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Unlocking Wellness: The Power of Co-creation in Transforming Healthcare Engagement for
Patient Well-being in Malaria Treatment Process

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Abstract

Patient well-being is a fundamental aspect of healthcare that encompasses physical, mental, and emotional health. Ensuring patient well-being not only improves individual outcomes but also enhances the overall healthcare provision process. This paper explores the dimensions of co-creation in healthcare provision that facilitate patient well-being. Through a comprehensive analysis, the study highlights the importance of a holistic approach in promoting and sustaining

patient well-being in modern healthcare settings. The study involves a qualitative approach using an interview guide. Twenty interviews were conducted with patients of a Clinic based in Ghana in the malaria treatment process. Findings revealed that technological application, patient empowerment, service design, and healthcare providers' relationships facilitate patient well-being in the healthcare provision.

Keywords: *Co-creation, Patient well-being, Service dominant logic, empowerment theory, Healthcare, Ghana*

Introduction

In the service research literature, there is growing attention on patient well-being, both individually and collectively (Hammedi et al., 2024). The emphasis on collective well-being signifies a holistic approach toward improving overall health and societal welfare (Leo et al., 2019). It is important to acknowledge that individual health outcomes are linked to broader social and environmental issues. The healthcare industry in developed countries is increasingly prioritizing patient well-being (Aminabee, 2024; Frow et al., 2019). This is done through transcending the conventional model of medical service which focuses on strengthening healthcare delivery quality approaches to improve patient well-being (Kuipers et al., 2019; Stewart et al., 2024; Yan et al., 2020).

However, in Africa, the fragile nature of the healthcare industry poses healthcare challenges in improving patient well-being in the healthcare delivery process (Coovadia et al., 2009; Makoni, 2020; Katoue et al., 2022). Addressing these challenges requires innovative service engagement methods (Braithwaite et al., 2019). The literature emphasizes that co-creation benefit is vital for understanding the process involved in healthcare quality improvement and health outcomes (Greenhalgh et al., 2016; McColl-Kennedy et al., 2017). Co-creation in service marketing has shown the potential to enhance healthcare delivery thereby improving patient's well-being during medical treatments (Carlini et al., 2024; Jesus et al., 2023).

There is growing scholarly interest in value co-creation and well-being, recognized as a transformative service research endeavor (Fusco, et al., 2023). Customer value co-creation practices can be classified into different styles, each influencing quality of life in unique ways (McColl-Kennedy et al., 2012). This highlights that customer can actively participate in creating their own value by engaging in self-directed activities that help manage and improve their healthcare

(McColl-Kennedy et al., 2012). By adopting these self-management practices, individuals take a proactive role in their health outcomes, enhancing the effectiveness of their care and personalizing the value they receive from healthcare services (McColl-Kennedy et al., 2012). However, there exists a knowledge gap and limited research on the value co-creation process in improving patient well-being, especially in Africa and this necessitates a concerted effort to address this knowledge gap (Alkire & Hammedi, 2021; Fusco et al., 2023). The findings from this study aim to inform the development of a comprehensive framework for understanding co-creation in healthcare delivery and improving patient well-being through their insights and experiences in the co-creation process. This research, therefore, explores the co-creation process in the healthcare journey encounters by integrating service-dominant Logic (SDL) (Vargo & Lusch, 2004) and empowerment theory (Rapport, 1987).

Theoretical Background

Service-Dominant Logic (SDL) and Empowerment Theory

Service-Dominant Logic (S-D Logic) is a theoretical framework introduced by Vargo and Lusch (2004) that redefines the concept of value creation in marketing. Instead of viewing goods as the primary units of exchange, S-D Logic posits that service is the fundamental basis of exchange (Vargo et al., 2017). S-D Logic shifts the focus from tangible products to the intangible benefits and experiences provided by service providers (Vargo et al., 2017). According to this perspective, value is co-created by multiple stakeholders, including producers and consumers, through dynamic interactions and resource integration (Pinho et al., 2014). Therefore, healthcare providers and patients collaborate to co-create value by integrating their resources (Vargo et al., 2009). According to Axiom 3/FP9 of S-D Logic, "all social and economic actors are resource integrators" (Vargo & Lusch, 2016). This approach highlights the role of customers as active participants in the value-creation process, rather than passive recipients of goods and services (Agrawal & Rahman, 2015). Again, Empowerment Theory, as proposed by Rappaport (1987), focuses on enabling individuals to gain control over their lives by increasing their capacity to make choices and transform those choices into desired actions and outcomes. In the context of healthcare, empowerment involves patients taking an active role in managing their health and participating in healthcare decisions, leading to better health outcomes and overall well-being. In this view, our study integrates insights from these theories to offer a comprehensive understanding of the factors that facilitate effective

co-creation and contribute to improved health outcomes from patients' perspective in an encounter with healthcare providers in the malaria treatment provision.

