

## A Comparative Study of Healthcare User Satisfaction with Health Checkups in Thailand and Worldwide



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**ABSTRACT:** This study aims to explore the potential influence of different factors on the respondents' satisfaction with annual medical checkups. With 125 responses from other age groups and countries, the results explore other trends posed by other grouping criteria. The responses emphasize the importance of the guidelines, policies, and government benefits implied in various aspects of the healthcare system, namely equitability, efficiency, timeliness, and integration, and how they correspond with the respondents' satisfaction. Additionally, a significant portion of the responses are from Thailand. The extensive research on the country's healthcare system has highlighted its strengths and weaknesses that could be further improved.

**KEYWORDS:** Health Checkup, Equitability of Healthcare, Efficiency of Healthcare, Timeliness of Healthcare, Integration of Healthcare

### I. INTRODUCTION

Annual health checkups are essential for people of all ages and genders, especially to identify potential health problems and eliminate possible risk factors.

There are physical and psychological benefits to getting checkups. research from Bijapur Liberal District Educational University states that *"Patients with chronic illness may encounter irreversible changes in health status and may lead to mortality. This is closely related to psychological distress, and approximately 6%–34% of the patients with chronic illness developed depression"* (Kudachi et al., 2023). The research also concludes that there is an important negative relationship between the mental well-being parameters of chronic illnesses. The inability to get annual checkups can lead to overlooking lifestyle-related diseases, which *"Account for a large proportion of mortality rates and healthcare expenses"* (Kang, Kawamura & Noguchi, 2021).

It is encouraged by NorthWestern University to get a health checkup every year, despite the recent health leaders calling for annual health checkups to end, claiming it is a waste of time and resources. Though much research has been published about its importance, many are still looking over its importance. According to the statistics published by the Bureau of Information Office of The Permanent Secretary of The Ministry of Public Health of Thailand in February 2018, only 2% of Thai people go in for annual health checkups (Ministry of Public Health, 2018). Furthermore, the Bureau also states that the majority of Thais believe that annual health checkups are to detect abnormalities or diseases, while in truth, they are to suggest any potential health problems, as stated before. On the other hand, 62% of Americans are reported to get their annual checkups, according to a survey conducted by the Kaiser Family Foundation. The differences in the healthcare system can contribute to these differences.

This research aims to explore possible factors that could influence a person's frequency and attitude toward annual health checkups through a survey with respondents of different demographics according to the World Health Organization's *determinants of quality of care (2020)*

**Timely** – less waiting time, which can prevent harmful delays

**Equitable** – providing care that does not vary in quality demographic, status, and geographical location

**Integrated** – providing care to patients throughout their lives

**Efficient** – resources were used to its' full potential

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## II. METHODOLOGY

A quantitative method was used to gather data about a person's attitude toward medical checkups. We have published an online survey and have received 215 Responses from people from different countries and genders. The questions in the survey include (number of statements). The respondents must answer the statements depending on their degree of agreement on a scale of 1 to 5 (5-likert scale), 1 being strongly disagreed and 5 being strongly agree. The statements can be categorized into four different factors according to WHO's determinants of quality of healthcare:

**Timely:** The current healthcare system provides short waiting times and prevents harmful delays.

**Equitable:** Healthcare is equally accessible and of the same quality for individuals regardless of their gender, ethnicity, geographic location, and socio-economic status

**Integrated:** Care is accessible to people throughout their lives

**Efficient:** The current healthcare system maximizes the utility of available resources

Respondents are split into seven age groups: 15 years and under, 16 to 20 years, 21 to 30 years, 31 to 40 years, 41 to 50 years, 51 to 60 years, and 61 years or over. They are also required to answer whether or not they have personal insurance.

The statements could be categorized as follows;

### 1. General Information

- 1.1. What is your biological sex?
- 1.2. Which region are you from
- 1.3. Which country are you from
- 1.4. How old are you
- 1.5. How often do you visit the doctor for a checkup?
  - 1.5.1. If you chose almost never, what is the reason behind your answer
- 1.6. Do you have personal insurance

### 2. Equitable

- 2.1. I am satisfied with the welfare my government provides
- 2.2. I am satisfied with the cost of medical checkups in my country

### 3. Efficient

- 3.1. I am satisfied with the process of medical checkups in my country
- 3.2. I am satisfied with the quality of care in my medical checkups

### 4. Timely

- 4.1. It is convenient for me to go to the hospital
- 4.2. I am satisfied with the environment of the hospital I go to
- 4.2. It is easy for me to book a health checkup

### 5. Integrated

- 5.1. I have a clear understanding of the reasons behind tests and treatment done during my checkup
- 5.2. The medical staff have a friendly and courteous attitude towards me

## III. RESULTS AND ANALYSIS

With 64% of the respondents being from Thailand, the researchers have also decided to do extensive research on the country's healthcare system.

