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Public Trust and Perception of AI-Powered Health Chat Bots: A Qualitative Study of Digital Symptom Checkers in Ireland

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A Thesis Submitted for the Partial Fulfilment of the Requirement for the Degree of

Master's in Digital Transformation (Life Science) (QQI)

INNOPHARMA FACULTY OF PHARMACEUTICAL SCIENCE

GRIFFITH COLLEGE, DUBLIN

THEERTHA PRADEEP

AUGUST 24, 2025

DECLARATION

I, Theertha Pradeep, hereby certify that the dissertation titled "Public Trust and Perception of AI-Powered Health Chatbots: A Qualitative Study of Digital Symptom Checkers in Ireland," submitted for the degree of MSc in Digital Transformation Life Science, is the result of my own work. I have rigorously followed academic integrity standards, ensuring that all references to the work of others are properly acknowledged. I affirm that this dissertation reflects my original insights, interpretations and conclusions derived from my personal academic efforts. Contributions from external sources have been appropriately cited, with full recognition given to the intellectual property of others. I declare that the work presented in this dissertation is entirely my own. All sources and references utilized in this study have been accurately acknowledged, and any assistance received has been clearly stated. I confirm that this research has not been previously submitted for any degree or professional qualification. Additionally, I have adhered to the ethical guidelines set by my institution throughout the course of this research.

Signed: Theertha Pradeep,

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I would like to express my deepest gratitude to all those who supported me throughout the completion of this dissertation. First and foremost, I sincerely thank my supervisor, whose guidance, encouragement, and constructive feedback were invaluable at every stage of this research. Their expertise and thoughtful direction enabled me to refine my ideas and remain focused on the objectives of this study.

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List of Abbreviations

Abbreviation	**Full Form**
AI	Artificial Intelligence
AI-POWERED	Artificial Intelligence Powered
BMC	BioMed Central
CA	California *(or context-specific)*
CHATBOTS	Conversational Agents
CHECKERS	Symptom Checkers *(context-specific)*
COVID-19	Coronavirus Disease 2019
E.G	*Exempli Gratia* (For Example)
ER	Emergency Room
GDPR	General Data Protection Regulation
GP	General Practitioner
GPT	Generative Pre-trained Transformer
HBM	Health Belief Model
HCI	Human–Computer Interaction
HSE	Health Service Executive *(Ireland)*
JMIR	Journal of Medical Internet Research
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Use of Technology
US	United States
WHO	World Health Organization

ABSTRACT

The growing popularity of artificial intelligence (AI) in the healthcare industry has facilitated the implementation of AI-powered symptom checkers (SCs) that can be used to give patients immediate access to health-related information. Although they have potential, little is known about the issues of trust, usability, and integration into the current healthcare systems in Ireland. This paper explored the attitudes and perception of SCs among young adults in Ireland, with the view to determine the factors that affect their uptake and sustained use.

The qualitative interpretivist design was used with semi-structured interviews of participants aged 18-35. Data were analysed thematically to identify both cognitive and affective side of trust. The results indicated that, although SCs are valued as convenient, discrete and a source of reassurance about minor ailments, participants were skeptical about complex or urgent care. It was revealed that trust is a complex phenomenon, which depends on accuracy, emotional appeal, transparency, personalization, and past medical experiences. Users often used chatbot suggestions in conjunction with other sources or consultations with professionals and did not regard SCs as alternatives to healthcare providers.

The obstacles to adoption were unclear or over-cautious outputs, lack of empathy in design, issues of data privacy and no formal regulation. On the other hand, integration into government healthcare systems and acceptance by HSE were regarded as ways of becoming more accepted.

This study adds to the knowledge of technology acceptance and trust in medical AI and provides recommendations on empathetic design, transparent communication, regulatory oversight, and prudent personalization as ways to promote sustainable adoption.

CHAPTER-1, INTRODUCTION

1.1 Background and Rationale

The growing use of artificial intelligence (AI) in healthcare has spurred a surge of digital innovations targeted at improving diagnostic efficiency, system sustainability, and patient access. Among these are AI-powered symptom checkers (SCs), online tools that allow users to input symptoms and receive immediate diagnosis or recommendations (Ayndri, 2025). These technologies provide users a potential first step in addressing health concerns while also relieving the burden on overburdened health facilities by serving as digital triage helpers.

These technologies align with the national eHealth Ireland Strategy of the Health Service Executive (HSE), which encourages the adoption of digital innovations to improve patient outcomes and update hospital infrastructure (HSE, 2019). Platforms like SymptomCheck.ie and healthchatbots.ie have become more well-known, especially during and after the COVID-19 pandemic, when digital health participation skyrocketed (Health Innovation Hub Ireland, 2023).

Despite their growing popularity and technological complexity, public trust in SCs remains a significant barrier to their broad deployment. Concerns about the precision, transparency, and personalisation of AI-generated suggestions are commonly expressed by users. Issues such as generic outputs, ambiguous decision logic, privacy concerns, and a lack of explanation frequently erode trust in digital symptom checkers (Ceney et al., 2021; Müller et al., 2024). Furthermore, individual characteristics such as age, emotional state, digital literacy, and health status have a substantial impact on users' inclination to trust or accept these technologies (Kopka et al., 2022; Wiedermann et al., 2023).

This study aims to explore the lived experiences and subjective impressions of Irish symptom checker users. By investigating the creation, preservation, and rupture of trust. This work contributes to the theoretical understanding of human–AI interaction and the practical creation of user-centered digital health tools.

1.2 Purpose of the Study

Finding out how Irish users perceive the usability, reliability, and trustworthiness of AI-powered symptom checks is the main objective of this study. Finding out what consumers expect from these technologies in everyday and high-stakes scenarios, as well as the underlying environmental, emotional, and cognitive factors that affect this trust, is the aim of the study.

This study focusses on digital symptom checkers as a subset of AI health chatbots and employs a qualitative methodology to investigate users' expectations, worries, and thoughts in their own words. By doing this, the study investigates the social, ethical, and psychological aspects that genuinely affect whether AI products are accepted or rejected, moving beyond algorithmic performance measurements.

1.3 Significance of the Study

While several research have examined the diagnostic accuracy of symptom checkers (e.g., Hammoud et al., 2024), few have examined the subjective user experiences that promote trust and long-term involvement. This study closes that gap by focusing on user interpretation, emotional response, and hands-on involvement with these tools.

The findings will be useful to developers seeking to improve interface design and explanatory features, healthcare officials seeking to appropriately integrate AI into patient care, and doctors exploring the ways in which such tools might support pre-consultation triage. Furthermore, in the Irish environment, where access to healthcare is still challenging due to a lack of general practitioners and long wait times, technologies like symptom checkers could be quite beneficial if users trust them (Wiedermann et al., 2023).

This study is extremely pertinent given the recent calls for more ethical and transparent design of AI systems. Emotional design components such as visual reassurance, tailored recommendations, and empathic language are still understudied while being crucial to public trust (Woodcock et al., 2021). Consequently, the study promotes not only digital health and medical AI, but also user-centered innovation and trust design.

1.4 Research Questions

The study is guided by the following research questions:

1. How trustworthy are AI-powered symptom checks in the eyes of Irish users?

2. What factors influence their adoption and continued use?

3. What expectations and concerns do consumers have about these online resources?

These questions serve as the foundation for the study's design, methodology, and data analysis.

1.5 Research Objectives

To answer these questions, the study is guided by five primary objectives:

- To assess the reliability, utility, and credibility of AI-powered symptom checker chatbots as perceived by the general audience.
- To identify the key factors such as perceived accuracy, clarity of explanation, personalisation, and prior medical experience that influence public trust and use.
- To determine how user characteristics (including age, digital literacy, health, and anxiety levels) affect how people see and use symptom checkers.
- To determine barriers, challenges, and concerns that influence the application of AI-powered chatbots in healthcare decision-making.
- To provide practical, evidence-based recommendations to improve the adoption and effectiveness of AI symptom checkers in the Irish healthcare system.

1.6 Scope and Delimitation

The study solely examines computerized symptom checkers that are powered by AI; it ignores more widespread applications of AI in healthcare, such as robotic surgery, wearable monitoring, and diagnostic imaging. This study only examines Irish residents between the ages of 18 and 35, who are known to be digitally proficient and more inclined to adopt new digital health technologies, even if there are many symptom checks available globally (Health Innovation Hub Ireland, 2023).

The study prioritizes in-depth comprehension over generalizability through the use of semi-structured interviews and an interpretivist, qualitative methodology. Although statistical extrapolation to the general population is hindered, this allows for a deeper exploration of the sensory and emotional dimensions of trust.

1.7 Conceptual Definitions

- **AI-powered symptom checkers (SCs):** Online applications that automatically assess symptoms and provide triage advice using AI algorithms (Hammoud et al., 2024).
- **Trust:** A user's confidence in the AI system's reliability, competence, and integrity is influenced by social, emotional, and environmental aspects (Kopka et al., 2022).
- **Digital literacy:** The ability to understand, engage with, and critically evaluate digital tools is known as digital literacy (Müller et al., 2024).
- **Interpretivism:** According to Clarke and Braun (2013), interpretivism is a research paradigm that places a strong emphasis on context, subjective meaning, and the co-construction of knowledge between the researcher and participants.

1.8 Overview of Research Context

Ireland is undergoing a significant shift in digital health as a result of government plans that prioritize online care platforms, mobile health applications, and electronic health records (HSE, 2019). Public exposure to these tools, especially symptom checkers that provide speed, ease, and anonymity, was accelerated by the COVID-19 epidemic.

However, studies show that following a negative experience, users either continue to cross-check the results with Google or forums, or they use symptom checkers rarely or cease using them entirely (Müller et al., 2024). Despite advancements in algorithmic accuracy, trust remains fragile, with certain algorithms achieving diagnostic capabilities comparable to those of physicians (Hammoud et al., 2024).

How SCs defend their recommendations, whether outputs are relevant or too general, and whether personal data is shared or stored continue to be issues of public concern. As a result, trust is relational, emotional, and impacted by users' past experiences, anxieties, and beliefs, making it more than just a technological issue (Woodcock et al., 2021; Ayndri, 2025).

Based on the Irish healthcare system, this study contributes to a more complex understanding of these challenges.

1.9 Structure of Dissertations

The sections of this dissertation are arranged as follows:

- **Chapter 1: Introduction:** The background, significance, and goal of the study of public trust in AI-powered symptom checkers in Ireland are explained. It describes the goals, main questions, objectives, scope, and fundamental ideas of the study, demonstrating why it is pertinent and timely given Ireland's digital healthcare environment.
- **Chapter 2: Literature Review:** Analyses significant academic research and theoretical frameworks regarding digital symptom checkers, with a focus on perceived accuracy, explanation clarity, customization, and demographic implications on trust.
- **Chapter 3: Methodology:** The interpretivist paradigm and qualitative approach are explained along with participant selection, interviewing procedures and the justification for using semi-structured interviews. Ethics and data analysis methods are also discussed.
- **Chapter 4: Findings, Analysis and Discussion:** Thematic findings from the interviews are presented in which uses anonymized excerpts to illustrate participants' attitudes towards SCs. We look into trust drivers, use barriers, and emotional reactions. After analyzing the findings in light of the literature, this

chapter also addresses the implications for healthcare communication, technology design, and AI policy in Ireland.

- **Chapter 5: Conclusion:** The study's contributions are highlighted in this chapter and Recommendations, which also summarizes the main conclusions, offers practical recommendations, and points out areas that require more investigation, especially in elderly and culturally diverse groups.

1.10 Summary

This chapter has provided the background, purpose, and design of the study on Irish public trust and perception of chatbots that use artificial intelligence to examine symptoms. It underlined how crucial trust is when evaluating AI's potential in healthcare, especially in emotionally sensitive areas like diagnosis and self-care. The chapter outlined the objectives and research topics and justified the adoption of a qualitative, user-focused technique.

As Ireland continues to embrace digital health, it will be essential to comprehend the human elements of perception and trust in order to ensure safe and inclusive adoption. In the next chapter, the literature on AI health tools will be critically examined, with a focus on building trust and public expectations.

CHAPTER 2, LITERATURE REVIEW

2.1 introduction

This literature review critically examines the corpus of academic and applied research on AI-powered health chatbots, with a focus on digital symptom checkers (SCs) and the factors influencing public trust and perception, particularly in the Irish healthcare setting. The purpose of this review is to provide an overview of the current literature, identify noteworthy trends, and draw attention to critical gaps that underline the need for additional qualitative research on Irish users' experiences with SCs. The scope includes user-centred issues, technology capabilities, national and international perspectives, and regulatory considerations.

SCs are increasingly being integrated into healthcare systems to support mental health management, self-triage, and service accessibility. Globally, these technologies have enhanced diagnostic support, mental health therapies, and administrative efficiency (Pham et al., 2022; Casu et al., 2024). In Ireland, comparable prospects are emerging, particularly in digital health programs designed to address a staffing shortage.

Despite these advancements, ethical concerns about algorithmic accuracy, emotional detachment, and data privacy prevent widespread implementation (Altamimi et al., 2023; Li, 2023). Risks like AI hallucinations and unreliable outputs necessitate careful integration as well (Shiraishi et al., 2024).

This thematically grouped chapter examines a number of topics, including public perception, user characteristics, acceptability factors, trustworthiness, gaps specific to Ireland, and future research needs to inform responsible SC deployment.

2.2 Conceptual and Theoretical Frameworks

There needs to be a solid conceptual basis that connects technology adoption, user psychology, and health behaviourin order to comprehend public trust in AI-powered symptom checkers (SCs). There are several reasons to trust medical technology. Users' confidence in a system's dependability and proficiency is referred to as cognitive trust. The emotional ease or assurance one experiences during an interaction is a component of affective trust. Although interpersonal trust is typically associated with human relationships, users frequently give AI human-like characteristics, particularly when tools interact with empathy. When using digital health tools like SCs, where uncertainty and anxiety frequently affect decision-making, these types of trust are essential (Woodcock et al., 2021; M?ller et al., 2024).

2.2.1 The Technology Acceptance Model (TAM)

Technology adoption is driven by perceived utility and perceived ease of use, according to the Technology Acceptance Model (TAM). In the medical field, perceived utility may be linked to a tool's diagnostic precision, whereas usability is a reflection of interface clarity. But according to some researchers, TAM falls short in capturing the complexities of healthcare, especially when it comes to trust, ethics, and emotion (Chismar & Wiley-Patton, 2003). Although TAM is still fundamental, its shortcomings in the ethical and emotional contexts of healthcare necessitate the use of complementary models.