Key Concepts

Co-creation

Co-creation plays a crucial role in enhancing the fragile healthcare system to promote patient well-being. This process significantly influences patients' cognitive, emotional, social, and physical responses to the value co-creation process (Verhoef et al., 2009). Thus, co-creation in healthcare research augments the quality of care delivery and influences favorable patient health outcomes (Kovach et al., 2021). This involves fostering collaboration among stakeholders, particularly patients, and the healthcare provider to formulate new strategies to improve healthcare delivery (Humalda et al., 2020; Andfossen 2020). Co-creation is defined as the benefit that emerges from the integration of resources through activities and interactions with collaborators within the customer's service network (McColl-Kennedy et al., 2012). This involves researching issues in defining outcomes in collaboration with patients to render healthcare services more patient-centric (Majid & Wasim, 2020; Robbins et al., 2013). Co-creation aims to meet patients' expectations for value, satisfaction, and experience (Tartaglione et al., 2018; Osei-Frimpong & Owusu-Frimpong, 2017). A favorable patient experience increases the value they get from their interactions with healthcare providers (Prahalad & Ramaswamy, 2004). This value can be understood in different contexts (Vargo & Lusch, 2017). Therefore, there is a need to understand service experience in the value co-creation process to improve patient well-being in healthcare networks (Schiavone et al., 2020).

Patient well-being

In today's healthcare and service-oriented sectors, understanding and promoting patient well-being is becoming increasingly essential (Devisetti, 2024). This acknowledgment highlights a shift towards a more patient-centered approach in service delivery (Aminabee, 2024). This focus extends beyond mere medical interventions to encompass holistic support for patients aiming to enhance not only treatment outcomes but also overall satisfaction and quality of care (Hoxha et al., 2024). Well-being in general refers to the state of individuals where they feel happy, healthy, and satisfied with their lives (Ryan & Deci, 2001). The concept of well-being, therefore, goes beyond the

traditional face-to-face encounter with health providers' view of patients' health in their healthcare journey of disease (Malaria) but comprises various dimensions of an individual's life including their physical, mental, social, and environmental status (Kiefer, 2008; Ryan & Deci, 2001). Thus, patient well-being is the entire context surrounding patients that promotes health by catering to their physical, mental, social, and spiritual needs (Sakallaris et al., 2015). In our research context, we define patient well-being as the factors that enhance patient health status. These factors include technology, service design, patient empowerment, and the quality of the provider-patient relationship (Akter et al., 2021).

Technological insights

Numerous studies have outlined the implications of technology in supporting patients' healing and well-being (Cox & Curtis, 2016; Silvera-Tawil et al., 2020). Thus, technology has revolutionized the healthcare sector, fostering greater engagement from both patients and healthcare providers (Casula et al., 2022; Tiitola et al., 2023). This process facilitates actors' interactions through collaborative encounters to co-create value for the users (Fernandes & Remelhe, 2016). This has become instrumental in the transformation of healthcare service delivery and plays a pivotal role in value co-creation (Breidbach & Maglio, 2016). For example, technology is a viable alternative to the traditional healthcare service delivery model (Colbert et al., 2020) and an innovative method of delivering healthcare services remotely, allowing for interactions between healthcare providers and patients regardless of their physical location (Waller et al., 2019). This process encompasses various technological services such as online appointments via the website. Therefore, technology has altered the logic of value co-creation, accelerated socio-economic processes, and reshaped how entities collectively create value (Lember et al., 2019).

Service design: patient journey and touchpoint

Healthcare service design involves a human-centered approach and is important for transformational healthcare (Mithas et al., 2020; Patrício et al., 2020). According to Patrício et al., (2011), service design represents a creative and human-centered approach. Its primary objective is to generate value for the patient or beneficiary considering their distinct needs and contextual

position through engagements between patients and healthcare providers (Patrício et al., 2011). Thus, value is created by the patient, who integrates and applies the resources of the healthcare provider during the service delivery process (Pham et al., 2022). This process involves the understanding of patients, touchpoints, service providers, and social practices, which entails the utilization of models to bridge the gap between actors in the multifaceted service provision process (Patrício et al., 2020). Two high-level categories of methods derived from the service design that facilitate the healthcare delivery process are patient journeys and patient touchpoints (Clatworthy, 2011; Halvorsrud et al., 2019). The patient journey describes the sequential steps through which patient(s) interact with the service providers (doctor, nurses, etc.), and the dimension of experience in the value co-creation involves patients before, during, and after service consumption of healthcare services. Touchpoint entails a patient interacting with healthcare providers (De Keyser et al., 2020; Surprenant & Solomon, 1987). The patient journey and touchpoints are intertwined to give the patient an overall experience to improve well-being (Gallan et al., 2019).

