

# CHAPTER I

## INTRODUCTION

### 1.1 Research Background

Diabetes Mellitus (DM) is on the rise globally, affecting 10.5 percent of the adult population, with 90 percent of these individuals living with Type 2 Diabetes Mellitus (T2DM), a largely preventable condition (International Diabetes Federation, 2021). In 2019, Indonesia ranked 7th worldwide, with 10.6 million people diagnosed with DM, and this number is projected to increase by 10 percent over the next 25 years as seen in Figure 1.1 (Ligita et al., 2019; Soeatmadji et al., 2023).

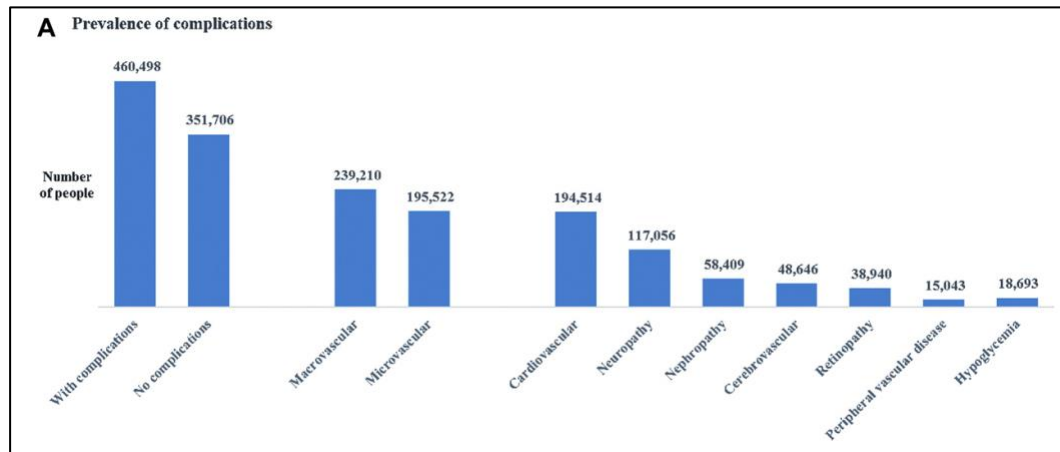
2019			2030			2045		
Rank	Country or territory	Number of people with diabetes (millions)	Rank	Country or territory	Number of people with diabetes (millions)	Rank	Country or territory	Number of people with diabetes (millions)
1	China	116.4 (108.6–145.7)	1	China	140.5 (130.3–172.3)	1	China	147.2 (134.7–176.2)
2	India	77.0 (62.4–96.4)	2	India	101.0 (81.6–125.6)	2	India	134.2 (108.5–165.7)
3	United States of America	31.0 (26.7–35.8)	3	United States of America	34.4 (29.7–39.8)	3	Pakistan	37.1 (15.8–58.5)
4	Pakistan	19.4 (7.9–30.4)	4	Pakistan	26.2 (10.9–41.4)	4	United States of America	36.0 (31.0–41.6)
5	Brazil	16.8 (15.0–18.7)	5	Brazil	21.5 (19.3–24.0)	5	Brazil	26.0 (23.2–28.7)
6	Mexico	12.8 (7.2–15.4)	6	Mexico	17.2 (9.7–20.6)	6	Mexico	22.3 (12.7–26.8)
7	Indonesia	10.7 (9.2–11.5)	7	Indonesia	13.7 (11.9–14.9)	7	Egypt	16.9 (9.0–19.4)
8	Germany	9.5 (7.8–10.6)	8	Egypt	11.9 (6.4–13.5)	8	Indonesia	16.6 (14.6–18.2)
9	Egypt	8.9 (4.8–10.1)	9	Bangladesh	11.4 (9.4–14.4)	9	Bangladesh	15.0 (12.4–18.9)
10	Bangladesh	8.4 (7.0–10.7)	10	Germany	10.1 (8.4–11.3)	10	Turkey	10.4 (7.4–13.3)