Category	Statement	Mean
Equitable	Satisfaction with government welfare	3.06
	Satisfaction with cost of checkup	3.40
Efficient	Satisfaction with process of checkup	3.55
	Satisfaction with quality of checkup	3.71

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Timely	Convenience of going to the hospital	3.65
	Satisfaction with hospital environment	3.84
	Easiness to book checkup	3.60
Integrated	Understanding of treatment	3.92
	Friendly attitude of staffs	3.88

### A. Mean Score of Responses Across All Categories

Overall, the mean of satisfaction scores show that the respondents are moderately satisfied with the current healthcare system in their region.

Continent	Equitable	Efficient	Timely	Integrated
Asia	2.88	3.39	3.66	3.85
Europe	3.87	4.04	3.68	3.89
North America	3.88	3.88	3.42	3.75
South America	3.50	3.75	4.00	4.19
Oceania	4.50	4.00	4.16	4.15

### B. Mean Score of Responses By Continent

From Table B, Oceania has a high mean score, with every category being 4 or higher. In contrast, Asia has a lower mean score, especially in Equitability. It was revealed that social security is still unavailable to over half of the Asian-Pacific population (*International Labour Organization, 2022*). This could be a potential reason why Asia has a low satisfaction score with the equitability of its healthcare system.

For efficiency, Europe has the highest satisfaction score. An explanation might be that numerous countries in the EU are developing and implementing clinical guidelines, which resulted in great benefits, namely the ability to make better healthcare decisions in a variety of circumstances, as proven by several projects (Legido-Quigley et al., 2022), resulting in a higher satisfaction score in efficiency.

In the category of timeliness, Oceania has the highest satisfaction score while North America has the lowest. With the pattern of Oceania's population density, hospitals are located according to said pattern of density. With the amount and distribution of hospitals corresponding to the area's population, the time taken to get to the nearest hospitals is relatively low in large cities where the majority of the population lives, hence a high satisfaction score in timeliness.

As for the integration of healthcare, South American respondents are the most satisfied, while the North American ones are the least satisfied.

### Equitable

Equitable	Satisfaction with government welfare	3.06
	Satisfaction with the cost of checkup	3.40

### C. Mean Score of Responses in Equitability

From all 125 responses, male respondents are overall more satisfied than female respondents. Meanwhile, the age groups with the highest and lowest satisfaction scores are 16-20 years and 41-50 years, respectively. The continent with the highest mean score in this category is Oceania and the lowest is Asia.

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Thai National Health Insurance Welfare, commonly known as the "Gold Card," was originally the "30 Baht to cure every disease" project, but later changed, as covered citizens can receive treatment for free instead of paying 30 Baht. In case the treatment cost does not exceed the specified limit. The Thai National Health Insurance Welfare is one of the medical benefits that the Thai Government provides. The overall welfare covers 99.95% of the Thai population, which could be categorized into six groups: Universal Coverage Scheme (UCS), Social Security Scheme (SSS), Civil Servant Medical Benefit Scheme (CSMBS), Local Government Benefit Scheme (LG), Other schemes, and Non registered. Citizens can only request a hospital of their choice in their area of residence, known as a "regular service unit," but they can request to change hospitals no more than four times per year. Citizens can exercise their rights in any hospital except for an emergency illness or accident. The National health insurance coverage includes Promoting health and preventing disease (planning to have children / prenatal care/vaccination / physical examination), childbirth, dentistry, examination and treatment of disease, cost of medicine and medical supplies, cost of food and common room, arrangement of referral of illness to other service units, Thai traditional medicine services, and rehabilitation services for disabled people. (Mahidol University, n.d.)

Additional costs may apply to cover expenses and excess treatment that state funds do not support. In case of serious illness. In general, if the patient does not have a severe illness. There will be no charge for a hospital stay of no more than 72 hours. As stated in the paragraph above, the system could confuse Thai citizens as there are several different welfare coverage plans, each with additional benefits and criteria for eligibility. Furthermore, many minor components of the national health database, such as the people's education about their welfare and the ability to change hospitals, still lack convenience.