Patient empowerment

Patient empowerment is considered a key facet of healthcare improvement and outcomes in the World Health Organization's (WHO) "Health 2020" framework. Patient empowerment entails providing patients with the knowledge, skills, and confidence to take an active role in their healthcare decisions (Bravo et al., 2015; Vainauskienė & Vaitkienė, 2021). Therefore, in the new era in healthcare, patients are no longer just passive recipients of care but active partners in their wellness journey which has gained momentum in academic literature. This paradigm shift emphasizes the importance of involving patients in every aspect of healthcare delivery (Arnold & Boggs, 2019; Prilleltensky, 2005). With this approach of engaging patients as active participants in the healthcare treatment process, healthcare providers can better understand their needs, preferences, and experiences (Bombard et al., 2018; Ringdal et al., 2017). The collaborative approach fosters a sense of ownership and empowerment among patients leading to more personalized and effective treatment of diseases such as malaria. The aim is to significantly improve patient well-being and overall health outcomes (Liu et al., 2024; Huang & Yuan, 2024). In the patient empowerment process, patients need to engage with healthcare providers in service delivery by integrating resources and leveraging skills to enhance the value created through experience

(Vargo & Lusch, 2004). Thus, patient empowerment within the healthcare context encompasses patients assuming control over their health and healthcare choices in terms of health education, responsibility, and active participation in the healthcare management process which goes beyond healthcare providers (Eklund et al., 2019). This synergy between empowerment and co-creation paves the way for enhanced healthcare outcomes, fostering a healthier and more resilient healthcare community.

Service Relationships

In the sphere of healthcare relationships, scholarly investigations have centered on understanding the dynamics of social capital and the inherent nature of these relationships (Ward, 2018). Studies have shed light on the multifaceted aspects of support, bonding, and cohesiveness within healthcare contexts (McCrea et al., 2014; Poortinga, 2006). These studies underscore the significance of fostering strong interpersonal connections between healthcare providers and patients, emphasizing their role in promoting favorable health outcomes. These social capital elements enhance the comprehension of how relationship building is key in healthcare delivery and patient experiences leading to well-being. At the core of healthcare are the interactions among healthcare providers and patients (Black & Gallan, 2015; Hoff, 2017). Healthy relationships involve both parties actively engaging in dialogue, showing passion and compassion, trusting each other, staying connected, being open, and benefiting mutually (Black & Gallan, 2015; Thorne & Robinson, 1988). This forms the foundation for establishing trusting and healthy relationships (Beach et al., 2006). Collaborative partnerships among patients and service providers across various healthcare delivery processes, serve as a potentially powerful lever for enhancing patient well-being (Gallan et al., 2019).

Conceptual Framework

This study employs an integrated conceptual framework combining Service-Dominant Logic (S-D Logic) by Vargo and Lusch (2004) and empowerment theory by Rappaport (1987) to explore the employee co-creation process in the healthcare journey encounters. Combining these two theories, which serve as the theoretical foundations of this study as stated above, creates a framework that examines how empowered employees engage in co-creation practices to improve patient care. It thus connects the theoretical principles of value co-creation with practical employee empowerment, providing a comprehensive lens to understand co-creation dynamics in healthcare.

Within the joint sphere of co-creation, direct interactions between the service provider and the patient (Grönroos & Voima, 2013) promote patient well-being. Figure 1 captures the co-creation process to enhance patient well-being perception within the context of malaria treatment. This enriches our understanding of patients' experiences and interactions with healthcare providers, offering insights into the multifaceted dynamics of the healthcare domain that contribute to improving patient well-being. Within the framework lies the point of resource integration, where both patients and healthcare providers collaborate (Vargo & Lusch, 2017) to ensure the creation of value and, ultimately, a favorable outcome for the patient's well-being. At this point of resource integration, patients engage in direct and interactive exchanges with healthcare providers, forming the basis for co-creation (Vargo & Lusch, 2017). This encounter examines patients' perspectives on how their well-being is enhanced through co-creation elements in the healthcare journey during the malaria treatment processes. The integration of resources—both operand resources like various touchpoints from the provider's side, and operant resources such as the patient's knowledge and skills—plays a significant role in achieving better health outcomes and a more satisfying healthcare journey. Consequently, co-creation dimensions such as technology, service design, patient empowerment, and provider relationships emerge during these interactions, facilitating patient well-being and optimizing care. Thus, the conceptual framework (figure 1) serves as analytical tool for data collection and analysis in this study.

Figure 1

Methodology

Study context: Malaria Disease in Ghana

Africa bears a heavy burden from malaria, with Sub-Saharan Africa, Southeast Asia, and the Western Pacific being the hardest-hit regions (Mace et al., 2021; WHO, 2020). In Ghana, healthcare is mainly provided by the national government and is essential for organizing and delivering medical services across the country. Ghana's varied landscapes, from coastal savannahs to dense forests, lead to different malaria transmission patterns. Due to these differences, region-specific studies are necessary to understand variations in mosquito types, transmission rates, and the effectiveness of interventions (Akuoko et al., 2024).

One major difference between malaria management in developed countries and Ghana is the healthcare infrastructure and availability of resources (Adeshina et al., 2023). In developed countries, malaria is less common, and when cases do arise (usually in travelers), they are managed in well-resourced healthcare settings with advanced diagnostic tools and treatments readily available (Talapko et al., 2019). In contrast, Ghana faces a higher burden of malaria, and healthcare systems may be strained by the volume of cases, limited access to medical supplies, and variability in healthcare quality across different regions (Kogan & Kogan, 2020).