**Figure 1.1 Diabetes Epidemiology Worldwide**  
Source: IDF Diabetes Atlas (2019)

Most DM cases in Indonesia are T2DM, which has been significantly impacted by globalization and urbanization, leading to drastic lifestyle changes. Driven by rapid urbanization, nutritional transitions, and increasingly sedentary lifestyles, the prevalence of T2DM continues to rise (Hu, 2011). An effective diabetes management strategy is patient-centered, emphasizing the active involvement of patients in their own care, where hospitals play a crucial role in this strategy, one of them, by empowering patients (Von Arx & Kjær, 2014). This approach improves individual health outcomes and enhances overall healthcare quality because active patient involvement leads to higher quality of care (Lemmens et al., 2015).

The complication rate among DM patients in Indonesia is higher compared to other countries, likely due to inadequate diabetes management (Hidayat et al., 2022; Wahidin et al., 2024). This poses a significant national issue as diabetes and its related complications are expected to escalate healthcare costs and increase the burden on the nation (Hidayat et al., 2022; Liu et al., 2010). Diabetes, as the leading cause of morbidity and healthcare expenses worldwide, costs \$825 billion annually and is projected to increase to \$2.1 trillion by 2030 (Breton et al., 2013; Zawudie et al., 2022). This burden is exacerbated by rising complications and increased mortality rates, which strain government resources and adversely affect productivity (Breton et al., 2013). In response to the growing diabetes epidemic, private hospital chains have partnered with the government to expand access to diabetes care services. While this collaboration is commendable, ensuring the sustainability and effectiveness of diabetes management in private hospitals necessitates addressing several key challenges (Suryanto et al., 2016). One

significant challenge is fostering patient belief in and active participation in their care, enabling them to make informed health decisions (Beckerle & Lavin, 2013).



**Figure 1.2 Prevalence of Diabetes Case in Indonesia**  
Source: Wahidin et al. (2024)

Moreover, there is a widespread lack of knowledge about healthy lifestyle choices and managing T2DM, which can lead to further complications (Khan et al., 2019). This situation underscores the need for a shift in the approach to T2DM management, focusing not only on new medications but also on behavioral interventions (Araújo-Soares et al., 2019; Davis et al., 2022). Failure to engage and enhance the self-efficacy of diabetes patients can result in non-compliance with follow-up appointments, poor glycemic control, and increased risks of complications. These issues impact individual patient outcomes and have broader implications for private hospitals, including decreased patient satisfaction, reduced hospital visits, and potential financial losses. Therefore, prioritizing patient empowerment and engagement is essential for ensuring the success and sustainability of diabetes care initiatives in private hospital settings (Araújo-Soares et al., 2019; Davis et al., 2022).

Chronic disease requires consistent and long-term management, specifically in Diabetes, the need to effectively control blood sugar levels and prevent complications. Given its chronic nature, successful diabetes management necessitates active involvement and participation from patients themselves (Hurst et al., 2020). The latest international guidelines for DM treatment from the American Diabetes Association (ADA) and the European Association for The Study of Diabetes (EASD) emphasize the importance of patient involvement through self-management (SM) and self-efficacy (SE) (Beckerle & Lavin, 2013; ElSayed et al., 2023). Self-efficacy (SE) is the belief in one's ability to act successfully. In the context of diabetes management, it refers to the confidence patients have in managing their condition. High self-efficacy is associated with better diabetes management and improved well-being (Calli & Kartal, 2021). Several studies have validated the Italian, United Kingdom UK), and Thailand versions of the Diabetes Management Self-Efficacy (DMSE) Scale, which focuses on functional SE perceptions related to diabetes management (Messina et al., 2018; Sangruangake et al., 2017; Sturt et al., 2010; Wang et al., 2020). It was established that DMSE positively influenced the relationship between diabetes education and self-care behaviors, underscoring the importance of addressing SE in diabetes management.