2.2.2 The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) builds upon TAM by adding elements like trust, facilitating circumstances, and social influence in order to overcome its shortcomings. Trust is a crucial construct in this research because studies employing UTAUT demonstrate that it significantly predicts user intention to adopt AI systems (Xiong et al., 2023). These models are used in studies by Lee et al. (2025) and Papadopoulos et al. (2025) to assess electronic health systems, highlighting the importance of data privacy and trust in fostering user engagement. But in clinical settings, where emotions and expectations are elevated, these models frequently fail (Elske, 2019).

2.2.3 Trust in Automation and Human? Theories of AI Interaction

Do human and automated trusts complement TAM and UTAUT? frameworks for AI interactions that emphasize how transparency, ethical issues, and system design affect trust. According to Bach et al. (2022), user attributes and explainability are just as important to trust in AI systems as technical accuracy. High-performing SCs may still be viewed with suspicion if their outputs seem impersonal or unrealistic, as demonstrated by Hammoud et al. (2024) and Ceney et al. (2021). Therefore, both emotional resonance and functional dependability influence trust.

2.2.4 Relevance of Theoretical Frameworks to This Study

Together, these frameworks lend support to the study's emphasis on perception, usage, and trust. While trust-centered theories focus on contextual and emotional elements that impact the development of trust, TAM and UTAUT are related to user perception and usability. Users with chronic conditions, for instance, might place more importance on familiarity and accuracy (M?ller et al., 2024), whereas users who are anxious value communication that is sympathetic (Woodcock et al., 2021). When combined, these models provide a multifaceted perspective for investigating how Irish users interact with SCs and what elements support or undermine confidence in new digital health technologies.

2.3 The Role and Evolution of AI-Powered Symptom Checkers

AI-powered symptom checkers (SCs) have emerged as important digital health tools due to their capacity to provide users with preliminary symptom assessments and to drive care-seeking behaviour. Their progress reflects changes in norms for healthcare accessible and self-management as well as advancements in artificial intelligence.

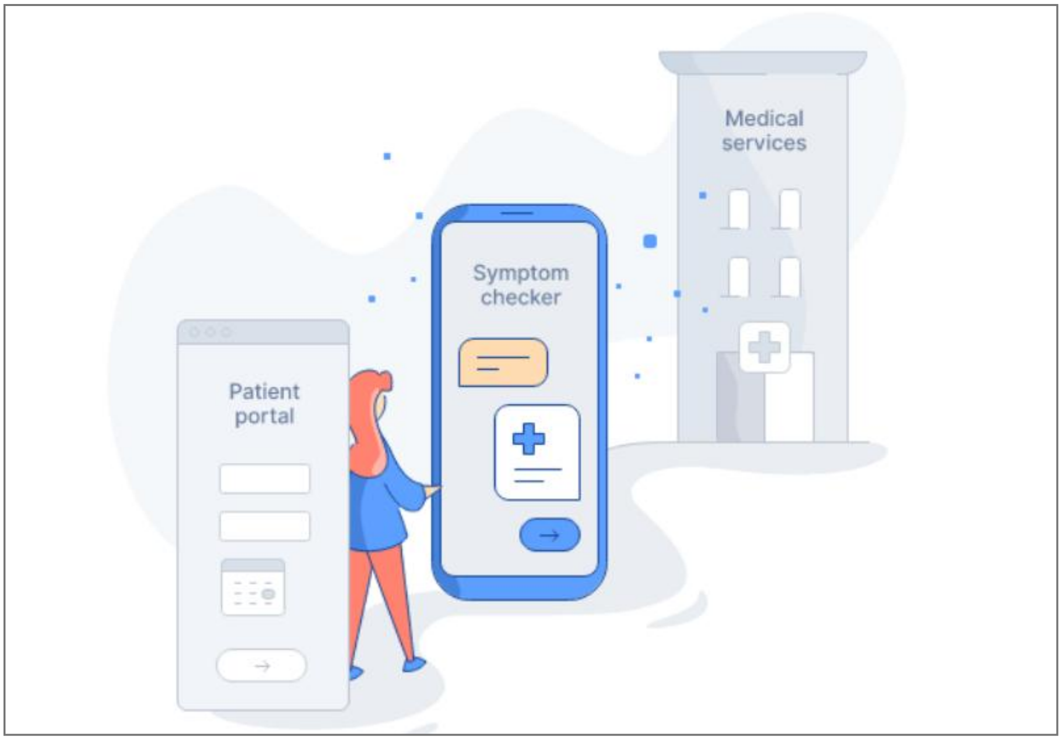

Figure 1, *(Staff, 2020).*

This figure-1, illustrates how AI-powered symptom checkers serve as a rapid triage tool to direct users from self-assessment to the right care by connecting patients, digital health records, and medical services.

Early SCs were based on static decision-tree logic and were often integrated into WebMD and other health education websites. Despite offering a wide range of information, these rule-based systems lacked flexibility and customization (Amballa, 2024). Thanks to advancements in machine learning (ML) and natural language processing (NLP), modern SCs are now interactive, AI-driven conversational agents that can react with more context sensitivity and nuance (Deamant, 2025).

In Ireland, well-known websites like as WebMD, Ada Health, K Health, and SymptomCheck.ie are excellent illustrations of this shift. AI is included into WebMD's extensive medical database. Ada Health offers customized assessments based on millions of clinical scenarios. K Health combines AI-powered assessments with tele-health consultations. Symptom Check was introduced by the Health Service Executive of Ireland. namely to make public health access and self-triage easier, particularly during the COVID-19 pandemic (Amballa, 2024).

Self-triage, reducing the burden on the healthcare system, and enhancing accessibility especially in rural or underserved areas are the main goals of these technologies (Deamant, 2025). Recent models that employ GPT architectures have considerably improved the output accuracy and contextual relevance.

However, challenges remain. Many SCs have barriers to accessibility, user doubts about accuracy, a lack of clinical validation, and limited integration with electronic health data as a result of the digital divide (TechTimes, 2025). Because SCs offer scalable, reasonably priced solutions that promote early health intervention and give users greater choice over their healthcare journeys, they are growing in importance despite these disadvantages.

2.4 Diagnostic Reliability and Perceived Trustworthiness

2.4.1 Triage safety and diagnostic accuracy

Technical reliability and perceived diagnostic accuracy are important determinants of trust in AI-powered symptom checkers (SCs). Performance and trust are not always related, even though users commonly rely on these tools for early health advice. In reality, if an output appears unrealistic, overly generic, or opaque, even the "correct" output may be regarded with suspicion. Therefore, evaluating technical accuracy alone is insufficient to determine trustworthiness; a more comprehensive examination of user perception and communication is required.

Empirical research has revealed significant variation in the diagnostic and triage accuracy of symptom checkers. Wallace et al. (2022) found that SCs listed the correct primary diagnosis in only 19% to 37.9% of cases. Contrarily, triage accuracy ranged from 48.8% to 90.1%, indicating that SCs are typically more reliable when recommending the urgency of care than when diagnosing illnesses. Similarly, Ceney et al. (2021) discovered that SCs only 51% of the time listed the correct diagnosis within the top five recommendations, and that safety in triage advice decreased significantly with condition severity. These patterns suggest a cautious, risk-averse approach that could undermine user trust while protecting providers.

Figure 2, *(Naveen, 2025)*

This figure-2 depicts a virtual interaction between a patient and an AI-powered health chat bot.

Comparative analyses are used to identify performance differences between SC platforms. According to Hammoud et al. (2024), Avey outperformed Ada, WebMD, and K Health in diagnostic and triage tasks and in some scenarios matched physician-level performance. However, users still questioned the validity of outputs when they didn't match their own symptom expectations, even with improved metrics (Müller et al., 2024). This illustrates how perceived and actual accuracy can differ; even an accurate output can come across as untrustworthy if it is not presented in a way that is clear, credible, and context-sensitive.

Advanced machine learning (ML) methods have been researched to enhance SC performance. Ferhi et al. (2024) demonstrated that models trained on large and diverse clinical vignettes produced more accurate and consistent diagnostic results. These advancements, which are usually the outcome of controlled studies, have not yet completely translated into clinical integration or regular user trust.

2.4.2 Transparency, Presentation, and Perception

Beyond clinical performance, the presentation of SC outputs has a significant impact on user trust. In addition to the technical accuracy of SC advice, users evaluate its plausibility and clarity (Kopka et al., 2022). Even when SCs offer sound advice, they are usually ignored if they are unclear or overly cautious and don't explain themselves. According to Woodcock et al. (2021) and Hammoud et al. (2024), explainability, especially in the form of relatable or counterfactual feedback, improves subjective trust among users with low levels of digital health literacy.

During the COVID-19 pandemic, the efficacy of symptom checkers was further investigated. Munsch et al. found that SCs' sensitivity and specificity for COVID-19 symptoms varied greatly (2020). Poor performance from a number of tools resulted in misconceptions, inaccurate information, and a drop in public confidence.

One of the most pressing problems in the literature is the lack of standardized regulation and assessment. To ensure public safety and trust, SCs need regular external validation and benchmarking, claim Kopka &Feufel (2024) and Riboli-Sasco et al. (2023). Without such frameworks, users are compelled to rely on their intuition or prior experiences, which undermines the clinical validity of the tools.

2.5 Key Factors Influencing Trust and Acceptance

As digital symptom checkers (SCs) become more common in public health initiatives, it is important to understand what helps or hinders user trust. In addition to technical accuracy, a number of other factors, such as the information's presentation, personalization, and emotional resonance, affect trust in AI health tools. This section examines the four primary factors that influence acceptance and trust: accuracy and plausibility, personalization and familiarity, transparency and explanation, and affective and emotional design.

2.5.1 Accuracy and Plausibility

Accuracy is one of the most frequently cited factors in studies on trust in AI-powered medical devices. From the user's point of view, accuracy is subjectively interpreted based on expectations, personal experience, and symptom familiarity rather than being an entirely objective concept. Müller et al. (2024) observed that users often depend on their own intuition or past health experiences to assess the accuracy of SC outputs. If the output appears "off" or unrealistic, trust is eroded, even if the diagnosis is technically accurate.

This disparity between diagnostic performance and user trust is known as the plausibility paradox. According to research by Hammoud et al. (2024), SCs like Avey may outperform their competitors and even match physician-level performance on some tasks, but users may still reject the recommendation if they don't believe it to be credible or personally relevant. This illustrates the need for trust that goes beyond diagnostic "success."

Additionally, users are sensitive to both overtriage and undertriage. Many symptom checkers recommend more care than is necessary, presumably out of concern for liability (Ceney et al., 2021). Being too cautious can harm credibility and make SCs seem alarmist or unreliable, even though risk-averse behaviour may be meant to protect users.

This is further supported by the finding that in order for AI decision-support systems to be trusted, accuracy and realism must be balanced (Johnson et al., 2023). If outputs appear to be inconsistent with user symptoms or expectations, trust may be compromised regardless of the system's backend performance metrics.

2.5.2 Transparency and Explanation Type

One important factor in assessing trust in SCs is the clarity of the explanation. Users are more likely to trust a chatbot when it explains how it arrived at its conclusion, especially if the explanation makes sense to their emotional and cognitive framework. Counterfactual explanations, such as "If your headache had not come on suddenly, I would have diagnosed X," were more effective at fostering trust than vague or technical statements, per Woodcock et al. (2021).

Furthermore, Kopka et al. (2022) noted that the type of explanation matters more for certain user groups. Users with lower levels of digital or health literacy expressed greater trust when explanations were understandable and relevant to the situation. Conversely, users with higher levels of eHealth literacy valued more nuanced, comprehensive explanations. This illustrates that when creating explanations, users' cognitive diversity needs to be considered.

Additionally, Nguyen et al. (2023) note that while transparency can foster trust, it can backfire if the information is excessively complex or raises new questions. According to Schmidt et al. (2020), this is supported by their warning that poorly executed transparency initiatives may overwhelm users and result in confusion rather than reassurance.

Domain-specific explanations significantly increased doctors' trust in AI tools in healthcare-specific applications, as Huang et al. (2023) showed. In a similar vein, Chanda et al. (2024) argue that various end users, including patients, clinicians, and laypeople, should be served by different explanation formats. These findings support a tiered explanation model that tailors outputs based on user profile, context, and comprehension level.

2.5.3 Personalization and Familiarity

Trust is also significantly impacted by the degree of personalization in SC responses. Users expect tools to treat them as distinct individuals, taking into account their symptoms, medical history, and emotional state. Müller et al. (2024) found that participants gave SCs positive feedback when they personally addressed their concerns. This sense of personal connection builds rapport and increases the likelihood that users will pay attention to and implement the SC's recommendations.

However, personalization introduces new threats to trust, particularly when it comes to data privacy and algorithmic bias. SCs trained on non-diverse datasets may provide biassed or irrelevant recommendations for under-represented groups (Ceney et al., 2021). This puts usability and trust at risk, especially for users from minority backgrounds or those with unusual health profiles.

Algorithmic bias may also be indicated by generalized outputs. Users often perceive SCs as "robotic" when the advice appears excessively preset or unrelated to their actual experiences. According to Adams et al. (2023), users favour AI-generated content that is context-aware, emotionally connected, and free of generic templates.

Finding a balance between data protection and personalization is another important consideration. Excessive data collection may boost relevance, but it may also undermine trust if users fear their information is being misused. Kovari (2024) emphasizes the need for explicit data handling guidelines and user control tools, such as consent toggles or data summaries, in order to sustain sustained engagement.

Ultimately, familiarity with chatbot interactions is also important. As trust grows with continued use, users become more comfortable interpreting and heeding chatbot advice. However, it takes time, consistent design, and a track record of reliability to build this familiarity.

2.5.4 Emotional and Affective Design

The foundation for trust in AI health tools is deeply emotional rather than merely cognitive. Users often turn to symptom checkers when they are feeling vulnerable, uncertain, or anxious. In these circumstances, empathetic design can significantly boost perceived trustworthiness. Ayndri (2025) asserts that emotionally intelligent chatbots, or those that offer consolation, empathy, and a human-like tone, can enhance user comfort and reduce anxiety associated with health concerns.

Lee et al. (2023) looked into the role that social emotions and perceived humanity play in trust. They found that users are more likely to trust virtual assistants who are kind, humble, and speak positively. This lends credence to the notion that trust is based on more than just being right; it also depends on feeling understood and supported.

Likewise, Zhang et al. (2021) argue that human-like chatbot responses boost relational trust, particularly with users who view digital tools as "companions" rather than just information sources. This is particularly relevant in primary care, where interpersonal communication is crucial to providing care.