Despite the considerable variation of coverage, the Thai national health database still needs to be more efficient. It could impose challenges that prevent Thai people from accessing healthcare services at different hospitals. On top of that, the system still heavily relies on verifying identity via a national ID card rather than biometric information or having a connected electronic health record across different hospitals and healthcare providers. This could significantly explain the low satisfaction score amongst Thai and Asian respondents.

### Efficient

Efficient	Satisfaction with the process of checkup	3.55
	Satisfaction with the quality of the checkup	3.71

### D. Mean Score of Responses in Efficiency

From all 125 responses, male respondents are more satisfied overall with efficiency than female respondents. The age group with the highest and lowest satisfaction scores is 51 - 60 years and over and 41-50 years, respectively. The continent with the highest mean score in this category is Europe, and the lowest is Asia.

As for European countries, for example, in Germany, a medical check-up involves a thorough anamnesis, a physical examination that includes measuring blood pressure, a urine test, a blood test, and an assessment of cholesterol and blood sugar level, with additional testing recommended appropriately. Furthermore, medical checkups in Germany are part of the statutory health screening and preventive examination program, meaning all health insurance providers, public or private, will cover all standard fees for required screenings (Leading Medicine Guide, n.d.).

Meanwhile, a health examination in Thailand is a broad-spectrum disease screening To discover the possibility of having various serious diseases. Thus, it is common for Thai citizens to question the testing necessary to cover the body's health to that extent. The check-up process is similar to those in Germany, only with minor differences in testing. However, the funding of the welfare provided by the Thai government is taken care of by several different parties, which could lead to an unoptimized usage of the funding and the inability to adjust the funding to cover all groups efficiently (Trisadikoon, 2021).

Despite the similarities, there will be variations in identifying endemic or often occurring diseases throughout each region. Thailand's medical costs are higher than those in Germany while being cheaper due to heredity, environmental variations, eating disorders, and other factors. This is particularly true when considering the country's cost of living and population income.

Although the checkup process is nearly identical in Thailand and Germany, the input and output data of resources used in the Thai healthcare system highlights its flaws, resulting in a negative picture in this aspect and a low satisfaction score from the Thai respondents.

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### Timely

Timely	Convenience of going to the hospital	3.65
	Satisfaction with the hospital environment	3.84
	Easiness to book checkup	3.60

### E. Mean Score of Responses in Timeliness

From all 125 responses, female and male respondents are equally satisfied with the timeliness. Meanwhile, the age group with the highest and lowest satisfaction scores is 51-60 and 41-50 years, respectively. Oceania has the highest mean score in this category, and North America has the lowest.

According to a study by Luisa Jorm from the University of New South Wales conducted in 2019, reaching a hospital could take around 75 to 663 minutes in the central part of Australia while only taking 0 to 75 minutes in coastal areas. This corresponds to the statistics published by the Australian Government, showing the majority of the population staying in large coastal cities such as Sydney, Brisbane, and Melbourne. These coastal areas could have a population density of 100 persons per square kilometer. In contrast, the central area of Australia mostly has a population density of less than 0.1 persons per square kilometer, excluding some minor cities in Central Australia with high population density. The respondents from Oceania likely live in these large coastal cities, hence their satisfaction with the timeliness of the healthcare system.

On the other hand, Thailand faces a similar pattern in the distribution of its population in the aspect of population density. A data study by The Medium shows that most healthcare providers are positioned inside the city rather than evenly spread across the area. For example, Phuket has distributed its hospitals across all its islands, resulting in an appropriate time to get to the nearest hospital. Meanwhile, its neighbor, Krabi, failed to do so, especially looking at the Ao Nang area. This very famous tourist attraction could take 30 to 70 minutes to get to the nearest hospital, allowing conditions and complications to worsen and may lead to a higher chance of fatality. Another issue Thailand faces, other than the distance to the hospitals, is the road itself. According to WHO's *Global Status Report on Road Safety 2015*, Thailand has the second highest road traffic-related death rate in the world at 36.2 deaths per 100,000 population. With such a high rate, time is a crucial element in preventing mortality in patients who have undergone a road accident.