However, self-efficacy (SE), as the patients believe, is a critical intrinsic factor influencing patient behavior. Addressing intrinsic factors requires a process called empowerment, wherein patients, especially those lacking motivation, are actively involved in managing their disease for better health outcomes (Abu-Shennar & Bayraktar, 2020). Especially for unmotivated patients, empowerment

can foster critical thinking and self-control, helping them recognize and address their problems independently. Vulnerable populations, such as individuals with diabetes or other chronic diseases, encounter numerous barriers to accessing healthcare, significantly impacting their overall health status (Rawlett, 2014). These barriers include socioeconomic factors, limited access to healthcare resources, lack of education or awareness about their condition, and difficulties navigating the healthcare system (Rawlett, 2014). Previous studies have established that SE and empowerment both enhance patient self-care behavior. However, research has yet to directly examine the relationship between these two factors. It is essential to investigate this relationship because self-efficacy and empowerment are continuous processes. As patients' self-care behavior improves, their satisfaction with healthcare services is expected to increase, leading them to recommend both the hospital and the physicians who provide their care (Chen et al., 2011; Wang et al., 2020).

In the digitalization era, social media and social networking platforms rapidly increase across all age groups. As essential healthcare providers, hospitals must adapt to these changes by integrating digital strategies into their operations to stay relevant and connected with their patients (Gamache-O'Leary & Grant, 2017). One of the most widely used social networking applications is WhatsApp, which can be a vital tool for hospitals to enhance patient engagement and communication. This approach particularly benefits chronic disease patients requiring consistent monitoring and interaction with their healthcare providers (Ye, 2024). By embracing these digital advancements, hospitals can improve their service quality,

patient satisfaction, and, ultimately, the likelihood of receiving positive recommendations (Sun, 2020).

Health literacy enables individuals to understand health information, make informed decisions, and effectively manage their condition. Patients with higher health literacy are more likely to engage in self-management practices and exhibit higher levels of self-efficacy and empowerment. Numerous studies have documented this relationship (Lee et al., 2016; C.-Y. Lin et al., 2020; Wang et al., 2020). Given the broad applicability of health literacy, this variable will be examined in relation to the likelihood of recommending healthcare providers (Messina et al., 2018; Pelikan et al., 2018; Sørensen et al., 2013).

The healthcare industry in Indonesia is currently facing numerous challenges, including a lack of necessary medical equipment, supplies, doctors, and beds, which have placed the healthcare rating of Indonesia at the bottom of its ASEAN (Association of Southeast Asian Nations) counterparts. Public hospitals in Indonesia are often overwhelmed, with one hospital bed per 1,000 people, well below the world average of 3.6 per 1,000 people, and only 25 doctors per 100,000 people. These issues have led to a significant portion of the population, particularly the rich, traveling to neighboring countries like Malaysia and Australia for medical treatment, exacerbating the disparity between the rich and the poor. In response to these challenges, the Indonesian government has allowed foreigners to have 100 percent equity in private hospitals since 1992, opening 1,300 hospitals. This policy aims to spur improvement in state hospitals in terms of equipment and quality of service, as well as drive down prices. The presence of foreign hospitals is expected to bring a better quality and quantity of doctors to the country, addressing one of

the major concerns in the healthcare sector (*Indonesia's Failing Healthcare Industry and How Medical Tourism Can Help*, n.d.). Private hospital chains have been increasing their presence in Indonesia, with 63.5% of the 2,813 hospitals being run by private organizations. As of 2022, there were 3,072 hospitals nationwide, with public hospitals outnumbering private ones, comprising 2,561 public hospitals and 511 private hospitals (*Health Minister Vows to Fast-Track Private Hospital Permits*, n.d.). This growth in private hospitals is driven by market demand, resources, government policies, and provider incentives, leading to a greater presence of private healthcare in urban areas than in rural areas (Septiono, 2023).

The role of private hospitals in diabetes care is especially important in countries like Indonesia, where the public healthcare system may be overwhelmed and may not have the resources to provide the necessary care for patients with diabetes. In countries like Indonesia, where the public healthcare system may face challenges in providing comprehensive care for patients with diabetes due to resource limitations and overwhelming demand, the role of private hospitals becomes increasingly significant. Private hospitals play a crucial role in filling the gaps left by the public sector, offering specialized services and advanced medical technology that can enhance the quality of diabetes care.