Empathy is another element that lowers user anxiety. Woodcock et al. (2021) found that explanatory statements that acknowledged user emotions decreased anxiety and increased acceptance of recommendations. Adams et al. (2023) provide additional support for this, pointing out that emotional design strengthens affective and cognitive trust, which in turn increases intention to adopt AI systems.

Moreover, affective design is essential to prevent overreactions to alarming findings. SCs that offer severe diagnoses without the appropriate context or reassurance may cause panic, especially in users with high levels of health anxiety (Kopka et al., 2022). To mitigate this, SCs must strike a balance between urgency and emotional sensitivity.

In summary, trust in SCs is shown to be a complex, multidimensional process that encompasses all four dimensions: accuracy and plausibility, personalisation and familiarity, transparency and explanation, and affective design. It depends not only on what the system produces but also on how, when, and why it provides the information. This review shows that accuracy metrics are not the only factors that contribute to trust. Instead, a thorough design strategy that takes into account technical dependability, individualised interaction, emotional intelligence, and clear communication is required. These components will be essential to the adoption and moral application of AI-powered health chatbots in Ireland and other countries.

2.6 User Characteristics Shaping Trust and Interaction

Gaining confidence in AI-powered health chatbots, particularly digital symptom checkers (SCs), takes time. Instead, personal characteristics like age, emotional intelligence, health, and digital literacy have a significant influence. Users' interpretations of chatbot outputs and their acceptance or rejection of the information they are presented with are influenced by these attributes. In this section, four key user attributes that impact SC engagement and trust are explored.

2.6.1 Disparities by Age and Generation

Age is one of the most studied factors affecting the uptake and confidence in digital health. Research indicates that younger users—often referred to as "digital natives"—are more open to trying out AI-powered tools like symptom checkers. Their early exposure to technology results in higher levels of confidence and digital fluency. Because of convenience and curiosity, users under 30 were more likely to engage with SCs (Reinmann et al., 2023). These users usually rely on peer recommendations, app popularity, and accessibility when deciding which digital health tools to trust and use.

However, older adults sometimes referred to as "digital immigrants" tend to be more sceptical. This group, according to Hoffmann et al. (2014), evaluates digital tools more cautiously and often prioritizes face-to-face communication with physicians because they prefer personal reassurance and established medical authority. Older adults may view SCs as less trustworthy or impersonal when symptom advice contradicts their prior healthcare experiences.

Generational digital fluency is another factor. When older users struggle to understand AI-generated recommendations or navigate interfaces, trust may be damaged. Therefore, improving intergenerational trust and usability requires developing SCs that are simple to use and intuitive for all age groups.

2.6.2 Knowledge of Digital and e-Health

The degree of digital literacy of users has a significant influence on how they interact with SCs. High levels of digital and eHealth literacy improve a person's ability to use apps, understand chatbot logic, and critically evaluate recommendations. High-literacy users typically use SCs as one of multiple information channels rather than a single, authoritative source, comparing chatbot outputs with secondary sources such as Google or health forums (Kopka et al., 2022). Along with a healthy dose of scepticism, this multi-layered verification approach shows engagement and critical thinking.

On the other hand, people with low levels of digital literacy are more likely to rely on chatbot results without conducting independent research. This could lead to over-reliance, especially if users lack the skills necessary to assess the quality of the advice. Müller et al. (2024) found that many low-literacy users felt reassured by SCs, even when the outputs were generic or ambiguous. This raises concerns about blind trust and potential misinterpretation.

Durmuş (2024) asserts that digital literacy serves as a mediator in the relationship between user confidence and effective use in addition to enhancing usability. There is still a digital divide, which means that older, low-income, and rural populations might not be as equipped to use SCs because they lack access to or familiarity with digital tools (Claudio et al., 2024). To address these disparities, accessible design and digital education strategies are needed.

2.6.3 Experience and Health Status

A user's past medical history and present health also have an impact on how they engage with SCs. When approaching SCs, people with chronic illnesses or those who regularly engage with the healthcare system typically have more specific expectations. Müller et al. (2024) pointed out that rather than diagnosing, these users use SCs to validate preexisting conditions, manage reoccurring symptoms, or prepare for medical consultations. These users require more specificity because they see ambiguous outputs as an indication of a bad system design.

On the other hand, healthy individuals may use SCs reactively, often during periods of uncertainty or mild illness, or infrequently. Despite their generally lower expectations, they become more dependent when under pressure, especially when quick answers are needed. However, these users may also be more likely to overreact to extreme outputs, which could lead to incorrect self-diagnosis or unnecessary worry.

Kim et al. (2024) introduced the Mobile-Centered Digital Health Readiness Scale (mDiHERS), which highlights health literacy, digital accessibility, and user empowerment as critical elements affecting SC effectiveness. These findings support the idea that readiness and past health experiences can have a direct influence on the trust relationship between a user and a chatbot.

2.6.4 Anxiety and Mental Health

Psychological traits, particularly anxiety levels, have a significant impact on trust in SCs. Though it can also increase mistrust or misunderstanding, anxiety can encourage the use of digital health tools. Woodcock et al. (2021) found that anxious users were more likely to use symptom checkers more frequently, but they were also more likely to interpret neutral outputs as concerning. This contradiction draws attention to the emotional vulnerability of certain user groups.

In addition to usage frequency, anxiety affects trust calibration. Users with high levels of health anxiety may be overly watchful, seeking reassurance from SCs but also distrusting the findings if they don't support their worries. Over-checking, repetitive use, or panic-driven decision-making may ensue, especially if SCs list severe conditions without adequate framing or emotional reassurance.

According to Zhou and Lu (2024) and Adams et al. (2023), perceived empathy, tone, and clarity in AI-generated content are essential for managing emotionally charged interactions. SCs can help users make better decisions by lowering anxiety and fostering affective trust through the use of calming language, acknowledging user concerns, and gently elucidating uncertainty.

Furthermore, panic caused by inaccurate information is a major concern when SCs are unable to communicate nuance. For example, listing severe but rare conditions first could overwhelm users and result in unnecessary ER visits. Therefore, psychological design principles must be incorporated into SC interfaces to account for these reactions.

2.7 Public Perception, Concerns, and Regulatory Expectations

The widespread use of AI-powered tools, such as symptom checkers (SCs), in healthcare systems is both encouraged and discouraged by public trust. The public's perception of SCs is shaped by a mix of empowerment and fear, and it often reflects underlying concerns about data privacy, transparency, the reliability of diagnostics, and the loss of human-centered care. This section examines these concerns and highlights the pressing need for robust regulatory frameworks.

2.7.1 The Dual Nature of Public Sentiment: Empowerment and Anxiety

Many users consider SCs to be empowering tools that offer quick, convenient, and private health advice. According to Müller et al. (2024), people appreciate the speed, ease, and independence of SC interactions, particularly when access to healthcare is limited. Some people discover that SCs provide consolation in times of uncertainty and promote health self-management.

However, this sense of empowerment is often overshadowed by fear. Müller et al. (2024) state that users are also worried about general recommendations, emotionally distressing results, or incorrect diagnoses. A common source of scepticism is the belief that these tools are impersonal and unempathetic. Concerns about receiving erroneous or alarmist recommendations may make people hesitant to trust or heed SC advice.

2.7.2 Core Public Concerns: Misdiagnosis, Privacy, and Dehumanization

One of the most prevalent concerns among the general public is the potential for misdiagnosis. Despite the fact that SCs offer rapid evaluation, users are concerned that the absence of human clinical judgement could lead to incorrect or harmful recommendations, especially when symptoms are complicated or unclear (Ceney et al., 2021). This worry is increased when SCs do not demonstrate contextual knowledge or offer a justification for their conclusions.

Privacy violations and data misuse are other significant issues. Initiatives such as "Project Nightingale" have raised concerns among the public by demonstrating how healthcare data partnerships between technology companies and providers can circumvent patient consent (Arigbabu et al., 2024). The blurred lines between algorithm training, patient data ownership, and commercial interests exacerbate worries that SC platforms may abuse private health information.

Another significant concern is the alleged threat to clinical roles. A common concern among users is that an excessive dependence on SCs and other AI tools may dehumanize healthcare or even take the place of conventional patient-doctor relationships. Most users are concerned that medical facilities may prioritize automation to save money, further alienating vulnerable patients, even though they still want the assurance of a human doctor.

2.7.3 Regulation, Transparency, and the Call for Certification

Establishing public trust requires strict regulatory oversight, but most current frameworks fall behind AI's progress. Ceney et al. (2021) advocated for SCs to be regulated similarly to medical devices because of their potential to have a direct impact on patient decisions. Because of their regulatory recognition, these tools are safe, backed by data, and held to exact performance standards.

Openness is equally crucial. The necessity of transparent, adaptable, and inclusive regulations is emphasized by Dokumacı (2024), particularly with regard to algorithmic accountability and automated decision-making in the healthcare sector. When users are left wondering how SCs make recommendations without clear guidelines, their trust is weakened.

Furthermore, the ethical implications of AI and algorithmic bias are increasingly being acknowledged. Bahangulu and Owusu-Berko (2025) advocate for governance models that incorporate explainability, accountability, and bias mitigation to guarantee equity in AI-powered healthcare. These recommendations back broader calls for trustworthy AI.

Additionally, Zhang and Dafoe (2020) note that public trust in AI-related organizations is still, at most, moderate. Closing this gap will require increased engagement, ethical AI education, and co-designing processes that integrate patient perspectives in AI governance.

To sum up, the public's perception of SCs reflects a complex balance between caution and optimism. To ease user concerns, particularly those pertaining to misdiagnosis, data misuse, and dehumanization, better AI design is required. Clinical validation, transparency, and strict regulation are also required. The full potential of SCs in healthcare will remain constrained by public scepticism until they are governed by ethical standards and standardized certification.

2.8 Ireland-Specific Context and Gaps in National Literature

Ireland has showed a growing commitment to digital transformation in healthcare through a number of projects aiming at modernizing service delivery, enhancing access, and improving patient outcomes. This change is being spearheaded by the Health Service Executive's (HSE) eHealth Strategy, which gives digital integration across the healthcare system top priority. This means expanding telemedicine, developing electronic health records, and promoting the use of AI-based technologies such as digital symptom checkers to aid in early diagnosis and triage (HSE, 2019; Omaghomi et al., 2024).

Compared to more advanced models in the US and the UK, Ireland's digital health ecosystem is still in its infancy, despite the fact that these strategies constitute a significant advancement. According to research like Mumtaz et al. (2023) and Cassinelli et al. (2024), implementation problems include digital infrastructure limits, user reluctance, and unequal acceptance. One contributing aspect is the public's reluctance to embrace new medical technology. Building trust in public services and digital platforms remains essential for long-term success. Irish users still strongly favour in-person care, particularly for patients with chronic illnesses and elderly persons. This implies that cultural norms pertaining to interpersonal communication continue to shape trust dynamics (Byrne et al., 2023).

Despite increasing interest, user-centric research specifically aimed at Irish demographics is conspicuously lacking. Currently existing research on AI symptom checkers is mostly from the US or the UK, and it doesn't tell us much about how Irish consumers perceive, use, and trust these products. Our understanding of how cultural and environmental elements, such as local ethical attitudes, clinician-patient relationships, and healthcare accessibility, impact adoption in Ireland is so blinded.

Furthermore, little is understood about the moral dilemmas and unclear regulations pertaining to AI in Irish healthcare (Kurniawan et al., 2024; Altamimi et al., 2023). More empirical research that measures performance and emphasizes on user voices, cultural sensitivity, and trust-building in the delivery of digital healthcare is required to close these gaps. Such work is essential to influence inclusive policy and successfully integrate AI health tools into Ireland's evolving healthcare system.

2.9 Gaps in the Literature and Need for This Study

Despite the increasing scholarly interest in AI-powered health chatbots, particularly symptom checkers (SCs), the existing research identifies many important gaps that limit the field's progress and usefulness. There are currently few longitudinal insights into user behaviour and trust dynamics over time, with most study focusing on algorithmic accuracy, technological design, and diagnostic performance. Short-term evaluations and isolated encounters are insufficient to capture how trust develops, deteriorates, or stabilizes with frequent use in real-life scenarios where users struggle with symptoms, uncertainty, and worry.

Second, several studies use simulated user contexts, such as clinical case scenarios or hypothetical instances, or quantitative data (Hammoud et al., 2024; Ceney et al., 2021). These are useful criteria for system accuracy, but they usually overlook the nuances of lived experience, emotional responses, and particular user situations. As a result, current research is not thorough enough to understand how users perceive, interpret, and respond emotionally to SC advice.

Another major disadvantage is the under-representation of Irish users and locally relevant findings. Most empirical studies are carried out in the US or the UK, where healthcare systems, digital health maturity, and public trust are very different from those in Ireland. Developers' and policymakers' capacity to produce context- and culturally-sensitive tools is hampered by the dearth of Irish-centered data.

Finally, there hasn't been much focus on emotive factors including adaptive chatbot replies, trust calibration, and emotional design. Emotional reactions, such feelings of reassurance or worry, can have a significant impact on users' trust and adherence to AI-generated advise. Most SCs, however, are still transactional in nature and are unable to adapt to the comprehension or mood of their users.

This study attempts to bridge these gaps by focusing on Irish user experiences and using a qualitative technique to examine how confidence in SCs is built, challenged, and negotiated within a real-world, cultural setting.

CHAPTER – 3, METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology used to examine the opinions and trust levels of Irish consumers, aged 18 to 35, regarding AI-powered symptom checkers. Using the framework developed in Chapters 1 and 2, the study seeks to understand how users interact with, perceive, and emotionally respond to these digital technologies. An interpretivist paradigm-supported qualitative study approach was deemed most appropriate due to the subjective, contextual, and emotional complexity of trust. This approach captures the complex interplay between ethical, emotional, and cognitive factors that influence AI trust by closely analysing participants' lived experiences. Semi-structured interviews were used to gather rich, narrative data from digitally literate young individuals, who utilize these devices extensively in Ireland. The philosophical viewpoint, research design, participant selection strategy, data collection techniques, theme analysis method, ethical considerations, and limits discussed in this chapter all provide strong support for the conclusions in Chapter 4.

3.2 Research Philosophy and Paradigm

This study uses an interpretivist research philosophy to better understand public trust and perceptions of AI-powered symptom checkers through the lived experiences of Irish users between the ages of 18 and 35. Interpretivism, which sees reality as subjective and socially created, places a strong emphasis on understanding how individuals interpret and make sense of their experiences within certain circumstances (Clarke & Braun, 2013). This approach is particularly relevant in research on trust, as personal, emotional, and cultural elements impact how people react to technology.

