



## Patient Segmentation: An Analysis Based on Demographic Characteristics, Geography, and Patient Behavior

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### ABSTRACT

Market segmentation is one of the strategies to understand the target market that can be controlled by the hospital so that the hospital can design the right program to maximize the health services provided to patients. This study aims to analyze hospital market segmentation based on the demographic, geographic, and behavioral characteristics of patients. This study used a descriptive survey approach involving 155 outpatients at Royal Prima Medan Hospital. Data were collected using a questionnaire consisting of closed-ended questions. Data were analyzed by calculating the proportion of patient characteristics to obtain a market segmentation picture. The results of the analysis show that majority of patients who utilize health services are female, 31-40 years old, married, college educated, work as private employees and earn between Rp. 2,500,000 to Rp. 5,000,000 per month. Majority of respondents spent less than Rp. 500,000 per month on healthcare and were from Medan City. Majority of patients take more than 60 minutes of travel time and travel more than 15 km to reach hospital. Majority of respondents showed a loyal attitude and stated that they would choose the hospital if they needed to seek treatment again and recommend health services at the hospital to others

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### Kata kunci:

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### ABSTRAK

Segmentasi pasar menjadi salah satu strategi untuk memahami pasar sasaran yang bisa dikuasai oleh rumah sakit, sehingga rumah sakit dapat merancang program yang tepat dalam memaksimalkan pelayanan kesehatan yang diberikan pada pasien. Studi ini bertujuan untuk menganalisis segmentasi pasar rumah sakit berdasarkan karakteristik demografi, geografi, dan perilaku pasien. Studi ini menggunakan pendekatan survey deskriptif yang melibatkan sebanyak 155 pasien rawat jalan di Rumah Sakit Royal Prima Medan. Pengumpulan data menggunakan kuesioner yang terdiri dari pertanyaan tertutup. Data dianalisis dengan menghitung proporsi karakteristik pasien sehingga diperoleh gambaran segmentasi pasar. Hasil analisis menunjukkan mayoritas pasien yang memanfaatkan layanan kesehatan adalah berjenis kelamin perempuan, berusia 31-40 tahun, sudah menikah, berpendidikan perguruan tinggi, bekerja sebagai pegawai swasta, dan berpenghasilan antara Rp. 2.500.000 hingga Rp. 5.000.000 per bulan. Mayoritas responden mengeluarkan biaya kesehatan kurang dari Rp. 500.000 per bulan dan berasal dari Kota Medan. Mayoritas pasien membutuhkan waktu perjalanan lebih dari 60 menit dan menempuh jarak lebih dari 15 km untuk mencapai Rumah Sakit Royal Prima Medan. Mayoritas responden menunjukkan sikap loyal dan menyatakan akan memilih rumah sakit tersebut jika perlu berobat kembali dan merekomendasikan jasa pelayanan kesehatan di rumah sakit tersebut

kepada orang lain. Informasi ini dapat membantu penyedia layanan kesehatan dalam menyusun strategi layanan yang lebih efektif.

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## INTRODUCTION

In recent years it seems that the marketing concept has begun to penetrate the hospital world as healthcare providers become more competitive and patients become more informed and empowered (Santilli & Vogenberg, 2015; Srinivasan, 2008). The growth trend of hospitals in Indonesia in the last five years tends to increase. The number of hospitals in Indonesia increased by 12.86% from 2016 to 2020. In 2016, there were 2,601 hospitals, and the number increased to 2,985 in 2020 (Kementerian Kesehatan, 2021). This situation makes the level of competition between hospitals even tighter, so there is a need for strategic action from hospital management to survive (Safonov et al., 2022).

Various studies have presented studies on strategic steps that can be taken by management in maintaining its existence in the healthcare market. In addition to improving service quality and implementing patient safety management, the strategic steps that are usually taken are collaborating with other parties (such as collaborating with doctors and other medical specialists) to develop more complete services and enhance a positive image in society (D'Amour et al., 2005; Firdaus, 2019; Green & Johnson, 2015; Rivers & Glover, 2008). Langkah strategis berikutnya adalah meningkatkan *branding* dan pemasaran agar menarik lebih banyak pasien dan menunjukkan keunggulan yang tidak dimiliki oleh pesaing (Evans et al., 2015; Hussain et al., 2020).