One of the key advantages of private hospitals in diabetes care lies in their ability to offer personalized and specialized services tailored to the unique needs of individual patients. Unlike public hospitals, where resources may be stretched thin due to high patient volumes, private hospitals often prioritize individualized attention and care, allowing for more comprehensive and focused diabetes management (Shahtaheri et al., 2022). With the rising prevalence of diabetes in

Indonesia and the associated burden of complications, including cardiovascular diseases and kidney disorders, there is a growing need for tailored and effective management strategies. Private hospitals often have the resources and expertise to provide multidisciplinary care, including endocrinologists, dietitians, and specialized diabetes nurses, who can work together to develop personalized patient treatment plans. Additionally, private hospitals may offer access to state-of-the-art diagnostic and therapeutic technologies, such as continuous glucose monitoring systems, insulin pumps, and advanced imaging modalities, which can aid in the early detection and management of diabetes complications. By complementing the efforts of the public sector, private hospitals contribute to improving overall diabetes care in Indonesia and alleviating the burden on the healthcare system, ultimately leading to better health outcomes for individuals living with diabetes (Shahtaheri et al., 2022). In Indonesia, public hospitals can be categorized based on certain criteria. According to Minister of Health Regulation No. 3 of 2020 concerning Hospital Classification, it is stated that there is a division of public hospitals into classes A, B, C, and D. Type B private hospitals are categorized as those with 200 to 250 beds. As of 2017, there were 1,767 private hospitals in Indonesia, with a CAGR (Compound Annual Growth Rate) of 7.2% (Sari et al., 2023). In terms of diabetes care, private hospitals are known for their ability to offer personalized and specialized services, shorter waiting times, and better access to consultants and medical equipment compared to public hospitals. This is particularly important for diabetes care, as timely interventions and regular monitoring are essential for effectively managing the condition and preventing complications. Type B private hospitals in Jakarta often employ a diverse team of



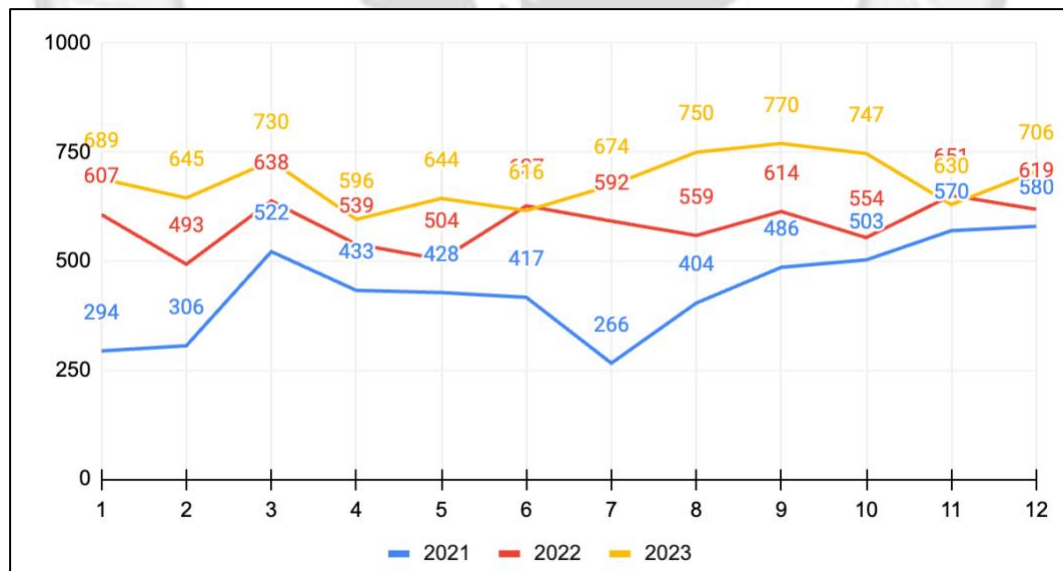
medical professionals, including endocrinologists, diabetes educators, dietitians, and specialized nurses, who collectively contribute to the multidisciplinary approach to diabetes management (Supriadi, 2018).