Trust in AI-driven health solutions is influenced by a variety of factors, including personal beliefs, emotional nuances, prior medical experiences, and the system's perceived human-likeness. Through semi-structured interviews with consumers, the study seeks to uncover the nuanced, emotive dimensions of trust that are often overlooked in quantitative research. Using the interpretivist paradigm, the researcher can examine how participants create expectations, negotiate meaning, and respond to perceived threats or assurances.

Since trust in digital health is socially and relationally grounded, interpretivism provides the appropriate philosophical viewpoint. In order to ensure that subjects like openness, plausibility, emotive design, and moral quandaries are examined using the participants' own words and perspectives, it promotes a flexible and compassionate exploration of users' subjective realities.

3.3 Research Design and Justification

This study used a qualitative exploratory research approach to see how Irish consumers between the ages of 18 and 35 feel about AI-powered symptom checks. A qualitative approach is the most effective way to obtain rich, nuanced insights into the emotional, cognitive, and social elements of trust aspects that cannot be adequately explored using simply quantitative methods. Given the dearth of existing research on subjective user experiences with these tools in an Irish setting, an exploratory design facilitates open-ended inquiry and emergent findings.

Semi-structured interviews were selected as the primary method of data collection because they offer a balance between guided inquiry and conversational flexibility. Unlike surveys that restrict responses with predefined options, interviews enable participants to express their thoughts, emotions, and worries in their own words. Peer pressure may keep people from considering their personal emotional responses or health issues, even when focus groups are useful for group conversations. Therefore, it was believed that semi-structured interviews were the best way to get detailed, original accounts.

This design strongly aligns with the conceptual framework of the study, which includes the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and theories of automation trust. These models highlight aspects like perceived value, social impact, trust, and emotional engagement that are best studied through firsthand accounts. The open-ended nature of the interviews also allows participants to elaborate on how perceived accuracy, transparency, empathy, and customization influence their trust in AI health solutions. Therefore, this method makes it easier to understand consumer perception and acceptability in a comprehensive and theoretically based way.

3.4 Conceptual Framework Integration

The Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and trust-in-AI models serve as the foundation for the study's conceptual framework. It acts as a manual for creating interview questions and performing a data thematic analysis. The notions of perceived value, simplicity of use, trust, social impact, and emotional engagement all crucial to understanding public confidence in AI-powered symptom checkers are heavily emphasised in each of these models.

The interview questions were designed to probe these constructs in depth. The participants were questioned, for example, why they used SCs (UTAUT), how they felt about accuracy and clarity (TAM), and how they felt about the chatbot experience (trust-in-AI). These questioning techniques were intended to elicit in-depth descriptions of significant decisions and emotions.

During analysis, the original coding categories were determined by the same constructs. Themes such as perceived accuracy, advice transparency, emotional resonance, and customization were found to have a significant impact on participants' confidence. Data privacy, empathy, anxiety, and other emotional and ethical elements were further examined through the literature on trust in AI. By ensuring that the data collection and analysis are firmly grounded in recognized theoretical frameworks, this integration enhances the study's rigor and relevance.

3.5 Participant Selection and Sampling Strategy

Irish residents between the ages of 18 and 35 make up the study's target population; according to Chapter 1, they are tech-savvy and more likely to employ symptom checks driven by artificial intelligence. This generation, sometimes referred to as "digital natives," has grown up with technology and is an important user base for developments in digital health. Therefore, understanding the dynamics of trust in AI-powered products requires an understanding of their viewpoints and experiences.

Purposive sampling was used to select participants who met specific criteria relevant to the research. This non-probability technique ensures that individuals who have substantial exposure to or firsthand experience of digital symptom checkers are included. Important screening criteria included having a basic level of digital literacy, having previously used symptom checker websites or health-related mobile applications, and being willing to think back on their experiences.

For a comprehensive qualitative analysis, the target sample size was between 8 and 12 individuals to ensure depth and manageability. The final figure was established using the topic saturation concept, which states that no new information can be gleaned from further interviews. This approach ensured that participant responses were not duplicated or overly overlapping, and that the data collected was sufficiently rich and diverse to provide a comprehensive understanding of trust-related concerns.

3.6 Data Collection Methods

Data for this study were collected through semi-structured interviews, which allowed for flexibility in examining participants' varied points of view while preserving coherence in key areas of investigation. Based on the material discussed in Chapter 2, a question guide was developed using topics such as data privacy, emotional comfort, usability, perceived correctness, and trust. While ensuring that crucial subjects were covered, the guide permitted participants to openly discuss their experiences and perspectives.

"How confident are you in the results provided by AI symptom checkers?" "Can you recall a time when a chatbot response felt comforting or distressing?" Among the questions posed during the interview were "Do you have any concerns about how your health data might be used by these tools?" These enquiries were meant to elicit emotions, interpretive ideas, and opinions regarding moral boundaries.

To make the interviews comfortable and available to participants across Ireland, Zoom was utilized to conduct them online. Each session lasted between thirty and forty-five minutes. Before each interview, participants received a Participant Information Leaflet (PIL) outlining the study's purpose and were asked to electronically complete an Informed Consent Form (ICF).

All interviews were audio recorded with consent from the participants and securely stored on an encrypted drive that only the researcher could access with a password. This approach is consistent with the qualitative best practices described by Long-Sutehall et al. (2010), which emphasize ethical integrity, dependability, and data management. The semi-structured style provided a secure venue for participants to discuss their own experiences, resulting in rich and substantial qualitative data that was essential to the study's goals.

3.7 Data Analysis Strategy

According to Braun and Clarke (2013), thematic analysis was used to examine the qualitative data acquired from semi-structured interviews. This flexible and widely accepted method facilitates the examination of participants' subjective experiences, emotional responses, and meaning-making processes all essential elements in understanding confidence in AI-powered symptom checkers.

The analysis was conducted using the six-step process that Braun and Clarke designed. To thoroughly immerse oneself in the topic, data familiarization first involved reading transcripts and listening to audio recordings multiple times. In order to identify important data segments, such as references to chatbot dependability, emotional responses, or interface clarity, preliminary coding was done. Third, codes were grouped into broader categories such as perceived correctness, emotional resonance, trust calibration, and transparency in order to develop themes. Fourth, these trends were checked for accuracy and consistency across the dataset through a theme assessment. Finding and refining themes to their most basic form was the fifth phase, known as theme definition. Finally, study questions and findings were linked to existing literature throughout the report production stage.

Because the analysis was done by hand coding, the data could be intimately and iteratively interacted with. This useful approach enabled deeper contextual awareness, which was essential for spotting minute shifts in user perception and emotional subtleties. Nevertheless, a straightforward spreadsheet was used to organize developing themes and track codes.

The coding procedure, which was inductive and driven by participant narratives, was impacted by the conceptual frameworks used in the study, including the TAM, UTAUT, and trust-in-AI models. Concepts like plausibility, transparency, empathy, and personalization were used to organize and interpret the findings. This hybrid method allowed theoretical insights to guide interpretation without restricting the creation of new, empirically based insights from participant experiences.

3.8 Ethical Considerations

This study was conducted in perfect adherence to the ethical guidelines set forth by Griffith College. Ethical approval was obtained before data collection, ensuring that the rights, dignity, and welfare of participants were prioritized throughout the whole research procedure.

To get informed consent, a comprehensive Participant Information Leaflet (PIL) and an Informed Consent Form (ICF) were sent out online prior to the interviews. The participants were informed of the study's goal, their involvement, the use of the data, and their freedom to stop participating at any time without incurring any consequences. Consent was verbally confirmed at the beginning of each interview.

All transcripts were pseudonymized to ensure secrecy, and the data was safely kept on password-protected, encrypted devices that the researcher alone could access. Participants' personal information was treated legally, openly, and exclusively for the reasons specified in the consent documents, in compliance with the General Data Protection Regulation's (GDPR) regulations.

According to institutional regulation, all identifying data will be safely stored for five years following the study's conclusion, after which it will be irreversibly erased. The identities of the participants will be kept private during the analysis, reporting, and any further distribution of the results.

Potential emotional dangers were acknowledged, particularly when discussing personal health difficulties or anxiety. Participants were informed of the interview's schedule in advance and reminded that they might interrupt the discussion at any moment or skip any questions in order to minimize these. The interview environment was meant to be nonjudgmental and polite.

The study adhered to three core ethical principles, ensuring ethical integrity throughout the research process: beneficence (maximizing potential benefits), non-maleficence (prevention of damage), and autonomy (respecting participants' ability to make their own decisions).

3.9 Trustworthiness and Rigor

To ensure the dependability and rigor of this qualitative investigation, the four criteria proposed by Lincoln and Guba (1985) credibility, dependability, confirmability, and transferability were actively addressed throughout the research process.

By allowing participants to express their experiences in their own words, semi-structured interviews promoted emotional depth and authenticity while also boosting trustworthiness. Member verification allowed participants to verify the interpretations or correct any misrepresentations by providing them with summaries of their interview transcripts.

Reliability was preserved by a comprehensive audit trail that recorded each step of the research process, including sample selection, interviewing methods, coding processes, and topic development. This transparency enables others to understand and maybe replicate the research technique.

Confirmability was enhanced by reflexive journaling, in which the researcher critically evaluated their own assumptions, potential biases, and emotional reactions while gathering and analyzing data. This process allowed for the assurance that participant accounts, not the researcher's subjective opinion, were the basis for the results.

Transferability was supported by providing a thorough and clear description of the interview conditions, participant demographics, and study context. Although the results are not statistically generalizable, this thorough explanation enables readers to assess the findings' relevance to similar circumstances or populations.

All things considered, a commitment to transparency and reflexivity underpinned the entire study process. By openly acknowledging the researcher's positionality and incorporating careful recording and reflection, the study maintained ethical and methodological integrity and ensured that the findings are trustworthy, dependable, and well-supported.

3.10 Limitations of the Methodology

Despite the fact that this study offers valuable insights into public trust in AI-powered symptom checks, it is crucial to acknowledge many methodological limitations. First, the inclusion of qualitative data limits the findings' generalizability to a broader population. The study prioritized depth over breadth by concentrating on rich, subjective experiences rather than statistical representation. Second, the purposeful sample technique excluded elderly persons and people with poor levels of digital literacy, whose perspectives would differ significantly from those of the technologically literate 18–35 age range being studied. The range of conclusions that can be drawn is thus constrained. Furthermore, the researcher's positionality and interpretations may have subtly influenced how themes were framed, and responses were coded, even in spite of efforts to preserve reflexivity and avoid bias. These limitations are justified, though, given the exploratory, experience-based nature of the study. The interpretivist approach allowed for a deeper understanding of the social and emotional dimensions of trust, which are essential for improving the creation and adoption of AI health aids.

CHAPTER-4, FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents and analyzes the primary data gathered from 12 semi-structured interviews with users of AI-powered symptom checkers. Building on the literature assessment and research methods established in previous chapters, this section aims to uncover significant themes, patterns, and insights that answer the study questions and objectives. The data are interpreted through a thematic lens and critically reviewed in relation to existing literature in order to provide a thorough knowledge of user perspectives on trust, accuracy, emotional impact, and the future use of symptom checkers in healthcare, particularly in the Irish setting.

Regarding trust, usefulness, emotional impact, and their function in medical decision-making, how do users perceive and interact with AI-powered symptom checkers? As explained in Chapter 1, this is the primary research topic that directs our investigation. Additionally, the study sought to explore five primary objectives: (1) to find out how the public perceives the usefulness and dependability of symptom checkers; (2) to identify factors that influence user trust; (3) to understand the influence of demographic and psychological traits on user experiences; (4) to assess the limitations, challenges, and concerns that users face; and (5) to look into ways to improve the design, adoption, and future use of symptom checkers in the Irish healthcare system.

The interview data was analyzed using Braun and Clarke's thematic analysis framework, which offers a versatile yet exacting approach to finding and classifying patterns in qualitative data. Understanding the data, coding important parts of it, grouping the codes into themes, and then reviewing and refining these themes in line with the study's objectives were all necessary for this. The analysis was inductive in character but interpreted within the framework of the body of academic literature that was previously covered in Chapter 2 in order to preserve a balance between participant-driven findings and theoretical underpinning.

Accuracy and Perceived Trustworthiness; Emotional and Affective Response; Design, Transparency, and Explainability; User Demographics and Digital Literacy; and Role in the Irish Healthcare System are the five main areas that the data identified and are thematically organized into this chapter. In each subject, key findings are highlighted through direct quotes from participants, which are then critically examined in light of the secondary research. A comprehensive, empirically based understanding of how users interact with and perceive AI-based symptom checkers is ensured by this approach.

4.2 Thematic Findings Overview

The qualitative information obtained from 12 in-depth semi-structured interviews was examined using the six-phase theme analysis framework created by Braun and Clarke. The systematic identification, analysis, and reporting of data patterns were guided by this approach. The procedure began with familiarization, which entailed reading the transcripts multiple times in order to gain a thorough understanding of the content. The next step was the development of preliminary codes, where important textual portions were tagged based on recurring themes and feelings that participants had expressed.

There were over 120 initial codes discovered in the dataset. These codes were subsequently combined into broader categories during the theme creation phase. Conceptually comparable codes were grouped and patterns were analyzed to ensure both external distinctiveness and internal coherence. During the reviewing and refining stage, codes that did not fit or overlapped excessively were collapsed or reassigned. The final themes were impacted not just by the frequency of codes but also by the level of understanding and how well they applied to the objectives of the study.

Five major themes ultimately surfaced, each of which captured a significant facet of how people view and interact with AI-powered symptom checkers. They were:

- **Perceived Trustworthiness and Accuracy:** Assessing user trust in the dependability, precision, and applicability of chat bot-generated health advice.
- **Emotional and Affective Response:** This category describes the emotional reactions of users to the symptom checker's outputs, including feelings of comfort, confusion, fear, or detachment.

- **Design, Transparency, and Explainability:** Stressing the perceived "intelligence," reliability of the source, interface design, and clarity of communication of the chatbot.
- **Digital literacy and user demographics:** highlighting the ways in which age, health literacy, and degree of technological comfort impact use and interpretation.
- **Role in the Irish Healthcare System :** Discussing user perceptions of symptom checkers' compatibility with or contribution to public health services, including opinions on HSE integration, potential for triage, and ethical supervision.

The five main themes, their sub-themes, and the proportion of participants who mentioned them in their interviews are summarized in Table 4.1 below.