Doing hospital marketing can increase hospital utilization and result in increased medical referrals and coverage areas (Purcarea, 2019). One of the important and common marketing concepts practiced in hospitals is customer segmentation. By understanding the needs and preferences of different patient segments, hospitals can adapt their services and marketing efforts to better meet those needs (Fransen et al., 2019). Patient segmentation is a process of grouping patients based on certain characteristics that may affect their healthcare needs (Vuik et al., 2016). Market segmentation is important to understand the target market that can be controlled by the hospital. Market segmentation needs to be done so that hospitals can focus health services on certain markets to create patient loyalty (Amriani et al., 2020). The assessment process involves gathering data and information about the patient, including medical history, current health conditions, family history, lifestyle, and other risk factors that may affect healthcare needs. These results can be used as material for identifying groups of patients who will benefit from similar health care (Brommels, 2020).

A large number of private hospitals in Medan City presents fairly tight competition. Royal Prima Medan Hospital is one of the private hospitals located in Medan City with a type B classification. In dealing with this situation, it is necessary to do market segmentation so that the hospital can design the right program so that it can maximize the health services provided by patients to create patient loyalty. This study aims to analyze the hospital market segmentation based on demographic characteristics, geography, and patient behavior at the Royal Prima Medan Hospital. The

absence of data on customer characteristics means that the results of this study can be used to determine the target market served in the future.

## METHOD

### *Participant characteristics and research design*

This study uses a descriptive survey approach to identify and explain the characteristics of market segmentation and market segment profiles of service users in hospitals. The research was conducted at the Royal Prima Medan Hospital from July 2021 to September 2021 involving 155 outpatients as samples.

### *Sampling procedures*

Determining the sample size using interpretation estimation with Structural Equation Modeling (SEM). The inclusion criteria for research subjects were non-emergency patients who could communicate well.

### *Measures*

The data collection tool used was a questionnaire consisting of closed questions. Questionnaire items on demographic characteristics consist of age, gender, marital status, last education, employment, income, and health expenses per month. In terms of geographical characteristics, the question items include the location of residence, and time and distance traveled by the patient to access services at the hospital. While the questionnaire on the characteristics of customer behavior consists of 11 questions related to the subject's opinion regarding the service aspects of the hospital and the possibility of recommending other people to choose the Royal Prima Medan Hospital as a health service facility.

### *Data analysis*

The data that has been processed is then analyzed by calculating the proportion of patient characteristics based on demographic characteristics, geography, and patient behavior so that an overview of market segmentation is obtained. This research has received approval for ethical feasibility from KEPK Universitas Prima Indonesia with number 018/KEPK/UNPRI/VI/2022.

## RESULTS AND DISCUSSION

The majority of patients who utilize health services are aged 31–40 years (54.2%) and are female (54.8%). In terms of marital status, the majority of respondents were married (66.5%). The majority of respondents have their last education at the tertiary level (53.5%). The work most

engaged in by respondents is private employees (43.2%). Based on income, the majority of respondents earn between Rp. 2,500,000 to Rp. 5,000,000 (48.4%). The majority of respondents pay monthly health costs of less than Rp. 500,000 (57.4%).

**Tabel 1**  
**Outpatient Segmentation Based on Demographic Characteristics**

Demographic Characteristics		n	%
Age	20–30 years	60	38,7
	31–40 years	84	54,2
	> 40 years	11	7,1
Gender	Male	70	45,2
	Female	85	54,8
Marital Status	Not Married	33	21,3
	Married	103	66,5
	Widowed	19	12,3
Education Level	Junior High School	3	1,9
	Senior High School	32	20,6
	Diploma	37	23,9
Employment	Bachelor	83	53,5
	Civil Servant	13	8,4
	Self-employed	35	22,6
	Private Employees	67	43,2
	Teacher	6	3,9
	Housewife	29	18,7
	Retired	5	3,2
Income	< Rp. 2,500,000	23	14,8
	Rp. 2,500,000 – Rp. 5,000,000	75	48,4
	Rp. 6,000,000 – Rp. 10,000,000	46	29,7
	> Rp. 10,000,000	11	7,1
Monthly Health Expenses	< Rp. 500,000	89	57,4
	Rp. 500,000 – Rp. 1,000,000	52	33,5
	> Rp. 1.000.000	14	9,0