The extensive proliferation of private hospitals in Indonesia may inadvertently limit their growth, particularly financially, while also influencing patient loyalty. The rapid expansion of private hospitals has led to increased competition within the healthcare industry, resulting in a fragmented market where hospitals vie for a share of the patient population. With numerous private hospitals offering similar services and amenities, differentiation becomes challenging, leading to price competition as facilities attempt to attract patients. This fierce competition often translates into reduced profit margins for private hospitals, as they may be compelled to lower prices or offer discounts to remain competitive. Consequently, this financial strain can impede the growth and sustainability of private hospitals, hindering their ability to invest in infrastructure, technology, and staff training. As a result, private hospitals must continuously adapt their strategies to retain patient loyalty and remain viable in an increasingly competitive market (Sari et al., 2023).

Hospital XYZ, classified as a type B private hospital, has distinguished itself by specializing in diabetes management as one of its centers of excellence (CoE). This dedication to providing high-quality care is evidenced by its patient-centric approach, which prioritizes implementing the latest guidelines from the ADA and EASD. The CoE team at this hospital comprises a diverse group of healthcare professionals, including general practitioners, nurses, and dietitians, who are certified as diabetes educators, ensuring comprehensive support for patients with

diabetes. Moreover, the team includes multidisciplinary specialists such as cardiologists, nephrologists, neurologists, and vascular surgeons, enabling holistic care that addresses the various complications associated with diabetes. Despite the hospital's commitment to excellence and the implementation of best practices, it faces significant challenges in meeting target visits for its diabetes management CoE.

A steady increase in visitation rates at the COE for diabetes can be seen yearly. From Figure 1.1, we can see that the number of visits increases every year, reaching an all-time high per month in September 2023. The year 2021 marked the lowest number of visits due to the uncertain global conditions, causing patients to refrain from visiting hospitals. There is a significant increase from 2021 to 2022, attributed to the improved COVID conditions compared to the increase from 2022 to 2023.



**Figure 1.3 Visitation Trend Diabetes Clinic XYZ Hospital**  
Source: modified from internal data (2024)

As shown in Table 1.1, in 2023, outpatient visits to the diabetic clinic showed a notable increase, indicating a growing awareness and concern regarding diabetes management among the population. However, despite this surge in attendance, the clinic fell short of reaching its target goals for patient visits. Various factors may have contributed to this shortfall, including limited resources, insufficient outreach efforts, or barriers to access, such as transportation or scheduling difficulties.

Despite the setback, the clinic's efforts in providing comprehensive care and support for diabetic patients remain crucial in addressing the complex challenges posed by this prevalent chronic condition. Moving forward, the clinic must strategize and adapt its approach to better meet the needs of the community and ensure that individuals with diabetes receive the care and attention they require to manage their condition effectively.