Theme	Sub-Themes	No. of Participants Referencing
Perceived Trustworthiness and Accuracy	Vague or overly cautious diagnoses - Partial trust in chat bot outputs - Usefulness for minor vs. serious issues	12 / 12
Emotional and Affective Response	Anxiety and confusion - Reassurance and calm - Perceived lack of empathy or emotional intelligence	11 / 12
Design, Transparency, and Explainability	Lack of reasoning or explanation - Desire for transparency in logic - Interface tone and communication style	10 / 12
User Demographics and Digital Literacy	Age-related usage differences - Health or digital literacy levels - Influence of personal health background	9 / 12
	Complementary triage tool - Desire for HSE or GP endorsement - Concerns over regulation and accountability	8 / 12

Role in the Irish Healthcare System		

Table 1, The five main themes, their sub-themes

These concepts make up the analytical framework of this chapter. Each is covered in detail in the following sections, supported by quotes from real participants and compared to the results of the research review. A more complex understanding of how individuals use and evaluate symptom checks is made possible by the thematic format, and the conclusions are based on broader cultural and technical settings.

4.3 THEME 1: Perceived Trustworthiness and Accuracy

4.3.1 Findings

The participant interviews revealed a variety of opinions regarding the accuracy and reliability of symptom checker chatbots, which was one of the most recurring and overarching themes. Although almost all interviewees agreed that these tools are convenient, particularly in non-critical situations or late at night, they were hesitant to trust them with more serious medical issues.

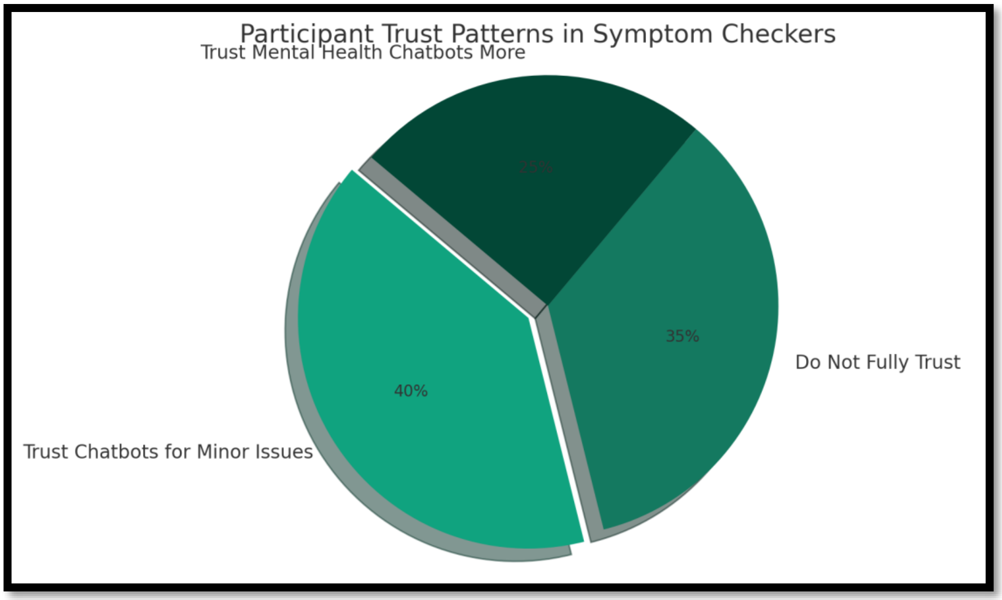

Figure 3, Participant trust patterns in symptom checkers

As in the above pie chart, 35% of participants did not fully trust symptom checkers because of their ambiguous advice, while 40% of participants trusted them only for minor problems. 25% said they trusted chatbots for mental health more because they provided better emotional support. The purpose and user experience had an impact on the degree of trust.

The advice's ambiguity or excessive caution was one of the main trends found. Many participants believed that chatbots' recommendations were too general to be truly helpful. Babylon "felt like it was rushing to a conclusion," according to Abeer, a 19-year-old psychology student, and its recommendations "ranged from a cold to something serious," concluding with the recommendation to "talk to a GP." This kind of hedged advice reduced user confidence by giving the impression that the chatbot was algorithmically unsure and avoided making a commitment out of fear of making a mistake.

On the other hand, participants showed greater trust in chatbots that specialize in mental health, like Woebot. Woebot "helped reflect and bring things up in therapy" and was "better in terms of engagement and tone," according to Abeer, suggesting a higher degree of user engagement and perceived usefulness for psychological support tools. In contrast to symptom checkers that primarily focused on physical health, these chatbots were perceived to provide both emotional support and informational content.

These tools were seen as complementary resources by the majority of participants. They were rarely used in place of medical consultations; rather, they were a first step or reassuring measure prior to consulting a professional. Sivasree, a 32-year-old new mother, reported that although the NHS checker was helpful during a crisis involving her infant, she still contacted her general practitioner later. Lucas, a 25-year-old man, talked about utilizing a chatbot that was integrated into his health insurance app but stopping it in the middle because of ambiguous results. He then resorted to Google and personal networks.

The table below, which depicts overall participant trust behavior, summarizes these attitudes:

Participant	Perception of Trust	Mental vs Physical Chatbots	Action Taken Post Use
Abeer	Partial trust	Trusted Woebot more	Used for reflection
Sivasree	Low trust	No preference stated	Contacted GP
Lucas	Low trust	Found advice too vague	Did not complete usage
Nayanmary	Partial trust	Neutral	Visited doctor
Olivia	Low trust	No mental health bot used	Saw pharmacist

Table 2, overall participant trust behavior

4.3.2 Analysis

These findings align with academic concerns raised in the literature review on user trust and symptom checker accuracy. As noted in Chapter 2, Ceney et al. (2021) examined a number of AI symptom checkers and found significant variations in their diagnostic accuracy. The study discovered that while symptom checkers could triage simple cases with moderate accuracy, they frequently failed to offer consistent or accurate ratings for complex or multi-symptom diseases. This is consistent with feedback from participants, who said chatbots were only helpful for common, minor symptoms.

The "plausibility paradox," as defined by Müller et al. (2024), is the phenomenon whereby users find chatbot advice to be generally credible but not personally dependable. This means that even if a chatbot can offer a list of symptoms that make sense in theory, consumers might question whether these suggestions apply to their unique circumstance, especially if the bot doesn't follow up or ask further questions.

The selective use of symptom checkers by the participants further supports the notion of emotional vs cognitive trust proposed by Woodcock et al. (2021). Emotional trust grows when the product helps users feel safe, understood, or reassured. Conversely, cognitive trust is built on openness and rational, fact-based knowledge. Our findings indicate that participants felt Babylon and related tools lacked sufficient logical specificity and emotional support. However, Woebot was seen as emotionally comforting even if it made no claims about diagnosis. Some mental health tools were seen more favorably than physical symptom checkers, which lacked empathy and transparency, which can be explained by this difference.

Another crucial factor to take into account was the apparent goal of the chatbot's recommendations. Many participants saw the repeated advice to "contact a GP" as a precaution, possibly due to ethical or legal constraints built into the algorithm's design. These disclaimers are meant to prevent over-reliance, but they also undermine user confidence, especially when they are provided without sufficient explanation or rationale.

Abeer's appeal for greater transparency "Even just a little explanation about the algorithm or logic would help build trust" echoes those seen in the literature on healthcare explainable AI. This issue is relevant here as well, though it will be discussed in further length in Section 4.5: trust is not just about correctness, but also about how that accuracy is communicated.

Interestingly, despite their mistrust, participants reported utilizing symptom checkers regularly, especially when access to medical specialists was limited. This demonstrates how beneficial these technologies are to modern health-seeking behavior. As discussed in Chapter 2, the increase in digital health literacy has led to consumers demanding self-triage and instant health advice, even with poor instruments.

Participants' opinions generally reveal a contradiction: symptom checkers are both admired and distrusted. Users continue to use them as a first line of protection even if they are aware of their shortcomings. The apparent depth of engagement, emotional tone, and design quality all affect how much trust is felt. Tools like Woebot that offer contextual awareness and emotionally intelligent design tend to have better levels of user trust, even if they are not meant for diagnosis.

The conclusion of Theme 1

The issue of perceived accuracy and trustworthiness draws attention to the intricate relationship that exists between user needs, system capacity, and expectations. Users want clarity, emotional sensitivity, and logical coherence, but they don't expect perfection. When these elements are absent, confidence is damaged even if the information is reliable. Therefore, in addition to technological developments, a human-centered approach to design, communication, and transparency is required to increase user confidence in symptom checkers. This insight immediately supports the study's second objective and establishes the framework for further research into subsequent themes.

4.4 THEME 2: Emotional and Affective Responses

4.4.1 Findings

Participants in the study reported a range of emotional reactions to using AI-powered symptom checkers, including apathy, comfort, bewilderment, and worry. These responses were significantly influenced by the chatbot's perceived sensitivity, tone, and design.

Anxiety was the most commonly mentioned feeling. According to several participants, chatbots showed the worst-case scenarios too soon, which increased their stress levels rather than decreased them. Sivasree (32), a new mother, for example, stated that she was immediately concerned when a chatbot suggested that her baby's rash might be meningitis. Similarly, Olivia (19) raised concern about the unwarranted correlation between several deadly illnesses and a minor skin problem.

Confusion was another typical response, especially when the chatbot's suggestions were vague, overly generic, or context-free. Participants frequently had trouble understanding the information given to them and knowing what to do next.

Despite these concerns, several users felt comfortable, especially when using chatbots with emotionally supportive designs. Abeer (19) described WoeBot, a chatbot for mental health, as soothing and soothing. Woebot's conversational flow, casual tone, and supportive words made users feel "heard" even though they knew it wasn't a human.

One of the rare individuals who showed emotional apathy was Lucas (25). He described the interaction with the chatbot as "transactional" and felt alienated because there was no personal or compassionate touch. These comments suggest that cold or robotic design features may turn off users, even if the advice is accurate.

The bar chart below provides a summary of the number of participants who expressed each emotional response:

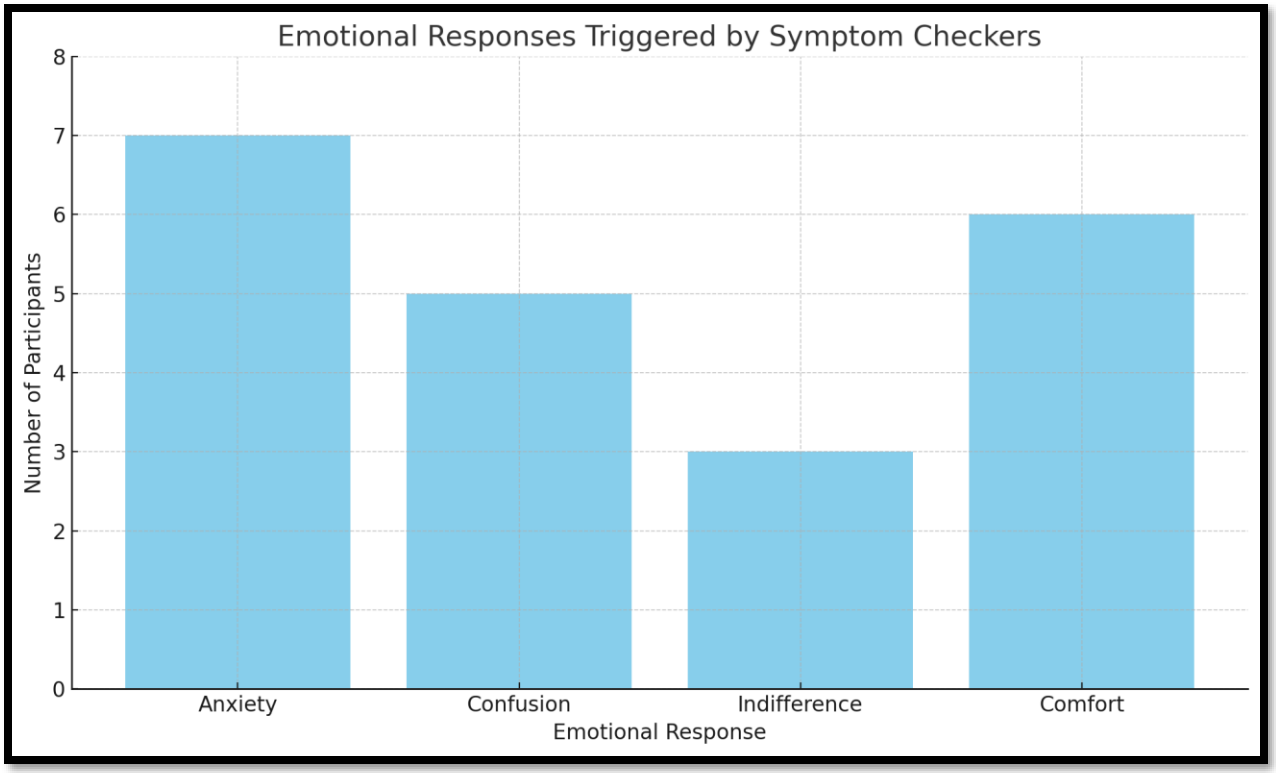

Figure 4, emotional responses

4.4.2 Analysis

These findings directly impact the concept of affective trust and the role of emotional design in AI systems, as discussed in Chapter 2. Affective trust arises when users think a system is secure, intelligible, or helpful (Adams et al., 2023). Unlike cognitive trust, which is based on openness and reason, affective trust is based on emotional connection. Emotional tone and empathy often influenced total satisfaction, even though the study participants clearly appreciated both.

Rather than their accuracy in diagnosis, the effectiveness of products such as Woebot was credited to their compassionate communication approach. Emojis, comedy, soft language, and positive feedback were some of the elements that created an emotionally supportive user experience, particularly when mental health or stress were at stake.

However, this design factor was often absent from symptom checkers that focused on physical health. Participants were especially critical of chatbots that presented long, clinical lists of possible diseases without offering any background information, emotional support, or clarification. This lack of emotional intelligence often exacerbated fear, especially in vulnerable groups such as new parents or those with health worry.

The design and interface of these instruments were often mentioned as important factors in predicting emotional response. Users preferred features like consoling language, calming hues, or even the opportunity to designate sensitive subjects. "Even a few emojis or a message saying 'this is common' would have helped me relax," Olivia stated. This is in line with research on human-computer interaction, which emphasizes how crucial tone-matching and emotional buffering are in health technologies.

Furthermore, there is a risk associated with indifference or disinterest. Participants may reject the tool entirely or feel unsupported if a system appears impersonal. If users feel emotionally cut off from digital interactions, they may lose trust in the tool and be less inclined to use it again, even if it provides accurate advice (Woodcock et al., 2021).

These are not just theoretical findings. They have practical effects on the development and application of AI-driven symptom checks. Not because they give false information, but rather because of the way they portray it, chatbots that ignore the emotional aspect of health-related conversations may end up doing more harm than good.

