

Patients in search of satisfaction for their cancer care needs have tended to visit multiple institutions. It has been reported that one in six newly diagnosed patients with cancer receive care in multiple institutions, which has been noted to be more complete than having to remain in a single institution [6]. This makes private hospitals' contributions very apt. In a bid to provide focused care on patients with cancer, NHS hospitals also provide private care [7]. A new trend is evolving where many patients with cancer seek information on cancer supportive care through the internet. Health education, consultation, drug purchases and electronic health files are obtained online in a bid to overcome out-of-hospital challenges [8].

Both Nigeria and Romania have no national protocols/ standards for diagnostic and treatment in oncology services. However, most practitioners use Standard guidelines from European Society for Medical Oncology (ESMO) (www.esmo.org, American Society of Clinical Oncology (ASCO) www.asco.org, and National Comprehensive Cancer Network (NCCN) www.nccn.org).

A systematic review done in 2012 by Basu et al[9], did not support the private sector as being more efficient, accountable or more medically effective than the public sector. Our study objective was to assess some of the WHO thematic criteria used by Basu et al, in a questionnaire survey of patients with cancer in Medisprof Cancer Center, Cluj, Romania and the University of Calabar Teaching Hospital (UCTH), Calabar, Nigeria.

Methodology

We used a researcher-administered structured questionnaire to collect data, which we inputted in EpiInfo statistical package for analysis. This covered the period between 1 January 2022 and 28 February 2022 in UCTH and 3 January to 31 January 2022 at Medisprof. Inclusion criteria include patients newly diagnosed with cancer, those currently receiving treatment as well as patients living with cancer and beyond, who accepted recruitment. Excluded were all those who objected, and patients whose diagnoses or treatments were for other non-cancer related conditions.

Descriptive statistics were used to analyse data, which were presented in tables and graphs.

Study Setting

Medisprof Cancer Center is in Cluj County Romania. It has rendered private oncology services for the past eleven years. It offers ASCO certified quality services (QOPI® -practice.asco.org). Medisprof non- profit association organize ASCO & ASTRO (astro.org) licensed annual conference and training courses. The counties of origin of the patients are, in order - Cluj, Bistrita, Alba, Mures, an area of approximately 200 km around Cluj. There were 5690 new oncological patients from 1 January 2018 to 31 December 2020. However, from 3 January to 31 January 2022, 122 questionnaires were completed under the guidance and assistance of the medical secretaries' staff on the wards. Medisprof is visible online with 8% of patronage. All patients were navigated through an electronic medical records (EMR) system. The map in Figure 1 was created using data from Medisprof during the one month review. The websites used include GeoNames https://www.geonames.org, TomTom https://www.tomtom.com, and Microsoft Bing.com

The University of Calabar Teaching Hospital, Calabar, Nigeria is a tertiary hospital created in 1979, but it took over the structure of the St Margaret Hospital established in 1897 whose founding fathers came from the London School of Hygiene and Tropical Medicine. It completely moved to its permanent site in 2012. There are about 28 clinical departments working to achieve high standard of healthcare. UCTH has a memorandum of Understanding with a nearby private cancer center that has radiotherapy services. At the time of this survey, the hospital was setting up its EMR system. Only 12% of patients received paid services by National Health Insurance Scheme.

We assessed the following WHO health system themes through the questionnaire.

Access and responsiveness: availability, distance to hospital, timeliness of service and hospitality.

Quality of care: Medisprof offers Medical services according to European standards, its procedures and policies are according to European/American standards. UCTH has accreditation of almost all its professional clinical services. Training and staff updates are compulsory to improve diagnostic accuracy, and management standards. We did not apply the tools used by Basu et al. However, responses on improvement in care delivery, staff updates in service delivery, client retention, and patient overall satisfaction and willingness to recommend the hospital to friends allude to the quality of care.

Outcomes: treatment success rate was not accessed directly. The numbered of patients referred elsewhere was enquired instead.

Efficiency: this was measured by the delays.

Fairness and equity: We tested these by asking questions on cost, commensurate service, and whether they were well informed about the hospital services.