**Table 1.1 Hospital XYZ visitation growth and target data**

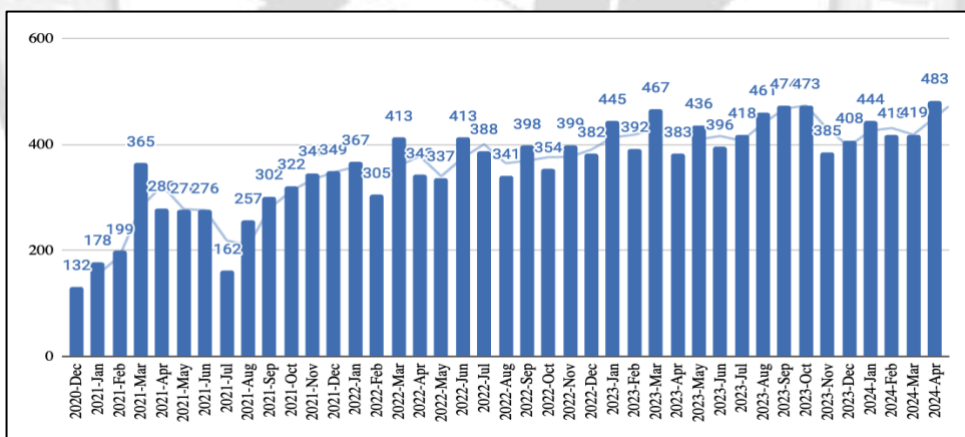
<i>Year</i>	<b>Visitation volume (N)</b>	<b>Visitation target (N)</b>	<b>Visit growth (%)</b>	<b>Visit Growth Target (%)</b>
2021	5474	6000	-	-
2022	10347	10000	89.02	50
2023	12401	15000	19.85	50

Source: internal data (2024)

The disparity becomes particularly evident when examining the monthly visitation rates among patients with T2DM. Despite an overall increase in outpatient visits to the diabetic clinic since its inception, the visitation rate among individuals with T2DM shows inadequate growth, as depicted in Figure 1.2. This insufficient trend underscores a significant gap in access to care and awareness among individuals diagnosed with T2DM.

Contributing factors may include challenges specific to managing T2DM, such as lifestyle adjustments, limited awareness of available support services, or barriers to seeking healthcare due to various personal or systemic reasons. Effectively addressing the needs of patients with T2DM demands targeted interventions and tailored support services to empower them in managing their condition and accessing essential healthcare resources.

The total yearly new patient growth for the diabetic clinic presents an intriguing trend, reflecting a notable decrease of 14% in the first year, followed by an increased growth rate of 6.5% in the second year (Figure 1.3). This initial surge suggests a significant uptick in demand for diabetic care services, possibly driven by heightened awareness campaigns, improved healthcare access, or increased prevalence of diabetes within the community.

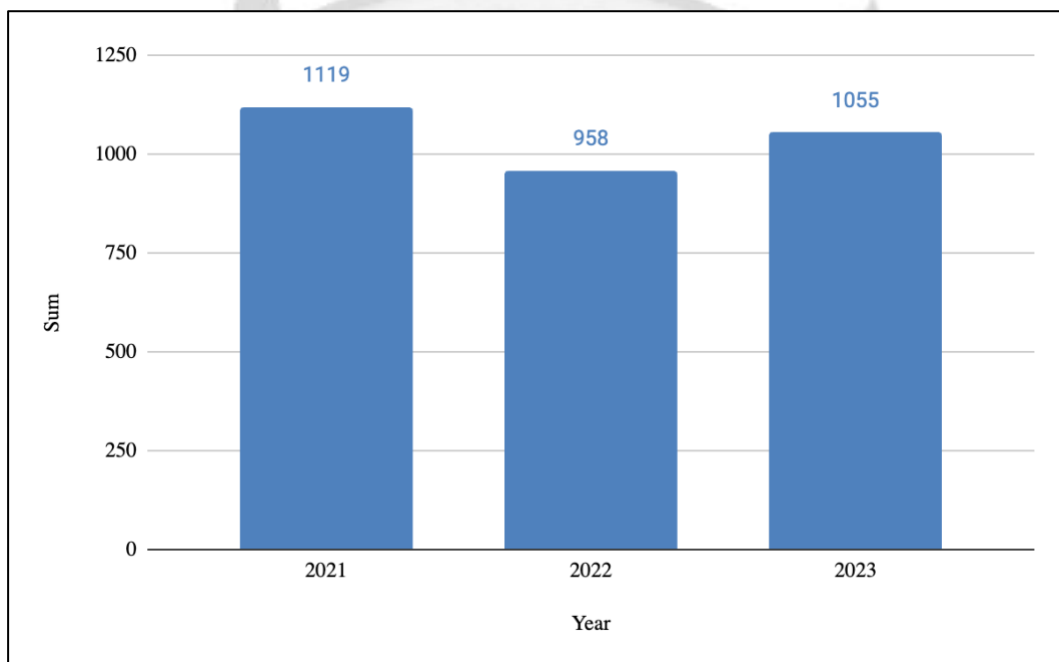


**Figure 1.4 Monthly Type 2 Diabetes Mellitus Patient Trend at Diabetes Clinic XYZ Hospital**

Source: modified from internal data (2024)