4.4.3 The conclusion of Theme 2

Emotional and affective responses to symptom checkers have a substantial impact on trust, satisfaction, and the probability of future use. This study found that tools that demonstrate warmth, empathy, and contextual awareness are more likely to be trusted and valued, particularly in high-stress situations. However, chilly or robotic chatbots tend to increase people's anxiety or confusion, even when their material is medically sound.

These findings highlight the need for emotional intelligence in the design of digital health solutions. The user's emotional response to the information rather than just the facts is what establishes trust. This theme directly influences Objectives 2 (trust considerations) and 4 (challenges and constraints), offering vital insight into how emotional design impacts user acceptability in real health contexts.

4.5 THEME 3: Explainability, Transparency, and Design

4.5.1 Findings

The most frequent grievance raised by the participants was that it was unclear how symptom checkers arrived at their suggestions. Many users expressed skepticism about chatbots that did not give a rationale, reference medical sources, or acknowledge when their suggestions were unclear. This lack of transparency hurt the instruments' perceived trustworthiness and credibility.

Participants often expressed dissatisfaction at chatbot recommendations feeling "guessed" or generic, particularly when no explanation was provided. Lucas (25) explained, "It just listed causes and told me to talk to a doctor, but didn't say why." "Even just a little explanation about the algorithm or logic would help build trust," Abeer, who is 19, said.

It was also evident that users wanted more personalized or interactive interfaces and an improved user experience (UX). Participants suggested improvements such as adaptive inquiry, contextual follow-ups, or even confidence rankings that indicate the chatbot's degree of assurance over its output. When a chatbot failed to tailor material or pose intelligent inquiries, it was perceived as lacking intellect or concern.

Participant Concerns and Suggestions on Transparency and Design

Issue Identified	Participant Quote	Suggested Solution
No explanation for results	“Just gave a list without saying how it got there.”	Add brief reasoning or citation for each suggestion
Lack of source citation	“I don’t know if it’s guessing or following guidelines.”	Show evidence base or link to medical resources
Poor question depth or UX	“It didn’t ask anything personal or detailed.”	Use adaptive, follow-up questions
No personalised context	“Felt like a one-size-fits-all answer.”	Account for age, history, health profile

Table 3,Participant Concerns and Suggestions on Transparency and Design

4.5.2 Analysis

This issue clearly intersects with the findings of Woodcock et al. (2021) and Kopka et al. (2022), who argue that transparency is essential to user confidence in healthcare AI. Users who are unsure with the decision-making process may ignore or doubt even sound recommendations. As covered in Chapter 2, transparency is more than simply referencing sources; it also means providing comprehensible reasoning that the average user can grasp.

The literature on Explainable AI (XAI) supports this point of view. Given that decisions can affect user behavior and health, explainability is particularly important in health products. XAI encourages systems to show how certain inputs, like symptoms or demographic data, affect certain outputs, like instructions or suggested conditions. This might include giving chatbots different levels of explanations, with a basic summary for regular users and a more detailed explanation for those who want a deeper understanding.

Participants also called for more personalized input, which is consistent with the design principles of user-centered AI. Personalization makes chatbots feel more responsive and increases their perceived accuracy and relevance. According to a number of respondents, the chatbot appears artificial or indifferent without it.

4.5.3 The conclusion of Theme 3

The findings clearly show that a lack of design transparency and explanation is a significant barrier to user trust in symptom checkers. Participants want to understand how chatbots make their decisions and prefer systems that give a concise and transparent explanation of their thinking. Public trust and usability can be significantly increased by improving UX, offering tiered transparency, and implementing explainable AI approaches, all of which support Objectives 2 and 5 of this study.

4.6 THEME 4: User Characteristics and Digital Literacy

4.6.1 Findings

Participant involvement with symptom checkers was significantly influenced by age, medical history, educational achievement, and familiarity with digital gadgets. Younger participants often referred to as digital natives were more at ease and generally more open to experimenting with health chatbots. For example, Olivia (19) and Nayanmary (22) often used online health resources, whereas Lucas (25) used applications "out of curiosity" and for convenience.

Conversely, those with professional health literacy, such as nurse Lilli Moura (29), expressed more critical opinions. Lilli said she had never utilized symptom checkers for personal health needs, citing concerns about their inability to interpret complicated medical histories. This group tended to analyze the limitations of the instruments more thoroughly, pointing out issues like general counsel or simplicity.

Another determining factor was mental health or health concerns. Abeer (19), who regularly uses Woebot, expressed having higher trust in emotionally supportive chatbots due to their tone and certainty. As evidenced by Sivasree (32), a new mother, who reported feeling more nervous when symptom checks included the worst-case scenarios, stress levels can affect both usage and trust.

Participant Characteristics and Use Patterns

Participant	**Age**	**Health Literacy**	**Digital Literacy**	**Symptom Checker Use**	**Trust Level**
Olivia	19	Low	High	Frequent, minor issues	Low
Lilli Moura	29	High (nurse)	High	None (analytical observer)	Low
Abeer	19	Moderate	High	Mental health bots (Woebot)	Moderate to high
Sivasree	32	Moderate	Moderate	Parenting-focused, urgent use	Low
Lucas	25	Moderate	High	Infrequent, curiosity-driven	Low

Table 4, Participant Characteristics and Use Patterns

4.6.2 Analysis

According to Durmuş's (2024) research, which highlights the ways in which age, education, and digital familiarity influence how AI products are used and perceived, these tendencies are consistent with the corpus of research on digital health disparities. Younger users were more adaptable but often lacked the critical perspective to assess chatbot limitations, whereas older or more experienced users treated these technologies with greater suspicion.

The role of mental health and anxiety further complicates this picture. This study found that consumers seeking comfort from these tools were often under stress; nevertheless, the emotional danger rose when the chatbot's response was insensitive. This demonstrates the need of accurate content that is also suitable for the reader's emotional state and literacy level.

Comparing participants with high and low literacy levels, the results support earlier studies: those with more health knowledge closely analyzed bot outputs, whereas those with less commonly deferred to them or misunderstood the implications. This highlights how important it is to design tools that adapt to different user profiles in order to make symptom checks functional without being dishonest.

4.7 THEME 5: Role in the Irish Healthcare System

4.7.1 Findings

In general, participants saw symptom checkers as a first step before consulting a professional, rather than as a substitute for doctors. Although many people appreciated chatbots' speed and ease of use, especially in non-emergency scenarios, they were hesitant to use them for severe or complicated symptoms. "It's something I'd try first, but I'd still want to talk to someone after," stated Olivia (19).

The need for official support, especially from the Health Service Executive (HSE) or specific general practitioners (GPs), was a recurrent theme. Participants stated that if symptom checkers were explicitly associated with Irish healthcare organizations, they would be more likely to be trusted and used frequently, particularly for peace of mind. "I'd definitely trust it more if it said HSE-approved," Nayanmary (22) observed.

Furthermore, a number of users noted that symptom checkers were particularly helpful in remote locations, late at night, or when making emergency decisions with limited access to GPs. When her baby was sick and the nearby clinics were closed, Sivasree (32), who lives in a rural area, explained how the NHS checker enabled her to make a snap decision. But she also made it clear that she called a general practitioner right away, which supports the notion that chatbots are support tools rather than stand-alone fixes.

Perceived Use Cases and Trust Factors

Use Case	Examples from Participants	Key Trust Condition
Triage aid before GP visit	"I'd try it first, but still talk to a doctor." – Olivia	Needs follow-up option or guidance
Emergency/lateness scenario	"Useful when everything was closed." – Sivasree	Immediate, clear advice
Rural healthcare support	"No clinics near us at night." – Sivasree	Fast access to basic information
Increased trust with HSE link	"If it said HSE-approved, I'd trust it." – Nayanmary	Official endorsement and regulation

Table 5,Perceived Use Cases and Trust Factors

4.7.2 The Analysis

According to the Climate Action Plan (2023) and HSE reports, this theme reflects larger worries about Ireland's overburdened health system. There is room for digital tools to decrease needless clinic visits by providing initial screening or self-care advice, especially in rural areas where GPs and hospitals are under increasing strain. This potential is constrained, though, unless the tools are formally approved and integrated.

Examples from around the world, like the NHS symptom checker in the UK, show how tools connected to national health authorities can increase public trust. The NHS model has the advantage of being integrated into the healthcare system, providing escalation pathways and clear triage outcomes, in contrast to many of the participants' standalone symptom checkers.

But as Kopka & Feufel (2024) point out, symptom checkers need to follow precise legal and ethical guidelines. Without supervision, they run the risk of spreading false information, creating liability issues, and alienating the public. Similar feelings were expressed by study participants, who were open to utilizing chatbots but sought confirmation that the technologies were supported by knowledge and protected by regulations.

Figure 4.2 illustrates the most common contexts in which participants found symptom checkers useful, with triage and official endorsement cited most frequently.

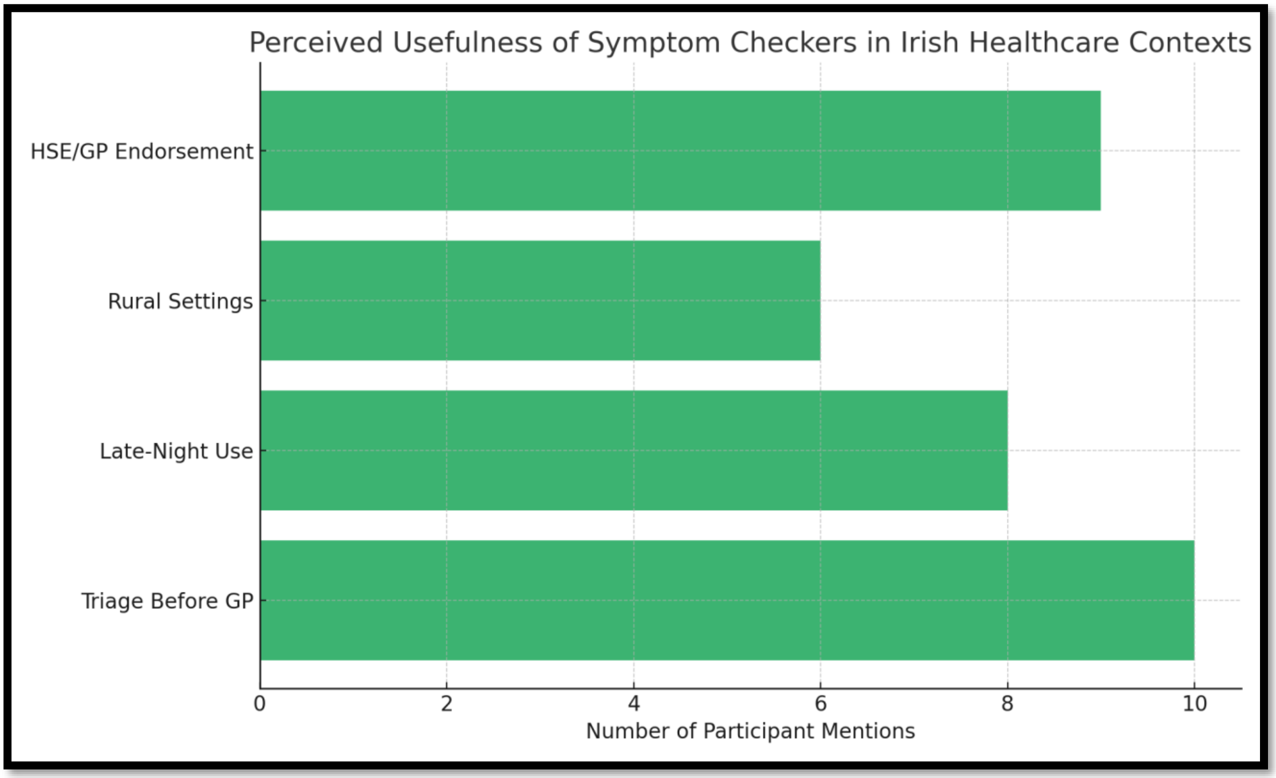

Table 6, Perceived usefulness of symptom checkers

4.7.3 Theme 5's conclusion

Participants believe that symptom checkers have a place in the Irish healthcare system, especially as accessible resources in situations with limited resources or time constraints. Their use is restricted, though, as they need to be approved, regulated, and integrated. Users will continue to view them as auxiliary tools rather than reliable parts of the healthcare process in the absence of these components. These observations highlight the necessity of national-level alignment, regulation, and public communication and directly address Objective 5 of this study.

4.8 Synthesis and Research Objective Alignment

This section summarizes the key findings from the thematic analysis and shows how each of the research goals is addressed by the primary data. Additionally, it identifies areas where findings either support or contradict the body of existing literature and draws attention to intersections across themes.

Research Objective	Key Supporting Themes	Literature Alignment
Objective 1	Themes 1 & 5	Ceney et al. (2021)
Objective 2	Themes 1, 2, 3, 5	Adams et al. (2023); Woodcock et al. (2021)
Objective 3	Theme 4	Durmuş (2024)
Objective 4	Themes 2, 3, 4	Woodcock et al. (2021)
Objective 5	Themes 3 & 5	Kopka & Feufel (2024)

Table 7,Alignment of Research Objectives with Interview Insights

As in the table 4.6 shows, The purpose of Objective 1 was to investigate how the general public views the value and reliability of symptom checkers driven by AI. The interviews showed conflicting opinions: most participants doubted the reliability of symptom checkers because of their ambiguous or unduly cautious outputs (Theme 1), although many thought they were useful for preliminary guidance (Theme 5). These observations are consistent with those of Ceney et al. (2021), who also emphasized the variation in diagnostic reliability.

Finding the elements that affect user trust was the main goal of Objective 2. It was discovered that a combination of perceived accuracy, emotional tone, design clarity, and institutional endorsement influenced trust (Themes 1–3 & 5). Woebot and other chatbots with human-like interaction increased affective trust, confirming the theory of emotional trust (Adams et al., 2023). However, as Woodcock et al. (2021) discuss, a lack of transparency and algorithmic explanation decreased cognitive trust.

The impact of psychological and demographic characteristics on user experience was the focus of Objective 3. The results demonstrated that while health professionals or people with anxiety were more skeptical or emotionally reactive, younger users and those with greater digital literacy were more eager to interact with these tools (Theme 4). These findings support Durmuş's (2024) findings regarding disparities in digital health.

Assessing issues and constraints was the goal of Objective 4. In high-stakes scenarios or when emotional sensitivity was required, participants were especially cautious of symptom checkers. Throughout Themes 2– 4, concerns about emotional triggers, a lack of personalization, and a robotic tone kept coming up.

Finding strategies to increase these tools' integration and acceptance was the fifth objective. Participants emphasized explainability, empathetic design, and HSE or GP endorsement signaling a desire for policy alignment and user-centered innovation (Themes 3 & 5).