Malaria treatment is particularly significant because it often involves patients self-medicating when they experience symptoms. This treatment process represents a dynamic interaction between patients and healthcare providers, beginning with the patient's recognition of symptoms and continuing through the active involvement of healthcare providers (Mathwick et al., 2001). The service encounter captures this direct interaction between patient and provider (Bitner et al., 1990). Given this context, strengthening healthcare systems and improving malaria treatments have become vital. Accessible healthcare services must be the foundation for developing innovative healthcare delivery models (Anderson et al., 2018). Co-creation has proven effective in enhancing patient well-being by improving service experiences within healthcare networks (Schiaivone et al., 2020).

Design

A qualitative study was conducted using semi-structured interviews with patients at a university clinic in Ghana to explore their experiences during face-to-face interactions with healthcare professionals in the malaria treatment process. The clinic was chosen for the study because its typical patients include staff and their family members, who receive comprehensive malaria treatment within the university community. The phenomenological approach used in the interviews allowed for an in-depth exploration of the participants' lived experiences (Jackson et al., 2018). Before data collection began, participants were fully informed about the research objectives and procedures. They were assured of their right to withdraw from the study at any time, and measures were taken to protect their confidentiality, psychological well-being, and dignity (Elmes et al., 1995; Willig, 2001). Ethical clearance was obtained from the university's ethics committee.

The target participants included staff members who had experienced malaria and had been attending the university clinic for more than 12 months. A purposive sampling technique was employed to identify the most suitable participants (Campbell et al., 2020), as this method effectively gathers relevant information from a limited pool of individuals who meet the study criteria. Interviews continued until data saturation was reached (Francis et al., 2010). Table 1 depicts the demographics of the participants involved in the study.

Table 1

Data Collection and Analysis

The data collection process aims to uncover meanings and insights related to the study (Levitt et al., 2017). The interview guide was specifically designed for this study by the research team, informed by a thorough review of the literature. This literature review provided valuable insights into various dimensions of patient well-being and served as a foundation for developing the interview questions. The interviews were conducted in English at the participants' offices, as English is the medium of communication and instruction at all levels of education in Ghana. The interviews featured open-ended questions based on the themes outlined in the interview guide, with probing questions used to facilitate more in-depth discussions. The interviews were recorded using voice recording software, and additional notes were taken during the conversations. The voice-recorded interviews were transcribed verbatim into Microsoft Word for analysis. Data analysis was conducted using Braun and Clarke's (2006) thematic analysis approach, which includes familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report.

In the familiarisation stage, we initially reviewed the data by listening to each recorded interview once before transcribing it. This process enabled us to grasp the primary topics discussed in each interview, facilitating the identification of information relevant to the study's objectives. Consequently, this approach promoted an in-depth engagement with the data. We transcribed each interview immediately after active listening. Upon completing the transcription of all interviews, we carefully read each transcript multiple times. During this phase, we noted initial observations of emerging patterns within the data and highlighted passages of potential interest. Additionally, we

documented reflections on our thoughts and feelings regarding the data and the analytical process (Braun & Clarke, 2013).

In the second stage, focused on generating initial codes, the coding process involved creating concise descriptive or interpretive labels for segments of information that aligned with the research objectives. These codes provided insight into commonalities among data items related to the research topic (Braun & Clarke, 2012; Braun et al., 2016). Initial coding of participants' interview transcripts was conducted using the "comments" function in Microsoft Word, allowing for the systematic annotation of codes. The original transcripts were revisited regularly to evaluate existing codes and to identify potential new codes as our familiarity with the data grew. Additionally, we adopted a convention for coding information specifically concerning the participants' well-being status.

In the theme-generation phase, we concentrated on identifying the aggregated meanings across the interview transcripts. We reviewed, analysed, and synthesised the various codes based on shared meanings to form coherent themes or sub-themes. This process involved actively interpreting relationships among different codes and assessing how these connections might shape the narrative of each theme. This approach enabled us to establish patterns of codes and data items that conveyed meaningful insights aligned with the research objectives (Braun & Clarke, 2013). The resulting themes were distinct and clearly defined, specifically addressing the factors contributing to patient well-being.

In reviewing potential themes, we examined the relationships among data items and codes associated with each theme and sub-theme. This step ensured that the themes offered the most accurate interpretation of the interview data in relation to the research objectives. Additionally, we defined and named each theme to enhance clarity. During this phase, a comprehensive analysis of the thematic findings was presented in Table 2, outlining individual themes and sub-themes in connection with both the interview transcripts and the research objectives.

In the final phase of the analysis, we produced a report of the study findings. In this process, relevant verbatim quotes were selected, validated by participants, and organized under appropriate themes for inclusion in the final write-up. Before beginning data analysis, all transcriptions were anonymized and returned to participants for factual verification. This approach enabled us to

present a concise, coherent, and logical narrative of the data, both within and across themes, providing ample evidence through interview excerpts that reflect patients' perspectives on well-being (Braun & Clarke, 2006).