However, the subsequent decrease in growth rate may indicate a plateauing effect or the onset of factors constraining further expansion, such as resource

limitations, saturation of outreach efforts, or external economic or societal influences. Understanding these fluctuations in growth rates is pivotal for the clinic's strategic planning, enabling it to adapt its services and outreach initiatives accordingly to sustainably meet the evolving needs of its patient population while striving towards its long-term objectives in diabetes management and care.



**Figure 1.5 Yearly New Patient Growth Diabetes Clinic XYZ Hospital**  
Source: modified from internal data (2024)

One way to increase patient visits is to enhance patients' preferences in selecting hospitals through empowering organizational structures and work environments. Previous research has identified various factors influencing technology adoption, but few have considered organizational factors as independent variables in this context. Most studies focus more on perceived usefulness and ease of use predictors from the Technology Acceptance Model (TAM). Therefore, this study aims to further explore how organizational factors in hospitals, such as

internal policies, organizational culture, and leadership support, can affect patients' intention to recommend the hospital. Strengthening organizational aspects that support diabetes self-management and self-efficacy is expected to enhance patient trust and engagement in managing their conditions, which in turn can increase patient visits and the intention to recommend the hospital to others.

This phenomenon underscores the complex nature of diabetes management, where factors such as patient education, lifestyle modifications, medication adherence, and access to healthcare services all play crucial roles. Despite the hospital's best efforts, T2DM patients may face unique challenges that hinder their ability to adhere to treatment regimens and attend scheduled visits, leading to suboptimal outcomes and difficulty in achieving growth targets. This case illustrates the intricate interplay between healthcare delivery, patient behavior, and institutional challenges. It underscores the need for hospitals like XYZ to adopt a multifaceted approach that goes beyond clinical guidelines to address the broader social, economic, and cultural factors that impact patients' ability to engage with their healthcare. By recognizing and addressing these challenges, Hospital XYZ can better support its diabetes management CoE, improve patient outcomes, and ultimately fulfill its mission of providing high-quality care to all patients.

Patient empowerment, which involves enabling individuals to take control of their health and make informed decisions about their care, has been shown to positively influence self-efficacy in diabetes management. Empowered patients are more likely to actively engage in their treatment plans, adhere to medication regimens, and adopt healthy lifestyle behaviors, thereby enhancing their confidence in managing their condition (Chen et al., 2011). Patient engagement and diabetes

patient empowerment (DPE) are related concepts that can positively influence diabetes self-efficacy.

Patient engagement refers to the involvement of individuals in their healthcare and the support they receive from peers, healthcare professionals, and community organizations. On the other hand, empowerment enables individuals to take control of their health and make informed decisions about their care. Both patient engagement and empowerment can contribute to higher levels of self-efficacy in diabetes management. Patient engagement can enhance diabetes self-efficacy by providing individuals with the resources, encouragement, and social support necessary to effectively manage their condition. Peer-led support, for example, has been shown to improve participant self-care (e.g., nutrition, physical activity, and glucose monitoring), psychosocial outcomes (e.g., quality of life, self-efficacy, and depression), and treatment and appointment engagement. Positive social support has also been shown to influence diabetes self-management practices such as eating a healthy diet, exercising, and monitoring blood glucose. Diabetes patient empowerment, which involves fostering an active role for the patient, can also enhance self-efficacy. Empowerment typically involves efforts aimed at improving self-esteem and autonomy, facilitating personal responsibility, and ultimately improving self-care. When applied to diabetes, empowerment refers to the ability to make decisions about controlling one's disease, defined by having both the knowledge required to make informed decisions and the resources to implement these decisions. Empowerment can influence medication adherence, diabetes knowledge, and overall self-care behaviors, which are crucial for managing

diabetes effectively (Freeman et al., 2018; Hernandez-Tejada et al., 2012; Ramsay Wan et al., 2012; Sørensen et al., 2013).