4.9 Summary of Findings and Analysis

Twelve semi-structured interviews' worth of qualitative data were thoroughly analyzed in this chapter and arranged according to five main themes. When taken as a whole, these themes offer a thorough understanding of how people view, use, and assess AI-powered symptom checkers.

The first theme focused on perceived accuracy and trustworthiness, with the majority of participants showing skepticism toward advice that is too cautious or ambiguous.

Symptom checkers were rarely trusted as diagnostic authorities, despite the fact that they were frequently used for minor issues. Woebot and other mental health chatbots gained more trust because of their relatability and emotional tone.

Participants reported a range of reactions in the second theme, emotional and affective responses, from comfort and reassurance to anxiety and confusion. While tools with empathetic design made users feel supported, especially in times of vulnerability, those lacking emotional intelligence ran the risk of making users feel more stressed.

Participants criticized the lack of justification for chatbot recommendations in the third theme, which examined design, transparency, and explainability. Users repeatedly demanded customized outputs, clear source citations, and increased algorithmic transparency. It was determined that user-friendly design and explainable AI principles were essential for enhancing trust.

Age, health history, and tech familiarity all had a significant impact on user experiences, according to the fourth theme, which looked at user characteristics and digital literacy. While users with greater anxiety or health expertise were more critical and cautious, younger, digitally literate users were more receptive to using chatbots.

Last but not least, the majority of participants endorsed the use of symptom checkers as triage tools in the Irish healthcare system, which was the subject of the fifth theme. HSE or GP endorsement would significantly increase trust, particularly in rural or after-hours settings.

These revelations lay the groundwork for Chapter 5, which will provide a more thorough interpretation of these results, go over their ramifications, and offer helpful suggestions.

CHAPTER-5: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study explored the level of public trust and perception of AI-based symptom checkers (SCs) in Ireland, with special emphasis on the population of 18-35-year-old digitally literate and heavy users of digital health solutions. The paper has emphasized the importance of the perceptions of trustworthiness, accuracy, usability and emotional resonance in the acceptance and subsequent use of SCs in healthcare settings. Based on a qualitative interpretivist approach and thematic analysis of semi-structured interviews, the results highlighted that although AI health chatbots are convenient, time-saving, and comforting when it comes to low-stakes or simple medical cases, concerns continue to exist in cases that require high stakes or intricate medical care.

The study also found that trust in SCs is not solely a diagnostic accuracy issue but, rather, is informed by emotional, cognitive and contextual factors. The participants rated SCs in terms of empathy, the transparency of explanations, personalization, and their compatibility with the existing healthcare pathways. Fears of vague or alarmist guidance, data privacy and the absence of regulation eroded confidence, whereas the support of trusted organisations like the Health Service Executive (HSE) was seen as essential to increased acceptance.

This paper has shown how such theoretical models as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and theories of trust in automation can be integrated to explain cognitive and affective trust as co-existing perceptions. Perceived reliability, usability and transparency were associated with cognitive trust whereas emotional engagement and empathy were associated with affective trust. Collectively, these results demonstrate that SCs need to be socio-technical systems and should consider not only clinical accuracy but also the experience, emotion, and cultural context of the user.

The objectives of the research were answered as follows:

Objective 1: To evaluate the trustworthiness, usefulness and believability of AI-driven symptom checker chat bots in the mind of general audience.

The results showed that although users found SCs helpful to perform preliminary triage processes or to reassure them in minor health conditions, they were reluctant to trust them in severe cases. The vagueness of the recommendations compromised the credibility of the recommendations, especially when the results reverted to consult a GP. Such disclaimers were understood by the users as responsibility-dodging rather than as good advice. This is in line with the reported findings in the literature that SCs often demonstrate only moderate levels of diagnostic accuracy, something that influences user perceptions of credibility.

Still, the participants admitted that SCs are useful to give an immediate answer outside hours and save time, and they can give some privacy. Mental health chatbots were viewed as more emotionally supportive than generic physical health checkers, and therefore more credible. So, the notion of utility and credibility was defined not only by the statistical correctness but also by the contextualization and framing of outputs delivery.

Objective 2: **To determine the most significant factors which include perceived accuracy, clarity of explanation, personalization, and prior medical experience in determining public trust and use**.

Different factors were identified that influenced trust. Perceived accuracy mattered, but plausibility, or whether the advice agreed with the personal experience of users, was what mattered most in establishing credibility. Clarity of explanation: The clarity of explanation was found to be a critical determinant where the participants favored clarity regarding the reason behind a diagnosis or triage recommendation. When there was no explanation, confidence went down, even in the case of a correct advice.

The other important element was personalization Users liked it when tools recognized their individual situation, past health history, or emotional situation. Meanwhile, the issues of privacy restricted interest in intensive customization. Prior medical experiences altered expectations: people with chronic conditions wanted specific and actionable advice, whereas healthy users preferred reassurance and did not need detail. These results confirm that the public trust in SCs is multidimensional, and it is the combination of technical performance and user-centered design and contextual sensitivity.

Objective 3: **To identify the impact of user characteristics (age, digital literacy, health, and anxiety level) on the way people perceive and use symptom checkers.**

The paper revealed how demographic and psychological characteristics influence trust and adoption. The younger, digitally literate users would frequently use SCs as one of several sources of information, triangulating chatbot responses with Google searches or advice of peers. Less literate users were more likely to take SC results at face value, and this poses the risk of over-reliance.

Engagement was also affected by health status: participants with chronic conditions sought validation in SCs, whereas healthier participants sought reassurance during an episode of illness. Anxiety was a two-edged sword: it encouraged frequent use, but also made people more mistrustful when their results appeared to be alarming. These results show that user trust is not uniform, it is mediated by digital literacy, prior experience, and psychological disposition.

Objective 4: To establish the barriers, challenges, and concerns affecting the implementation of AI-powered chatbots in healthcare decision-making.

The study found some obstacles that restrict the SC adoption in Ireland. These included:

- Diagnostic vagueness: Alarmist or generic results that destroyed user confidence.
- No empathy: Transactional interfaces, which were impersonal and did not provide reassurance.
- Privacy issues: The threat of misuse of health data decreased the interest in participation.
- Regulatory uncertainty: This was not formal in any form of certification or control.
- Cultural preference to human care: There was a high dependence on traditional GP relationships which made SCs appear peripheral as opposed to central.

These obstacles are consistent with global research, yet these challenges are compounded in the Irish context of restricted access to GPs and the developing integration of digital health.

<u>Objective 5:</u> To offer realistic and evidence-based advice on how to enhance the Irish healthcare system to increase the use and effectiveness of AI symptom checkers.

The results showed that trust can be improved in a complex way. First, emotional intelligence and empathetic communication should be incorporated into the design of chatbots to create affective trust. Second, explainability characteristics are necessary to reinforce cognitive trust. Third, SCs need to be legitimized with the support of credible healthcare bodies like the HSE to address the skepticism. Lastly, the personalization must be accompanied by strong privacy protections. Such measures will make sure that SCs will be able to supplement the Irish healthcare system with stable triage and patient care.

5.2 Recommendations

Resting on the analysis of the findings, it is possible to propose several recommendations at various levels to reinforce the role of AI-powered symptom checkers (SCs) in the Irish healthcare system. These suggestions are directed to policy, healthcare practice, technological design, and future research in order to make SCs effective and trusted by the users.

5.2.1 Policy and Regulatory Recommendations

On the policy front, it is important to have a national certification and regulatory framework which sees SCs as valid medical decision-support tools. Such a framework would give confidence to users and healthcare professionals that these tools are of high standards in terms of safety and performance. Besides, the strong adherence to such data protection regulations as the General Data Protection Regulation (GDPR) should be assured. Transparent data collection, storage, and sharing mechanisms are to be introduced to ensure that users are sure that their sensitive health data will be kept confidential and secure. Together with the regulatory control, information campaigns to educate the population about the role of SCs should be introduced. Such campaigns must highlight the advantages and shortcomings of SCs so that their users are aware that these resources are not meant to substitute healthcare professionals.

5.2.3 Healthcare Practice Recommendations

In the healthcare practice, SCs ought to be incorporated into the primary care pathways as tools of triage that reduce the workload of general practitioners (GPs) and emergency services. This would allow patients to get preliminary advice prior to booking medical appointments, which would facilitate access to medical services. To do so, clinicians should be educated to read the SC outputs and integrate them into patient care processes in a manner that adds value, but not as a threat or as a duplication of the work. Besides, patients themselves need to be given instructions on how to use SCs in a responsible manner. They should be instructed clearly on their limitations especially in case of emergency or life threatening illness and on how to escalate care in case there is a need to do so in case of serious illness.

5.2.4 Technology and Design Recommendations

Technologically and design-wise, developers ought to focus on integration of explainable AI models that give rationales of their results in a manner that is comprehensible to non-expert users. The multi-level explanations could be provided, where a user may select simplified recommendations and more detailed medical rationale based on their digital or health literacy. Emotional and empathetic design aspects such as conversational tones and reassurance mechanisms should also be incorporated in SCs to eliminate the robotic feel of interactions and make them more supportive. The features of personalization need to be created carefully weighing the benefits of personalized advice and the dangers of breaching privacy and the potential bias of algorithms. Lastly, benchmarking and external assessments should be applied to validate the performance of SCs continuously so that they can be accurate and reliable regardless of the user group and health settings.

5.2.5 Research Recommendations

Future studies should extend the area of interest to underrepresented groups, including older adults, rural populations and persons with poorer digital literacy, whose perceptions and experiences may vary considerably compared to younger, digital natives. To understand how trust in SCs changes with repeated use, longitudinal studies are also required as trust may either accumulate or diminish with time according to user experiences. Comparative cross-national studies would also enhance knowledge by determining cultural variations in adoption and trust to provide context-specific design and implementation strategies. Lastly, mixed-methods studies are to be promoted to introduce quantitative indicators of accuracy and performance to qualitative studies of user experiences. Such a combined approach would allow a more comprehensive picture of how SCs are used in the real world of healthcare and how they can be streamlined to be used by a large number of people.

5.3 Limitations and Future Scope

Although this research study can be of great value, it has a number of limitations. First, the study was limited to young adults (1835) who tend to have a relatively high level of digital literacy, which does not reflect the population of older adults or marginalized communities. Second, the research used qualitative design, where one is not interested in breadth, but in depth, and it limits statistical generalization. Third, the study sampled perceptions at one given time; studies that follow the changes over time are required to understand how the trust in SCs changes. Lastly, although the study examined user perceptions, it did not quantify behavioral outcomes (adherence to SC recommendations), a factor that should be examined in the future.

Future studies ought to fill these gaps by increasing demographic variation, using quantitative and longitudinal designs, and studying behavioral outcomes. Also, further cross-national study is required to examine cultural differences in trust and uptake of SCs.

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APPENDIX

Ethics Application &Declaration Form

DISSERTATION TITLE: Public Trust and Perception of AI-Powered Symptom Checker Chat Bots (Scs) in Ireland.

RESEARCHER’S NAME: Theertha Pradeep
PROGRAMME OF STUDY: MSc in Digital Transformation (Life Science)
SUPERVISOR'S NAME: Priscilla Ugwu

DECLARATION:

The information in this application form is accurate to the best of my knowledge. I undertake to abide by the principles outlined by Innopharma/Griffith College ethics policy in my research dissertation. I confirm that I have completed a full ethics assessment for my research dissertation as per the college guidelines. I will not begin my primary research until such approval from my supervisor and/orethics Committee has been obtained.

I pledge to carry out my research according to the Innopharma/Griffith College academic integrity standards. Any results presented in my dissertation will be from my own, original research, I will reference and/or acknowledge any material or sources used in its preparation and I will not plagiarise the work of anyone else.

ForStudent:
STUDENT SIGNATURE: Theertha Pradeep

DATE: 06/07/2025

The research contained within this research dissertation proposal has been approved.

For Supervisor:

Ethics Committee Approval Required: Yes ☐ No ☑

SUPERVISOR SIGNATURE:

DATE: 08 Jul 2025

For Ethics Committee (if required):

Ethics Committee Approval Given: Yes ☐ No ☐

ETHICS COMMITTEE MEMBER SIGNATURE:

DATE:

NOTE: Supervisors are responsible for ensuring their students fill in this form correctly and that all ethical areas have been considered.

SECTION 1: DESCRIPTION OF RESEARCH STUDY

1.1 Purpose and objectives of research

The Purpose: Investigating Irish residents' perceptions of the general purpose, reliability, and legitimacy of AI-powered symptom checker chatbots (SCs) in healthcare decision-making is the goal of this study. As Ireland increasingly embraces digital health innovation, as evidenced by initiatives like the Health Service Executive's (HSE) e-Health Strategy and technologies like SymptomCheck, it becomes imperative to comprehend user trust and perception for successful integration. For example, public confidence remains uneven despite improvements in technical accuracy and AI capabilities (Hammoud et al., 2024), opaque explanations, and ambiguous outcomes, as well as worries about data privacy (Ceney et al., 2021; Müller et al., 2024).

The study employs a qualitative methodology to investigate the ways in which cognitive, emotional, and personal characteristics impact public interactions with SCs. Research indicates that trust is highly individualised and is influenced by the type of explanation (Woodcock et al., 2021), the degree of plausibility of the explanation (Kopka et al., 2022), and the degree to which it aligns with personal experiences. Furthermore, user variables such as age, digital proficiency, and health status have a significant influence on chatbot engagement (Wiedermann et al., 2023).

This study aims to bridge this information gap and provide practical design and implementation advice by identifying adoption barriers, expectations around SCs in Ireland, and techniques for fostering trust.

Objectives of the Research:

- To find out how the Irish public feels about the usefulness and dependability of chatbots that monitor symptoms using artificial intelligence.

- To identify significant contributing factors, such as accuracy, explanation clarity, personalisation, and past medical experiences.

- To look into how user characteristics, such as age, computer literacy, health, and anxiety, affect how SCs are perceived and used.

- To understand the public's expectations, worries, and perceived risks regarding AI-based health recommendations.

Objective to offer evidence-based recommendations for improving the uptake and trust in computerised symptom checkers within the Irish healthcare system.

1.2 Research methodology

Semi-structured interviews will be used in this qualitative study to find out how Irish residents feel about public trust in AI-powered symptom checker chatbots (SCs). In contrast to surveys or other quantitative methodologies, this approach provides rich, deep insights into participants' opinions, feelings, and experiences.

Purposive sampling will be used to select 12–20 participants with varying degrees of digital literacy, healthcare experience, age, and SC tool knowledge. Social media, HSE community health boards, Irish university mailing lists, and forums will be the main sources of recruitment. The objectives are to document the experiences of SC users and non-users and to ensure demographic variety.