The study participants were referred to as respondents, clients or patients.

Sample Size

Using the proportion of patients who received cancer care publicly p as 0.6[3], applying sample size calculation for undefined population: $\{p\ (1-p)\}^2 \times z^2/d^2$; where z is value of standard normal distribution corresponding to 95% confidence interval and d is standard error of 0.05.

$(0.6 \times 0.4)^2 \times 1.96^2 / 0.05^2 = 88.5$

We took a sample size of at least 100 participants in each hospital for the survey.

This survey was not intended to be comparative study.

Ethical Consideration

Ethical exemptions were granted in each hospital.

Results

Table 1.

	Medisprof (n = 122)		UCTH (n = 100)		
Question	Yes (Percent)	No (Percent)	Yes (Percent)	No (Percent)	P value
Do you live in Cluj, or Calabar	47 (38.5)	75 (61.5)	70	30	0.232635
Does location of hospital affect your choice	4 (3)	118 (97)	81	19	
Would you prefer to live close to your hospital	65 (53)	57 (47)	81	19	
Were you well received at the reception	116 (95)	6 (5)	69	31	
Has hospital services improved over the last 1 year	120 (98)	2(2)	88	12	
Do staff go for update to improve service delivery	120 (98)	2 (2)	94	6	
Overall, are you satisfied with the services received	120 (98)	2 (2)	88	12	
Have you been a patient of this hospital in the past 2 years	62 (51)	60 (49)	81	19	
Would you recommend this hospital to your friends	122 (100)	122 (0)	95	5	
Were you referred elsewhere for services not available	2 (2)	120 (98)	12	88	
Did you experience undue delay before seeing doctor	10 (8)	112 (92)	48	52	
Did you have delay from paying for service to getting it	6 (5)	116 (95)	77	23	
Was there a lack of communication that affected you	6 (5)	116 (95)	64	36	
Did you wish to have been better informed about services	6 (5)	116 (95)	88	12	
Are your services paid by health insurance or NGO	122 (100)	122 (0)	12	88	
Are the charges affordable	NA	NA	65	35	
Are the charges commensurate with service received	NA	NA	73	27	

Note. *These were responses of a questionnaire. The questions had a 'yes' or 'no' response. One hundred and twenty two (122) patients were interviewed in Medisprof and 100 in UCTH. In Medisprof questions on charges were not applicable (NA). Analysis of variation (ANOVA) of all the responses gave a p value of 0.232635.*