Participants' Demographics

Twenty participants in a university clinic in Ghana were invited to participate. One key learning for interviewing university staff is the importance of tailored health education. The informants highlight evidence-based information that is accessible and understandable and reveal practical challenges in accessing treatment. Of these, 18 were males, and 2 were females signifying male-dominated participants for the study as shown in Table 1. In total, 20 participants who personally have had malaria before underwent the subsequent treatment process making their insights and perspectives valuable to the study. All participants had been employed at the university for varying durations, ranging from 5 to 29 years. The majority of the study's participants fell within the age bracket of 30 to 59 years old, indicating that the clinic predominantly serves a younger patient demographic for malaria treatment. In terms of their educational background, 1 participant held a Ph.D. degree, 16 possessed master's degrees, and 3 had bachelor's degrees, indicating a high level of educational attainment among the participants. The participants performed different roles in the university ranging from academic and examination roles to security, and this ensured a wide-ranging of participants for the malaria treatment process at the clinic. Interviews had a mean duration of 53 minutes (ranging from 40 to 60 minutes). Data saturation was determined during the coding process and was reached after 20 interviews (Guest et al., 2020).

Findings and Discussion

This study employs an integrated conceptual framework of Service-Dominant Logic (S-D Logic) by Vargo and Lusch (2004) and the empowerment theory by Rappaport (1987) to explore how patient and healthcare providers co-create value in the context of disease management. SDL emphasizes the co-creation value through resource integration and service exchange, while empowerment theory focuses on the process that enables individuals to gain control, critical awareness, and participation.

In the context of patient well-being, co-creation involves patients actively contributing insights and ideas to develop new or improved services that benefit them. The study explores how co-creation dimensions can improve healthcare providers' engagement with patients, and enhance health outcomes and well-being in the treatment of malaria (Patrício et al., 2020).

Four themes emerged in summarizing the perceived patient well-being within the realm of value co-creation: (i) "Technology in co-creation"; (ii) "Service design: journey and touchpoints in co-creation experiences"; (iii) "Patient empowerment in value co-creation" and "Provider relationships". Table 2 gives a snapshot of the issues.

Technology in co-creation for facilitating patient well-being

The first theme, "Technology in co-creation," highlights the role of technology in promoting overall well-being that unfolds during interactions with healthcare providers. Findings reveal that conducting healthcare activities through technology reduces the time patients spend receiving healthcare and this promotes their health status and well-being. As a participant puts it:

"Healthcare providers are very dynamic because every activity was done online and within 10 to 15 minutes, I was done... There was no queuing as far as my situation was concerned" [Participant 15].

In the context of "Technology in co-creation," empowerment is evident through the use of technology, which enables patients to take a more active role in their healthcare. By reducing the time spent receiving care and facilitating real-time communication with healthcare providers, technology enhances patients' ability to manage their health more effectively. This empowerment is further supported by the increased accessibility and transparency provided by technological platforms, which allow patients to access information, monitor their health status, and make informed decisions about their treatment. The participant's experience of streamlined healthcare activities through technology highlights how this empowerment leads to improved health outcomes and overall well-being (Casula et al., 2022).

The theme of "Technology in co-creation" aligns with SDL theory by illustrating how technology acts as a crucial resource in the co-creation of value in healthcare. The use of technological platforms enables patients and healthcare providers to collaborate more effectively, sharing data and communicating in real time to enhance the quality of care. This collaborative process is central to SDL, where value is not delivered by providers alone but is co-created through the active participation of both parties. By facilitating these interactions, technology enhances the efficiency and accuracy of care, leading to better health outcomes and greater patient satisfaction (Tiitola et al., 2023). The co-creation of value in this context is thus realized through the integration of technological resources, which empower patients and foster a more patient-centered approach to healthcare.

Service design: journey and touchpoints in co-creation experiences

The theme of "Service design: journey and touchpoints in co-creation experiences" highlights how service design in healthcare can empower patients by facilitating meaningful interactions throughout their healthcare journey. By mapping and optimizing patient journeys and touchpoints, healthcare services can enhance the sense of control and involvement that patients experience. This continuous interaction with various healthcare touchpoints, such as front desk providers, nurses, and other staff, empowers patients by providing them with consistent, responsive care that meets their specific needs (Zaltman & Zaltman, 2008). The careful design of these interactions enables patients to feel more engaged in their treatment process, which is a key element of empowerment. The finding that patient-centered care pathways and regular check-ups contribute to improved comfort, satisfaction, and health outcomes illustrates how service design can directly empower patients by giving them a more active role in managing their health (Rappaport, 1987).