Source: Primary Data, 2022

Demographic segmentation is one of the approaches used by marketers in understanding and determining target markets or customers. Population variables such as age, gender, marital status, last education, occupation, income/earnings, medical expenses, and the way to get to the hospital can provide a clear picture of who the customers of the hospital or other products are. For example, if there is an increase in the elderly population in an area, hospitals or healthcare providers may consider expanding geriatric services or offering special health programs for the elderly (Abdi et al., 2019). Age is one of the factors that influence the utilization of health services, relatively older age is very susceptible to chronic diseases such as hypertension, coronary heart disease, or cancer. The older a person is, the greater the risk of suffering from a disease which indirectly results in higher demand for health services (Australian Institute of Health and Welfare, 2014; Maresova et al., 2019). The number of family members is also related to the willingness to pay for health services. A family that has a large size means that the financial burden that will be borne will be even greater, so thinking about utilizing health services is a fairly heavy consideration (Amriani et al., 2020).

Table 2 shows that the majority of respondents (53.5%) are residents of Medan City, while the rest (46.5%) are residents outside Medan City. The majority of respondents (85.2%) needed a travel time of more than 60 minutes to go to the hospital, while only a small number of respondents (14.8%) required a travel time of between 30-60 minutes. Based on the distance to the hospital, it also shows that the

majority of respondents (54.2%) have to travel more than 15 km, while only a small number of respondents (3.9%) are between 0-5 km from the hospital. This data can provide important information for the hospital in planning and developing health facilities in the area, such as building a hospital or planning transportation to facilitate access to health facilities.

**Table.2**  
**Outpatient Segmentation Based on Geographical Characteristics**

Geographical Characteristics		n	%
Domicile	Medan City	83	53,5
	Outside Medan City	72	46,5
Travel Time to Hospital	30 – 60 minutes	23	14,8
	> 60 minutes	132	85,2
Distance to Hospital	± 0-5 km	6	3,9
	± 6-10 km	12	7,7
	± 11-15 km	53	34,2
	> 15 km	84	54,2

Source: Primary Data, 2022

Geographical factors play a very important role because distance and access are factors considered by respondents in choosing healthcare facilities. In general, someone who needs health services tends to choose health service facilities that are closer and easier to reach from where they live because they need immediate treatment. The results of previous studies also concluded that the distance factor is very important in the choice of healthcare facilities by patients (Bühn et al., 2020; Escamilla et al., 2018). By understanding the characteristics of the community around the hospital, management can carry out promotions and marketing activities in a way that is appropriate to the culture and characteristics of the people in the area (Fuad et al., 2019). Through geographic segmentation, hospitals can understand where promotions should be targeted outside of their coverage area. This segment can also help hospitals promote the advantages that can be offered to users, especially outside the hospital area (Lestari & Suhenda, 2022).

**Tabel 3.**  
**Outpatient Segmentation Based on Behavioral Characteristics**

Behavioral Characteristics		n	%
First Visit	Yes	95	61,3
	No	60	38,7
People Who Advise	Own will/initiative	29	18,7
	Family/friends	23	14,8
	Doctor's recommendation	103	66,5
Cost	Expensive	28	18,1
	Average	115	74,2
	Cheap	12	7,7
Visit Frequency	1 timr	32	20,6
	1 - 3 timrs	37	23,9
	> 3 times	83	53,5
Flow of Service	Yes	43	27,7
	No	112	72,3
Returning to treatment	Yes	112	72,3
	No	43	27,7
Recommendation	Yes	119	76,8
	No	36	23,2
Invite Others	Yes	39	25,2
	No	116	74,8

Complete	Bad	4	2,6
Equipment/ Facilities	Good	115	74,2
Services	Very good	36	23,2
	Good	127	81,9
	Very good	28	18,1

Source: Primary Data, 2022

Table 3 contains information about outpatient segmentation based on the patient's behavioral characteristics. The majority of respondents showed a loyal attitude, this can be seen from the number of respondents who said they would choose Royal Prima Medan Hospital if they needed treatment again. In addition, many respondents stated that they would recommend other people to use health services at the Royal Prima Medan Hospital.