A secure online video conferencing tool (such as Zoom or Microsoft Teams) will be used for the 30- to 45-minute interviews. All interviews will be digitally recorded and transcribed for analysis following informed consent. The six-phase framework developed by Braun and Clarke will serve as the basis for the thematic analysis that will be used to code and classify the data. Important issues related to perceived risk, usability, and trust will be able to emerge as a result.

The interview guide will contain open-ended questions such as these:

- How do you feel about health chatbots in general or symptom checkers driven by AI?

- Have you used one before? Why not?

- To what extent do you trust their advise or information?

- What aspects of using one in the future would you consider important?

- How do you feel about granting private health data to AI systems?

All ethical guidelines, such as informed permission, anonymity, and data protection (in accordance with GDPR and Irish norms), will be strictly followed.

.

SECTION 2: POSSIBLE ETHICAL ISSUES

Answer 'yes' or 'no' to the following questions.

SUBJECT MATTER

Does the research proposal involve:

Research into specific company activities that would be deemed sensitive or confidential	Yes/ [✓ No]
Research into politically and/or racially/ethnically and/or commercially sensitive areas	Yes/ [✓ No]
Sensitive,personal, professional or corporate issues	Yes/ [✓ No]

RESEARCH PROCEDURES

Does the research proposal involve:

Research that might damage the reputation of companies or participants	Yes/ [✓ No]
Research that may negatively affect the reputation of Griffith College/Innopharma	Yes/ [✓ No]
Use of personal records without consent	Yes/ [✓ No]
Use of company data without consent	Yes/ [✓ No]
The offer of any inducements to participate	Yes/ [✓ No]
Audio or visual recording without consent	Yes/ [✓ No]
Using a language other than English	Yes/ [✓ No]

PARTICIPANTS

Does the research proposal involve:

People who are not competent and/or fluent in English	Yes/ [✓ No]
Does your research group include any of the followingvulnerable groups	Yes/ [✓ No]

(Adults with psychological impairments; Adults with learning difficulties; Adults under theprotection/control/influence of others (e.g. in care/prison); Relatives of ill people (e.g. parents of sick children); Hospital or GP participants recruited in a medical facility; persons under the age of 18)

If you have answered NO to ALL questions, please go straight to Section 4.

If you have answered YES to ANY questionin SECTION 2, you must fill in SECTION 3.

SECTION 3: STEPS TAKEN TO AVOIDETHICAL ISSUES

[Only fill in this section if you answered YES to ANY of the questions in Section 3. For example, if you answered yes to including participants who are not fluent in English, you might put forward a plan that offers your survey in two languages to take this into account. Another example could be a study where the researcher wants to include information about the care received by children with a long-term condition but it would not be ethical to approach the children directly but it might

be acceptable to insteadask parents questions about their child's care. If these plans are acceptable to your supervisor, you may not need to apply for ethical approval from the Ethics Committee].

3.1.If your ethics relates to ***Subject Matter***, outlineyour action plan to work aroundany sensitive issues.
3.2. If your ethics relates to ***Research Procedures***, outline your action plan to deal with possible ethical issues in yourresearch procedures.
3.3. If your ethics relates to ***Participants***, outline how you will protect vulnerable persons or those that do not have English as their first language.

SECTION 4: ABOUT YOUR PARTICIPANTS

4.1.Outline your participant profile and why you have chosen them for this study

Participant Profile

Purposive sampling will be used to select 12–20 adult participants who live in Ireland for the study in order to guarantee a wide variety of experiences and viewpoints. In order to investigate generational attitudes towards digital health technologies, the participant profile will comprise people from a variety of age groups, including those above 18, 30–60, and over 60. In order to evaluate how literacy affects trust and usability, it will also take into account different degrees of digital and e-Health literacy, including both tech-savvy people and those with little experience. To explore how past health experiences influence engagement with AI-powered symptom checkers, participants with a range of health backgrounds including those with frequent healthcare interactions, and those in good health will be included. To gather a broad range of familiarity, expectations, and concerns, both users and non-users of such tools will be enlisted. In order to detect preparedness and potential obstacles to implementing AI in healthcare in the Irish context, this purposefully diverse sample attempts to offer a thorough understanding of public sentiments.

4.2How do you plan to gain access to/contact/approach your participant(s).

To guarantee wide and varied access, a mix of digital outreach and community engagement techniques will be used to recruit participants. Posts on social media groups and online forums pertaining to technology, health, and Irish communities, such as Facebook health forums and Reddit Ireland, will be part of the recruitment efforts. While printed or digital flyers will be distributed through health service executive (HSE) community health boards and local clinics to reach a wider demographic, younger people with varying levels of digital literacy will be engaged through university mailing lists and student groups. In order to encourage participants to recommend others who fit the study's requirements, snowball sampling will also be used. A synopsis of the study, eligibility requirements, ethical guarantees (like confidentiality and voluntary participation), and contact details will all be included in the recruitment materials. Before any interviews are scheduled, those who show interest will receive a Participant Information Sheet and Consent Form. This hiring approach is intended to uphold moral principles, adhere to general data protection regulation (GDPR), and complement the study's objective of gathering a range of viewpoints.

SECTION 5: INFORMATION, CONSENT AND CONFIDENTIALITY

5.1Participant Information Letter (PIL)for participants

Please confirm below that your information letter covers:

Description of the research topic and method	[✓ Yes]/ No
Details of what participation will involve	[✓ Yes]/ No
Rights to anonymity	[✓ Yes]/ No
Confidentiality	[✓ Yes]/ No
Rights to withdraw from the research	[✓ Yes]/ No
The contact details of the researcher and supervisor (if necessary)	[✓ Yes]/ No

5.2Informed Consent Form (ICF) for participants

Please indicate below if your research requires a signed consent form by selecting the relevant option only:

[✓ **Yes**: my research requires signed consent and I have attached an ICF in the appendices of my application.]

No: my research study involves an online survey only and/or does not require signed consent. Consent will be included in the online survey as follows:

SECTION 6: STORAGE OF DATA

6.1. How will you store the researchdata and for how long? How will you manage data protection issues?

All research data, such as transcripts, consent forms, and recordings of interviews, will be safely kept in password-protected, encrypted folders before being uploaded to the college's Moodle system for thesis submission. Participants' identities will be anonymised, and data will be erased six months after final submission in accordance with general data protection regulation (GDPR) and Irish data protection regulations. Only the student and supervisor will have access, and any data breaches will be reported in accordance with institutional policy.

SECTION 7: NON-DISCLOSURE AGREEMENT & STUDENT CONSENT

7.1 Non-Disclosure Agreement (NDA)

Will the final dissertation contain any information pertaining to any source what would warrant the use of a Non-Disclosure Agreement (NDA) e.g. industry-based research?

No

7.2 **Student consent**

If aNon-Disclosure Agreement (NDA) is not required, does the Student consent to allow their completed dissertation to be held/published by Innopharma/Griffith College?

Yes

SECTION 8: RECORDING AND RETENTION OFDISSERTATION VIVA

8.1 **Viva Recording**

The Dissertation vivawill be recorded. This recording may be usedto facilitate assessment by Innopharma staff, a third reader if necessary and/or if requested by the external examiner for the Programme.The recording will be held in line with current GDPR guidelines and will not be made publicly available.

SECTION 9: DOCUMENT CHECKLIST

NOTE: Applicants must attach the following documents in electronic format to the appendix.

Which documents are added to the appendix? Please tick N/A if not applicable:

9.1 Participant Information Letter (PIL) for participant	Yes/ No
9.2 InformedConsent Form (ICF) for participant	Yes/ No
9.3 Questions/survey for interviewees/focus groups etc *(can be in draft form)*	Yes/ No
9.4 Any other documents e.g. Non-Disclosure Agreement	Yes/ No

I confirm that this application is complete and all required documentsare included in the appendix.

For Student:

STUDENT SIGNATURE: Theertha Pradeep

DATE: 06/07/2025

INTERVIEW QUESTIONS

Section A: Overview and Overview of Experience

1. Have you already utilised a chatbot that checks symptoms? Which one or ones, if any?
2. Why did you decide to use a symptom checker—or not?
3. Could you sum up your overall experience with chatbots that check symptoms?
4. How did you find out about these technologies initially?
5. Do you think you can trust the information they have provided? Why not?

Section B: Perceived Utility and Accuracy

6. How accurate did you think the chatbot's diagnosis or advice was?
7. Did the recommendations made by the chatbot match your preconceived notions or past medical knowledge?
8. What impact did the advice you received have on the choices you made regarding your health?
9. Would you use these resources if you had any more health problems? Why not?
10. In your opinion, what kinds of circumstances do they work best in?

Section C: Design, Trust, and Transparency

11. What causes you to believe or not believe the information provided by a chatbot?
12. Did the chatbot provide an explanation of how it came up with its suggestion or advice?
13. Would you be more inclined to believe it if it provided a more detailed description of how it operates?
14. Do you think the chatbot recognised or comprehended your particular health issues?
15. If a chatbot was endorsed or suggested by your doctor or the HSE, would you be more inclined to believe it?

Section D: User Impact and Emotional Reaction

16. After interacting with the chatbot, how did you feel? (for instance, comforted, nervous, or perplexed)
17. Has the response from a chatbot ever made you feel overwhelmed or worried?
18. Do you believe that these resources offer more than just information—they also offer emotional support?
19. Would your experience be enhanced by a more sympathetic or human-like design?

Section E: Social and Personal Aspects

20. Do you believe that people's use of symptom checkers is influenced by their age or level of digital literacy?

21. In general, how comfortable are you utilising digital health tools?

22. How crucial is data privacy while utilising chatbots for health?

23. Would you suggest a chatbot that checks symptoms to a friend or relative?

Section F: Prospects and Use in the Future

24. How would you make using symptom checks better?
25. What function do you think these instruments should serve in Ireland's medical system?

Participant Information Letter

PUBLIC TRUST AND PERCEPTION OF AI-POWERED HEALTH CHATBOTS: A QUALITATIVE STUDY OF DIGITAL SYMPTOM CHECKERS IN IRELAND.

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or if you would like more information. Take time to decide whether or not to take part.

WHO I AM AND WHAT THIS STUDY IS ABOUT

My name is Theertha Pradeep, and I am a postgraduate student at Griffith College conducting this study as part of the MSc in Digital Transformation (Life Science). The purpose of this research is to explore how members of the public in Ireland perceive the trustworthiness, reliability, and usefulness of AI-powered symptom checker chatbots. This research aims to better understand public concerns, influencing factors, and potential barriers to adoption of these tools in Irish healthcare.

WHAT WOULD TAKING PART INVOLVE?

You will be invited to a one-on-one interview via Zoom or Microsoft Teams, lasting roughly thirty to forty-five minutes, if you accept the invitation. With your permission, the interview will be audio recorded and subsequently transcribed. You will be questioned about your expectations, views, and experiences with AI symptom checkers. There won't be any intrusive surgeries or medical treatments associated with participation.

WHY HAVE YOU BEEN INVITED TO TAKE PART?

Since you live in Ireland and might be familiar with or interested in digital health tools, you have been invited. We are looking for a variety of viewpoints from individuals with varying ages, backgrounds, and degrees of computer literacy.

DO YOU HAVE TO TAKE PART?

It is completely voluntary to participate. There are no repercussions if you choose not to participate in the study or refuse to answer any questions.

Please take note:

- It is voluntary to participate.
- Refusing to consent will not have any negative effects.
- Anytime, consent can be revoked.
- Please email Theertha pradeep at theerthapradeep2016@gmail.com to withdraw.

WHAT ARE THE POSSIBLE RISKS AND BENEFITS OF TAKING PART?

The hazards associated with this study are low. Some queries, nevertheless, can make people think about their own health or tech-related issues. You can pause or end the interview at any time if it makes you uncomfortable. Although there aren't any immediate advantages, your involvement could enhance the development and deployment of next health chatbots in Ireland.

WILL TAKING PART BE CONFIDENTIAL?

Indeed. A participant ID will be used to anonymise your identify. Transcripts will not contain any personal information. Any mentions of specific people or organisations will be made anonymous. Only in cases where there is proof of harm to you or another person such as abuse, criminal conduct, or self-harm will confidentiality be violated. As needed for the study procedure, audio recordings and consent forms will be kept on file.

HOW WILL INFORMATION YOU PROVIDE BE STORED AND PROTECTED?

Until my degree has been awarded, signed consent forms and original audio recordings will be kept in a password-protected, secure folder that is only accessible by the researcher and supervisor. After identifying information is eliminated, transcripts will be safely stored for two years. You can view your data at any moment in accordance with freedom of information laws.

WHAT WILL HAPPEN TO THE RESULTS OF THE STUDY?

The findings will be turned in as a component of my master's thesis at Griffith College. The dissertation may be featured in upcoming publications or presentations and will be available in the campus library. No personally identifiable information will be made public.

WHO SHOULD YOU CONTACT FOR FURTHER INFORMATION?

Researcher: Theerthapradeep

theerthapradeep2016@gmail.com

Supervisor: Priscilla Ugwu,

Ganirupriscilla.ugwu@griffith.ie

[THANK YOU]

Informed Consent Form

Public Trust and Perception of AI-Powered Symptom Checker Chat Bots (Scs) in Ireland.

The researcher retains one copy signed by both themselves and the participant. The participant should also receive a copy of consent form as a record of what they have signed up to.

- I [*insert participant name*] voluntarily agree to participate in this research study
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study
- I understand that participation involves a one-on-one interview (30–45 minutes) via Zoom or Microsoft Teams, which will be audio-recorded and transcribed
- I understand that I will not benefit directly from participating in this research
- I understand that all information I provide for this study will be treated confidentially
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I agree to my interview being audio-recorded.
- I understand that disguised extracts from my interview may be quoted in the dissertation, potential academic publications, conference presentations, Griffith College library, and online research repositories.

- I understand that if I inform the researcher that I or someone else is at risk of harm, they may be legally obliged to report this to the appropriate authorities. This will be discussed with me where possible.
- I understand that signed consent forms and original audio recordings will be retained securely on an encrypted, password-protected device accessible only to the researcher and supervisor until the exam board confirms the results of my dissertation.

- I understand that a transcript of my interview in which all identifying information has been removed will be retained for two years from the date of the exam board decision.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Researcher Details

Name: Theerthapradeep

Degree Programme: MSc in Digital Transformation (Life Science)

College Details: Griffith College

Contact mail: theerthapradeep2016@gmail.com

Signature of participant

[Full Name – Printed]

Signature of research participant

-- -------------------- Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

-- ---------------------- Date

Signature of researcher