The Indonesian Association of Endocrinology (Perkumpulan Endokrinologi Indonesia/PERKENI) has extensively implemented the international DM guideline in Indonesia. However, Indonesia's current guidelines emphasize medical therapy more than diabetes SE or SM.

## **1.2 Research Questions**

Based on the information provided, a series of research questions related to the impact of diabetes management self-efficacy on the intention of recommending a hospital can be developed. These questions will be addressed through a survey research approach involving quantitative data analysis.

1. Does DMSE positively and significantly influence DPE?
2. Does DMSE positively and significantly influence LRC?
3. Does DPE mediate the positive and significant influence of DMSE on LRC?
4. Does HL positively and significantly controls LRC?
5. Does OPE strengthen the positive and significant influence of DMSE on DPE?

## **1.3 Research Objective**

Based on the research questions outlined above, specific research objectives can be formulated in the context of survey research on the topic of the likelihood to recommend in private hospitals.



1. To test and analyze the positive influence of DMSE on DPE
2. To test and analyze the positive influence of DMSE on LRC
3. To test and analyze whether DPE mediates the positive influence of DMSE on LRC.
4. To test and analyze whether HL can serve as a control variable for LRC
5. To test and analyze whether OPE strengthens the positive influence of DMSE on DPE

#### **1.4 Research Benefit**

This research is conducted in the field of hospital administration and focuses on medical services. It considers factors influencing diabetes management self-efficacy regarding patient preferences in selecting a hospital. The benefits of this research can be divided into two categories: academic and practical.

The academic benefit of this research is that the findings are expected to contribute to the empirical research literature by testing a new conceptual framework. A new contribution to the model is made by analyzing the mediating factors of diabetes patient empowerment and the moderating factors of health literacy and online patient engagement. With the inclusion of these mediation and moderation factors, the intrinsic factors that influence an individual's self-efficacy can be considered, thereby helping to achieve the primary goal of diabetes education. Thus, the research findings can contribute to new references related to the topic of factors influencing behavioral intention, specifically patient preferences.

The practical benefit in this regard is that it provides relevant insights for hospital management to consider factors influencing patient preference in selecting a hospital, including various mediating and moderating factors and dimensions analyzed in this research. The research findings can offer an overview of which factors are crucial for intervention and provide a prioritization scale. These findings can offer recommendations for hospital management based on valid data.

### **1.5 Research System**

The research is structured into a systematic framework consisting of five chapters. Each chapter provides explanations corresponding to its title. These five chapters have a logical flow and interconnection, making the research a cohesive and comprehensive academic manuscript. The elaboration of the research framework is structured as follows:

#### **CHAPTER I: INTRODUCTION**

This chapter comprises the background of the research, an explanation of the research phenomenon and problems, and the research variables to be utilized. It also outlines the research questions, objectives, benefits, and writing structure.

#### **CHAPTER II: LITERATURE REVIEW**

This chapter includes discussions of fundamental theories serving as the research foundation, explanations of variables, and previous studies related to the research

topic. This chapter will further elaborate on developing hypotheses and explaining the research model (conceptual framework).

### **CHAPTER III: RESEARCH METHODOLOGY**

This chapter explains the research object, research type, operationalization of research variables, population and sample, sample size determination, sampling method, data collection method, and data analysis method.

### **CHAPTER IV: RESULTS AND DISCUSSION**

This chapter encompasses the analysis of the research data processing, including the profile and behavior of respondents, descriptive analysis of research variables, and inferential analysis of the research using PLS-SEM, along with its discussion.

### **CHAPTER V: CONCLUSION AND RECOMMENDATION**

This chapter presents the research conclusion, managerial implications, limitations, and suggestions for further research.