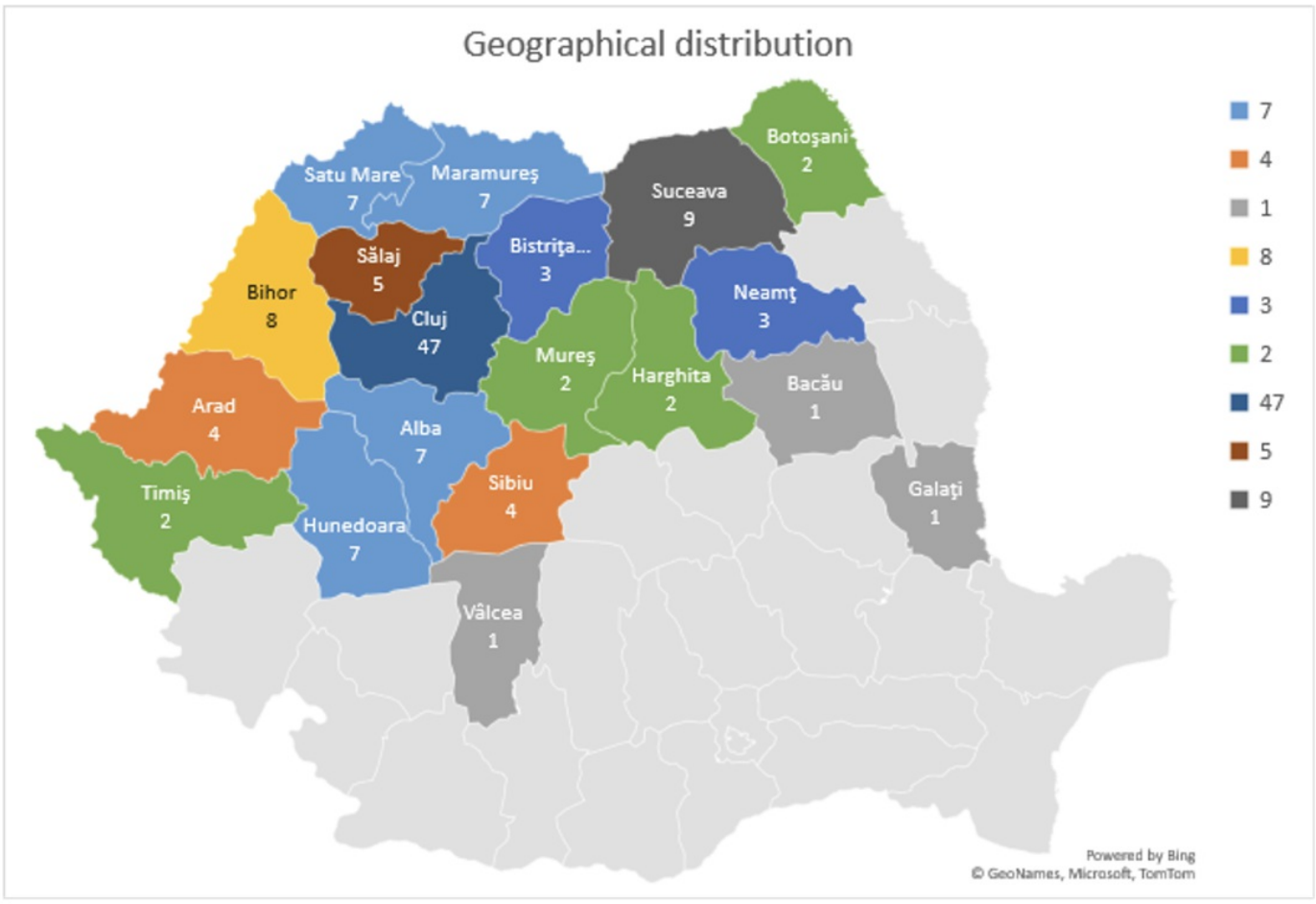

Figure 1. Geographical location of patients seen at Medisprof Cancer Center, Cluj. There were 122 patients: 47 in Cluj, and others around. Lorena Pojar generated the map using Microsoft, GeoNames and TomTom websites.