As a participant Mentioned:

“The encounter process of my malaria treatment from the outpatient unit to the final departure from the clinic was wonderful... There was confidentiality and the services rendered to me were perfect and the service providers offered the needed advice” [Participant 16]

In the context of healthcare, the patient journey and touchpoints are essential components of value co-creation. The findings suggest that these touchpoints are not isolated events but are deeply interconnected, creating an overall experience that significantly promotes patient well-being. From an SDL theory perspective, each touchpoint represents an opportunity for patients and healthcare providers to co-create value. The interaction with healthcare providers, whether through scheduling consultations or receiving medical check-ups, allows patients to actively participate in their healthcare, transforming the service experience into a collaborative process where value is co-created. The design of these service interactions ensures that patients' needs are met in a timely and efficient manner, enhancing the overall value of the healthcare service (Lusch & Vargo, 2014). The focus on patient-centered care pathways aligns with the SDL theory view that service systems should be designed to facilitate ongoing value co-creation between patients and providers. The continuous engagement at each touchpoint supports the idea that value is co-created throughout the patient's entire journey, not just during isolated interactions. This approach fosters a deeper connection between patients and providers, leading to improved health outcomes and long-term well-being (Gallan et al., 2019).

Patient empowerment in value co-creation

The third, "Patient empowerment in value co-creation," serves as the catalyst for co-creation in healthcare, by empowering patients to actively engage in their care journey, ownership, and responsibility are transferred to the patients who become equal partners with healthcare providers in decision-making processes (Vahdat et al., 2014). This interactive approach transforms healthcare delivery from a passive service to a dynamic partnership, where both parties work together to achieve optimal outcomes (Pereno & Eriksson, 2020). As a respondent maintained:

As a patient, I am informed about the malaria treatment services I will receive from healthcare providers and the expected outcomes based on my lab results...I offered suggestions to the medical officer regarding my preferences in terms of treatment...The healthcare providers allow me to participate in every decision-making process concerning my health journey actively" [Participant 2]

In this research finding, patient empowerment is portrayed as the driving force behind the co-creation process in healthcare. By actively engaging patients in their care journey, the traditional

power dynamics in healthcare are redefined, enabling patients to take ownership and responsibility for their health. This shift from a passive recipient of services to an active participant aligns with the principles of empowerment theory, where patients are equipped with the necessary knowledge, skills, and confidence to make informed decisions (Vahdat et al., 2014). The transformation of healthcare delivery into a dynamic partnership—where patients and healthcare providers collaborate as equal partners—further strengthens the patient's sense of agency and control. This empowerment not only enhances immediate health outcomes but also fosters long-term well-being by ensuring that patients are deeply involved in decisions that impact their health.

In this context, patient empowerment becomes central to the co-creation of value in healthcare. The findings highlight how the interactive approach between patients and healthcare providers transforms the healthcare model from a traditional, provider-driven service to one that is collaborative and patient-centered (Pereno & Eriksson, 2020). By involving patients as equal partners in decision-making, healthcare providers leverage the patients' knowledge, preferences, and experiences, which are essential resources in the value co-creation process. This collaborative model aligns with SDL theory's focus on the co-creation of value, where both parties contribute to achieving optimal health outcomes. Research supports the notion that patient involvement in the co-creation process leads to better health outcomes and improved well-being (Bravo et al., 2015; Vainauskienė & Vaitkienė, 2021; Liu et al., 2024).

Provider relationships

The final theme, "Provider relationship," is the relationship between healthcare providers and patients that stands as a cornerstone in patient disease control and management. It transcends mere clinical interactions to encompass trust, and empathy that fosters a collaborative approach to

healthcare where patients feel empowered to actively participate in their malaria treatment journey. As a Participant emphasized:

The healthcare providers interact well with patients because the healthcare workers are polite and ever-ready to respond to the patients' needs.... Generally, they have cordial relationships with the patients [Participant 19]

In the context of the research findings, the theme of "Provider relationships" aligns with empowerment theory by highlighting the crucial role that trust, empathy, and open communication play in empowering patients. These provider-patient relationships transcend clinical interactions and evolve into collaborative partnerships where patients are encouraged to actively participate in their malaria treatment journey. This empowerment through strong relationships enables patients to take charge of their health, engage in meaningful dialogue with healthcare providers, and make informed decisions about their treatment (Black & Gallan, 2015). The emphasis on transparency and mutual respect in these relationships fosters a sense of empowerment that extends beyond individual health outcomes, contributing to patients' overall well-being.

Provider relationships indicate the importance of the relational aspects of healthcare in co-creating value. The dynamic and collaborative relationships between healthcare providers and patients are foundational to understanding and meeting patient needs and preferences, which are critical resources in the co-creation process (Beach et al., 2006). By engaging in open and transparent communication, healthcare providers and patients co-create a healthcare experience that is tailored to the individual needs of the patient, thereby enhancing the effectiveness of malaria disease control and contributing to better health outcomes (Gardiazabal & Bianchi, 2021).

From an SDL theory perspective, the provider-patient relationship is a key touchpoint where value is co-created through continuous interaction and mutual engagement. This relationship-building process not only facilitates the exchange of vital information and resources but also establishes a foundation of trust and empathy, which are essential for effective healthcare delivery (Thorne & Robinson, 1988). The strong bond between providers and patients allows for a more personalized and responsive approach to care, ensuring that healthcare services are aligned with the patient's

unique needs and preferences. This co-created value enhances not only the immediate outcomes of malaria treatment but also the long-term well-being of patients.