Behavioral segmentation can be used to divide consumers/buyers into several groups based on their attitude, use, or response to the product. In this case, behavioral segmentation can help Royal Prima Medan Hospital to better understand the needs and wants of consumers/buyers, as well as improve the quality of services and facilities offered. Attempts to divide consumers or buyers into several groups based on knowledge, attitudes, uses, or responses to a product are known as behavioral segmentation (Dietrich et al., 2015). Behavioral segmentation is carried out to understand patient behavior during treatment and see how customers behave when visiting the hospital. If the hospital services and facilities are satisfactory, the patient will likely return to visit (Bloem et al., 2020). Through behavioral segmentation, hospital can identify groups of consumers/buyers who are loyal or loyal, so they can provide better service and retain existing customers/buyers.

#### LIMITATION OF THE STUDY

This study has limitations. This study only involved subjects from one hospital, making it difficult to generalize the results. In addition, this study did not conduct further analysis, only displaying results from univariate analysis.

#### CONCLUSIONS AND SUGGESTIONS

In conducting market segmentation, hospitals may use one or more of these factors to identify the most relevant target groups for their products or services. The goal is to understand the needs and wants of potential customers so that the company can develop an effective marketing strategy to reach them. The results of the study show that the majority of patients who utilize health services are women aged 31-40 years who are married, have a higher education level, work as private employees, and have an income of between Rp. 2,500,000 to Rp. 5,000,000. The majority of respondents also spent less than Rp. 500,000 per month. Meanwhile, from the geographical characteristics, it appears that the majority of respondents came from the city of Medan. Most patients require a long travel time (more than 60 minutes) to go to the hospital. The majority of respondents also had to travel quite a distance (more than 15 km) to reach the hospital. Based on the behavioral characteristics, it can be concluded that the majority of respondents showed a loyal attitude and stated that they would choose Royal Prima Medan Hospital if they needed to seek treatment again. In addition, many respondents stated

that they would recommend other people to use the health services at the Royal Prima Medan Hospital. This information can help healthcare providers to understand their patient profile and develop more effective service strategies.

#### ETHICAL CONSIDERATIONS

##### Funding Statement.

The authors did not receive support from any organization for the submitted work.

##### Conflict of Interest Statement

The authors declare no conflicts of interest.

#### REFERENCES

- Abdi, S., Spann, A., Borilovic, J., de Witte, L., & Hawley, M. (2019). Understanding the care and support needs of older people: a scoping review and categorisation using the WHO international classification of functioning, disability and health framework (ICF). *BMC Geriatrics*, *19*(1), 195. <https://doi.org/10.1186/s12877-019-1189-9>
- Amriani, A., Arifin, M. A., & Marzuki, D. S. (2020). Analisis Segmentasi Pasar Pelayanan Kesehatan di Ruang Rawat Inap Rumah Sakit Islam Faisal Makassar. *Window of Public Health Journal*, *1*(3), 177–188.
- Australian Institute of Health and Welfare. (2014). *Australia's health 2014*. AIHW.
- Bloem, S., Stalpers, J., Groenland, E. A. G., van Montfort, K., van Raaij, W. F., & de Rooij, K. (2020). Segmentation of health-care consumers: psychological determinants of subjective health and other person-related variables. *BMC Health Services Research*, *20*(1), 726. <https://doi.org/10.1186/s12913-020-05560-4>
- Brommels, M. (2020). Patient Segmentation: Adjust the Production Logic to the Medical Knowledge Applied and the Patient's Ability to Self-Manage—A Discussion Paper. *Frontiers in Public Health*, *8*. <https://doi.org/10.3389/fpubh.2020.00195>
- Bühn, S., Holstiege, J., & Pieper, D. (2020). Are patients willing to accept longer travel times to decrease their risk associated with surgical procedures? A systematic review. *BMC Public Health*, *20*(1), 253. <https://doi.org/10.1186/s12889-020-8333-5>
- D'Amour, D., Ferrada-Videla, M., San Martin Rodriguez, L., & Beaulieu, M.-D. (2005). The conceptual basis for interprofessional collaboration: Core concepts and theoretical frameworks. *Journal of Interprofessional Care*, *19*(sup1), 116–131. <https://doi.org/10.1080/13561820500082529>
- Dietrich, T., Rundle-Thiele, S., Schuster, L., Drennan, J., Russell-Bennett, R., Leo, C., Gullo, M. J., & Connor, J. P. (2015). Differential segmentation responses to an alcohol social marketing program. *Addictive Behaviors*, *49*, 68–77. <https://doi.org/10.1016/j.addbeh.2015.05.010>
- Escamilla, V., Calhoun, L., Winston, J., & Speizer, I. S. (2018). The Role of Distance and Quality on Facility Selection for Maternal and Child Health Services in Urban Kenya. *Journal of Urban Health*, *95*(1), 1–12. <https://doi.org/10.1007/s11524-017-0212-8>