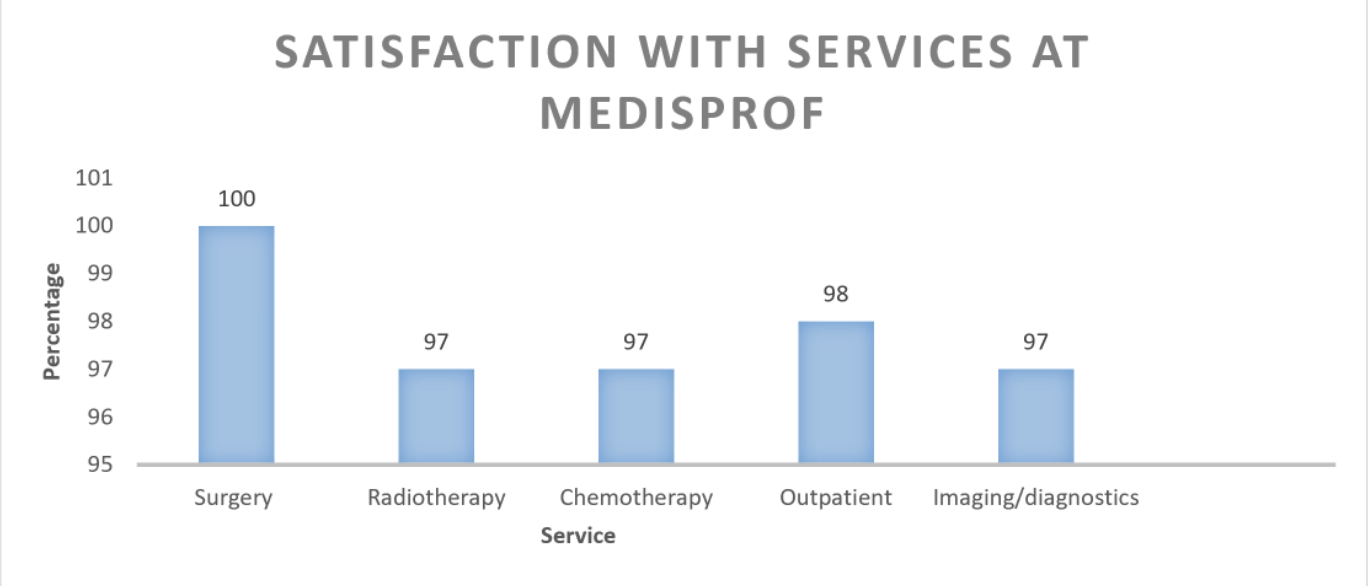

Figure 2. Satisfaction with service in percentage provided at Medisprof Cancer Center, Cluj. This was in response to a questionnaire in the various services provided.

Access and responsiveness: Both hospitals offer 24-hour services to their clients. In Medisprof, Romania, 47 of 122 (38.5%) of the patients were located in Cluj county while 61.5% came from bordering counties, Northeast region and far countries. The spread of patronage is represented in the map (Figure 1). In UCTH, 70% of the patients lived in Calabar.

In Medisprof, hospital location did not affect choice in 3% of the patients, however, 53% of the patients preferred to live close to the hospital. In UCTH, 81% of the patients responded that location affected their choice of hospital, and they preferred to live close to their hospital.

In terms of hospitality, 95% of the clients in Medisprof said that they were well received at the reception, as against 69% at UCTH.

Waiting times from presentation to initial evaluation, tests or treatment varied depending on the service. However, this survey did not include waiting times.

Quality of care: In Medisprof, 98% of clients said that the hospital had improved its services over the last one year, as against 88% in UCTH. In addition, 98% of clients in Medisprof, and 94% in UCTH affirmed that staff do updates in their service delivery. Overall satisfaction for services received was 98% in Medisprof and 88% in UCTH. Medisprof was able to retain 51% of the clients over the last 2 years, as against 81% in UCTH. All the clients (100%) in Medisprof and 95% in UCTH would recommend the hospital to their friends. In Figure 2, Medisprof patients' satisfaction was 100% with surgeries, 98% with outpatient services, 97% with radiotherapy, chemotherapy as well as imaging and diagnostics.

Outcomes: Only 2% of patients at Medisprof were referred elsewhere for services not available in the center. At UCTH, 12% of the patients were referred elsewhere.

Efficiency: In Medisprof delays before seeing a doctor, and delays from paying for service to actually receiving the service was reported by 8% and 5% respectively. In UCTH however, it was reported in 48% and 77% respectively.

Fairness and equity: In Medisprof, only 5% of respondents complained about not having prior information about services they received, this was the same number that wished to have been better informed. In UCTH, lack of communication between hospital departments and patients was reported by 64% of respondents with 88% of them wanting to be better informed about the hospital services and availability. Although 65% of the patients in UCTH said that the charges were affordable, 27% of the patients felt that the charges were not commensurate with the services. Cost affordability and whether it was commensurate with service was not applicable at Medisprof as all patients paid by health insurance.

Discussion

Access and responsiveness: The two hospitals run 24 hours of oncology care covering all areas of cancer care. In this survey, 70% of the respondents in UCTH lived in Calabar. Distance to the hospital was not an issue for those who knew the location of the hospital, however, 81% of respondents at UCTH Nigeria preferred the hospital to be close to their residence. With regard to hospitality, 31% said they were not well received as shown in Table 1. This may be due to

issues of communication in locating appropriate service points of care. UCTH was at the time setting up EMR system so waiting times were affected by network and availability of electric power supply. This was why as many as 77% of the patients complained of delays from paying for service and actually receiving it.