In summary, our empirical evidence indicates that the joint sphere of co-creation, direct interactions between the service provider and the patient (Grönroos & Voima, 2013) results in the patient well-being ecosystems. This is in line with Poblete et al., (2023) user involvement and value co-creation in well-being.

Table 2

Theoretical Contributions

This study advances theoretical perspective on health co-creation by integrating Service-Dominant Logic (SDL) (Vargo & Lusch, 2004) and Empowerment Theory (Rappaport, 1987). The study's theoretical contributions are outlined as follows:

First, the findings reveal that technology plays an essential role as an enabler in the co-creation process, especially in promoting patient well-being. By reducing care delivery time and enhancing communication channels, technology not only augments healthcare efficiency but also empowers patients to actively engage in their health management (Berry et al., 2019). This insight extends SDL by underscoring the pivotal role of technological resources in facilitating co-creation. It demonstrates that digital platforms and tools are instrumental in fostering collaborative value creation between patients and providers (Vats, 2024). Moreover, technology-mediated interactions are shown to enrich both relational and operational dimensions of SDL, fostering a dynamic and interactive healthcare environment.

Second, findings on service design underscore the significance of meticulously structured patient journeys and touchpoints in fostering patient empowerment. The study highlights the interconnected nature of healthcare interactions, positing that value co-creation is a continuous process that occurs across multiple touchpoints rather than isolated incidents. Theoretically, this extends SDL by suggesting that value creation is an iterative, ongoing process embedded throughout the entire service ecosystem (Edvardsson et al., 2011). In parallel, it reinforces

Empowerment Theory, as patient engagement at each touchpoint is shown to enhance their sense of control and ownership over healthcare outcomes (Rappaport, 1987). This dual contribution suggests that thoughtful service design not only facilitates sustained value co-creation but also supports patient empowerment, leading to more personalized and impactful healthcare experiences.

Third, the study challenges conventional provider-centric healthcare models by positioning patients as equal partners in their care journeys. This patient-centered shift contributes to SDL by illustrating that patient empowerment is central to value co-creation, transforming healthcare delivery into a dynamic, interactive process (Vargo & Lusch, 2008). Findings suggest that empowered patients are more likely to proactively engage in their care, enhancing the overall value generated through interactions with healthcare providers (Omaghomi et al., 2024). The study further strengthens Empowerment Theory by showing that empowered patients achieve improved health outcomes and sustained well-being, reinforcing a reciprocal relationship between empowerment and co-creation. As patients gain empowerment, their capacity for co-creation increases, thus fortifying both SDL and Empowerment Theory.

Fourth, the research highlights the vital roles of trust, empathy, and communication within provider-patient relationships, emphasizing the importance of these factors in the co-creation process (Carlini et al., 2024). Theoretically, this finding indicates that strong provider-patient relationships are integral, not merely supplementary, to effective healthcare delivery and value co-creation. This contribution extends SDL by identifying relational factors as core elements within the co-creation framework, especially in complex healthcare contexts, such as malaria treatment (Grönroos & Voima, 2013). Additionally, the study introduces the concept of relational empowerment, wherein supportive provider relationships encourage patients to actively participate in their care. This extends Empowerment Theory by incorporating relational dynamics as a crucial part of the empowerment process, framing empowerment as both an individual attribute and a relational construct shaped by interactions with providers. Together, these insights deepen SDL and Empowerment Theory, demonstrating how relational dynamics intersect with individual empowerment to promote meaningful co-creation in healthcare.

By integrating SDL and Empowerment Theory, this study offers a comprehensive framework to understand the complex nature of value co-creation in healthcare. It emphasizes how technological

innovations, service design, patient empowerment, and relational dynamics collectively advance a more effective, patient-centered healthcare delivery model. These contributions not only enhance existing theories but also establish a foundational basis for future research to investigate the synergistic effects of these elements across diverse healthcare contexts. Moreover, the findings advocate for a shift toward collaborative and empowered patient-provider interactions, further enriching theoretical and practical perspectives on value co-creation within the healthcare sector.

Implications for Practice

The implications for the study highlight the transformative potential of co-creation in enhancing patient well-being and optimizing healthcare engagement.

First, healthcare managers should invest in and integrate technological platforms that enhance real-time communication and information sharing between patients and healthcare providers. This facilitates the exchange of information and feedback. By using technology digital tools, patients can track their symptoms, receive reminders for medication, and access educational resources tailored to their specific needs. This empowers patients to take an active role in managing their health and improve their well-being.

Second, managers must focus on designing and optimizing patient journeys and touchpoints to safeguard confidentiality in the service encounter process. This approach ensures that interventions are precisely targeted to address specific health concerns and preferences in the malaria treatment process of individual patients. Hence, by acknowledging and accommodating individual differences, healthcare providers can optimize treatment outcomes and enhance patient satisfaction.