### Integrated

Integrated	Understanding of treatment	3.92
	Friendly attitude of staff	3.88

### F. Mean Score of Responses in Integration

From all 125 responses, female respondents are overall more satisfied than male respondents. The age group with the highest and lowest satisfaction scores is 61 years and older and 41-50, respectively. The continent with the highest mean score in this category is South America, and the lowest is North America. In the understanding of treatment, the age range that is the most satisfied is 21-30 years, followed by 31-40 years, 16 years and under, 41-50 and 51-60 years old, and 61 years or over accordingly. The results show a clear trend as the satisfaction score decreases with age, starting from the 21-30 age group.

The satisfaction score by age groups could extensively explain how the understanding of the treatment correlates to the respondent's age, with their brain mass and functionality decreasing with age. According to a study from University College London, the human brain quickly develops from mid-gestation onwards, with its gray matter reaching a peak just before six years old and the white matter just before 29 years old, gradually decreasing after the milestone.

Additionally, patients who felt that their doctors were attentive to them and regularly communicated with them had higher treatment satisfaction and adherence (Grillo *et al.*, 2018). From the medical staff's perspective, patient safety culture, the shared values and beliefs amongst an institution's team, which influence their interaction with the patients (Agency for Healthcare Research and Quality, *n.d.*), is vital to prevent staff burnout and improve their work-life balance. By practicing this healthcare discipline, institutions could greatly benefit from the ability to form a healthy and resilient workforce (Lu *et al.*, 2022). With this in mind, the policies implemented in Thailand still need to be adjusted. The Thai work culture must shift from being hierarchical to being more flexible, fostering a culture of cooperation and management and being receptive to the opinions of staff at all levels (PwC Thailand, 2021). Disassembling the workplace hierarchy could appear complicated and unnecessary to many older

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generations. However, with the modern world and the need to be heard by newer generations, it is only right to adapt to the ever-changing world to maintain the quality of work. Thus, implementing appropriate working guidelines could positively influence the staff's attitude, resulting in a higher satisfaction score from healthcare service consumers.

“That is a terrible question.” You can not just take the world's “best” system” (Emanuel, 2020). Ranking the health care system in each country is an extremely challenging thing to do, despite several rankings such as the “WHO World Health Report ” in 2000, The Health Consumer Powerhouse (only ranking European countries), Legatum, and Bloomberg (only ranking system efficiency). Emanuel also states that most rankings have major flaws, such as a lack of updates and a ranking system favoring certain countries. Furthermore, there are no rankings with identical placements of the countries, further proving the challenge. Emanuel wrote that after his extensive research, the conclusion he has come to is that no country has the best healthcare system and that each country's system has its strengths and weaknesses.

### V. CONCLUSIONS

Several factors influence patients' attitudes or opinions toward a medical checkup. Using 125 responses obtained via an online survey combined with research to explain these results, this research explores patients' satisfaction with their healthcare system, using the WHO's determinants of the quality of care: equitability, efficiency, timelines, and integration. Furthermore, an extensive study was conducted on the Thai healthcare system, as 64% of all respondents are from Thailand.

For equitably, Asia is the least satisfied continent, and further research has been done on Thailand, an example country in Asia. Despite 99.5% of the Thai population being covered by the government welfare, the national health database still struggles to effectively operate, with complicated features such as the change of hospitals, along with the lack of Thai people's knowledge about their rights to welfare could potentially be the reason behind the low satisfaction score.

In terms of efficiency, Europe is shown to be the continent with the highest satisfaction score, while Asia is shown to have the lowest. For countries like Germany and Thailand, the checkup processes are greatly similar despite certain geographical and endemic diseases specific to each region. Though both countries' processes are similar, The Thai government fundings for healthcare is taken care of by different parties, making it inefficient and hard to manage appropriately, hence the low satisfaction scores from the respondents.

Regarding timeliness, Oceania appears to have the highest satisfaction score. It is found that the distribution of hospitals match the pattern of the country's population density in each area, resulting in the ability for most of its population to reach a hospital in under 75 minutes, which is the reason for such a high satisfaction score in timeliness. On the other hand, many provinces in Thailand still fail to position hospitals effectively, coupled with an extremely high rate of road-related deaths, the Thai respondents seem to be unsatisfied with the timeliness.

As for integration, a trend could be seen when respondents are sorted by age, the satisfaction score decreases with age starting from 21-30 years old. An explanation could be that the human brain reaches peak development in gray and white matter at 6 and 29 years old accordingly, meaning the ability to quickly understand could decrease with age. Furthermore, patients who felt that their doctors were attentive also seem to be more satisfied. Thailand still needs to improve the work culture in order to create a sustainable workforce in healthcare to satisfy both the staff and patients' needs.

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