In Medisprof Romania, 38.5% of the patients were located in Cluj county while 61.5% came from bordering counties, Northeast region and far countries usually by referral from Doctors, Nurses and relatives who had trust in the hospital. Medisprof had an online visibility, which attracted 8% of the patients attesting to the fact that Internet online visibility of a hospital is crucial to improved patronage [10]. Medisprof has an efficient EMR system, which enabled a fast and seamless flow of activities.

In terms of hospitality, the two percent of respondents who were dissatisfied with their services in Medisprof complained about delays at imaging, radiotherapy, chemotherapy and documentation services whereas in UCTH, those dissatisfied complained about high cost of services and delays at all levels of care.

Quality of care: Basu et al assessed comprehensiveness of service, diagnostic accuracy, management standards and client retention. We assessed quality of care using the patients' experience of service delivery, improvement of hospital services over the last one year, updates that enable staff to improve service delivery, patients' satisfaction of care received and if they would recommend the hospital to their friends.

Outcomes: Basu et al assessed treatment success rate, population coverage, morbidity and mortality. These were not easy us to assess, instead we assess outcomes based on whether they were referred elsewhere or not.

Efficiency: Basu et al assessed efficiency using cost, redundancy, fragmentation and delays. We assess only the delays.

Fairness and equity: Basu et al assessed financial barriers to care and distributive justice. The questions on cost and whether they were commensurate with services, as well as information about hospital services enabled us to make some observations.

Medisprof Cancer Center receives patients on insurance, which removes financial barriers to care. During the survey period 100% of the patients paid for their services through insurance. The question of whether the services were commensurate with the cost, and whether they could afford the cost of services did not apply to the patients at Medisprof. In UCTH, however, 65% of the patients said the services were affordable, with 27% of the patients reporting that the services were not commensurate with the cost, thereby asking for an improvement in service delivery.

Oncology services in Nigeria are not yet fully covered by Health Insurance[11][12], and in UCTH, only 12% of patients had their services paid by Health Insurance. Most of the patients paid for their services by out-of-pocket. However, lack of communication between hospital departments and patients reported in 64% with 88% of the patients wanting to be better informed about the hospital services and availability. In Medisprof, only 5% of respondents complained about not having prior information about services they received. In Figure 2, Medisprof patients' satisfaction with surgeries, outpatient services, radiotherapy, chemotherapy as well as imaging and diagnostics was averagely 98%. This may indicate that patients have trust in the services at the center.

Luo Tianqi et al, [13] in a study about factors that determine Cancer treatment choice among minority groups had concluded that patient-physician communication were interwoven with cultural attitudes and decisional control preferences. It is likely that communication gaps in our study centers may have contributed to the dissatisfaction expressed by these patients. This is a core issue, which needs resolving at UCTH.

One of the ways of bridging gaps in cancer care is the establishment of collaborations between Public and Private sectors to provide appropriate management skills and funding necessary for effective and sustained patient care [5].

Efficiency: Medisprof had no issues with cost and redundancy of service due to the electronic transmission of patients' records and data. In spite of this 8% of respondents complained of delays before seeing a doctor while 5% complained of delay from paying for service and actually receiving it. In UCTH, the transition to electronic recording explained why 48% of respondents reported delays before seeing a doctor and 77% experienced delays from paying for service and actually receiving it.

The limitation of this study include our inability to use specific tools to measure quality and efficiency in both hospitals.

In addition, the study questionnaire used was not effective in making deductions or associations whether cancer patient care was better in private or public facilities.

Conclusion

Oncology practice is a specialized care in both private and public hospitals. Patient satisfaction and communication about services are integral parts of oncology patient care.

Effective oncology patient care can be achieved in both private and public hospitals with effective communication of services, proper navigation to the point of service stations and physician-patient communication.

Authors' Disclosures of Potential Conflicts of Interest

We declare no conflicts of interest

Author Contributions

- Conception and design: All authors
- Collection and assembly of data: All authors
- Data analysis and interpretation: All authors
- Manuscript writing: All authors
- Final approval of manuscript: All authors
- Accountable for all aspects of the work: All authors

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