- Evans, W. D., Blitstein, J., Vallone, D., Post, S., & Nielsen, W. (2015). Systematic review of health branding: growth of a promising practice. *Translational Behavioral Medicine*, 5(1), 24–36. <https://doi.org/10.1007/s13142-014-0272-1>
- Firdaus, M. (2019). Improving Patient Safety and Hospital Service Quality Through Electronic Medical Record: A Systematic Review. *Jurnal Administrasi Rumah Sakit Indonesia*, 6(1). <https://doi.org/10.7454/arsi.v6i1.2880>
- Fransen, L., Peters, V. J. T., Meijboom, B. R., & de Vries, E. (2019). Modular service provision for heterogeneous patient groups: a single case study in chronic Down syndrome care. *BMC Health Services Research*, 19(1), 720. <https://doi.org/10.1186/s12913-019-4545-8>
- Fuad, L., Tamtomo, D., & Sulaeman, E. S. (2019). Multilevel Analysis on the Effect of Marketing Mix Strategy toward Patient Satisfaction in Magelang, Central Java. *Journal of Health Policy and Management*, 4(1), 39–46. <https://doi.org/10.26911/thejhpm.2019.04.01.05>
- Green, B. N., & Johnson, C. D. (2015). Interprofessional collaboration in research, education, and clinical practice: working together for a better future. *Journal of Chiropractic Education*, 29(1), 1–10. <https://doi.org/10.7899/JCE-14-36>
- Hussain, I., Mu, S., Mohiuddin, M., Danish, R. Q., & Sair, S. A. (2020). Effects of Sustainable Brand Equity and Marketing Innovation on Market Performance in Hospitality Industry: Mediating Effects of Sustainable Competitive Advantage. *Sustainability*, 12(7), 2939. <https://doi.org/10.3390/su12072939>
- Kementerian Kesehatan. (2021). *Profil Kesehatan Indonesia Tahun 2020*. Pusat Data dan Informasi Kementerian Kesehatan.
- Lestari, E. D., & Suhenda, A. (2022). Analisis Segmentasi Pasien Rawat Jalan di RSUD Singaparna Medika Citrautama Kabupaten Tasikmalaya. *Media Informasi*, 17(1), 28–36. <https://doi.org/10.37160/bmi.v17i1.634>
- Maresova, P., Javanmardi, E., Barakovic, S., Barakovic Husic, J., Tomson, S., Krejcar, O., & Kuca, K. (2019). Consequences of chronic diseases and other limitations associated with old age – a scoping review. *BMC Public Health*, 19(1), 1431. <https://doi.org/10.1186/s12889-019-7762-5>
- Purcarea, L. (2019). The impact of marketing strategies in healthcare systems. *Journal of Medicine and Life*, 12(2), 93–96. <https://doi.org/10.25122/jml-2019-1003>
- Rivers, P. A., & Glover, S. H. (2008). Health care competition, strategic mission, and patient satisfaction: research model and propositions. *Journal of Health Organization and Management*, 22(6), 627–641. <https://doi.org/10.1108/14777260810916597>
- Safonov, Y., Borshch, V., & Rogachevskiy, O. (2022). Theoretical foundations of competitiveness management of health care institutions. *Baltic Journal of Economic Studies*, 8(4), 131–138. <https://doi.org/10.30525/2256-0742/2022-8-4-131-138>
- Santilli, J., & Vogenberg, F. R. (2015). Key Strategic Trends that Impact Healthcare Decision-Making and Stakeholder Roles in the New Marketplace. *American Health & Drug Benefits*, 8(1), 15–20.
- Srinivasan, A. V. (2008). *Managing a Modern Hospital*. SAGE Publications India Pvt Ltd. <https://doi.org/10.4135/9788132108450>
- Vuik, S. I., Mayer, E. K., & Darzi, A. (2016). Patient Segmentation Analysis Offers Significant Benefits For Integrated Care And Support. *Health Affairs*, 35(5), 769–775. <https://doi.org/10.1377/hlthaff.2015.1311>