Three, healthcare managers must actively involve patients in the decision-making process, encouraging them to take ownership of the health journey. This must encompass open interactions with patients, suggestions, knowledge sharing, educational programmes, etc. All these empower patients in their decision-making toward their well-being.

Limitations and Directions for Future Research

The ever-evolving healthcare delivery that requires an understanding of the process to improve patient health status demands a proactive approach. Therefore, refining service delivery

mechanisms, and augmenting patient well-being is significant. In this context, the present study aims to examine patient well-being within the framework of the co-creation journey in the malaria treatment process in Ghana. However, this study is not without limitations as the qualitative research. First, the study examines well-being from the perspective of patients. Therefore, the views of healthcare providers were not taken into consideration. Future research could look at the role of healthcare providers in promoting patient well-being. Additionally, qualitative research methodologies inherently entail a degree of subjectivity, as the study relied on interpretations and perceptions through interviews with the patients in the malaria treatment process. Therefore, quantitative analyses or mixed-methods designs be conducted to provide a more comprehensive understanding of patient well-being in the co-creation journey within the malaria treatment landscape. Finally, the study's reliance on a specific sample of participants, such as patients receiving malaria treatment in a university clinic in Ghana, may introduce sampling bias. This limited participant pool may not adequately represent the broader population of malaria patients in the region, potentially limiting the generalizability of the findings. Also, variations in healthcare infrastructure, cultural norms, and healthcare policies across different regions may influence the co-creation dynamics and patient well-being outcomes in ways that are not fully captured by this study.

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Unlocking wellness: the power of co-creation in transforming healthcare engagement for patient well-being in malaria treatment process

Participants	Role of work experience	Years of working experience	Sex	Age range	Education	Duration of interview
<i>P 1</i>	<i>Academic</i>	<i>13</i>	<i>Male</i>	<i>55-59</i>	<i>PhD</i>	<i>60 minutes</i>
<i>P2</i>	<i>Estate</i>	<i>4</i>	<i>Male</i>	<i>35-39</i>	<i>Degree</i>	<i>48 minutes</i>
<i>P3</i>	<i>Human Resource</i>	<i>18</i>	<i>Female</i>	<i>45-49</i>	<i>Masters</i>	<i>55 minutes</i>
<i>P4</i>	<i>Security</i>	<i>5</i>	<i>Male</i>	<i>30-34</i>	<i>Degree</i>	<i>46 minutes</i>
<i>P 5</i>	<i>Liaison</i>	<i>21</i>	<i>Male</i>	<i>45-49</i>	<i>Masters</i>	<i>60 minutes</i>
<i>P 6</i>	<i>Internal Audit</i>	<i>19</i>	<i>Male</i>	<i>45-49</i>	<i>Masters</i>	<i>54 minutes</i>
<i>P7</i>	<i>Human Resource</i>	<i>17</i>	<i>Male</i>	<i>45-49</i>	<i>Masters</i>	<i>57 minutes</i>
<i>P8</i>	<i>Internal Audit</i>	<i>8</i>	<i>female</i>	<i>35-39</i>	<i>Masters</i>	<i>55 minutes</i>
<i>P9</i>	<i>Finance</i>	<i>29</i>	<i>Male</i>	<i>55-59</i>	<i>Masters</i>	<i>48 minutes</i>
<i>P10</i>	<i>Exam's coordinator</i>	<i>19</i>	<i>Male</i>	<i>50-54</i>	<i>Masters</i>	<i>49 minutes</i>
<i>P11</i>	<i>Library</i>	<i>20</i>	<i>Male</i>	<i>35-39</i>	<i>Degree</i>	<i>45 minutes</i>
<i>P12</i>	<i>Procurement</i>	<i>8</i>	<i>Male</i>	<i>35-39</i>	<i>Masters</i>	<i>40 minutes</i>
<i>P33</i>	<i>University Relations</i>	<i>27</i>	<i>Male</i>	<i>50-54</i>	<i>Masters</i>	<i>60 minutes</i>
<i>P14</i>	<i>Human Resource</i>	<i>19</i>	<i>Male</i>	<i>45-49</i>	<i>Masters</i>	<i>58 minutes</i>
<i>P15</i>	<i>Budget Unit</i>	<i>17</i>	<i>Male</i>	<i>40-44</i>	<i>Masters</i>	<i>59 minutes</i>
<i>P16</i>	<i>Admissions</i>	<i>18</i>	<i>Male</i>	<i>50-54</i>	<i>Masters</i>	<i>58 minutes</i>
<i>P17</i>	<i>Estate</i>	<i>6</i>	<i>Male</i>	<i>40-45</i>	<i>Degree</i>	<i>45 minutes</i>
<i>P18</i>	<i>Budget</i>	<i>8</i>	<i>Male</i>	<i>40-45</i>	<i>Masters</i>	<i>58 minutes</i>
<i>P19</i>	<i>Finance</i>	<i>13</i>	<i>Male</i>	<i>45-49</i>	<i>Masters</i>	<i>55 minutes</i>
<i>P20</i>	<i>Audit</i>	<i>16</i>	<i>Female</i>	<i>30-39</i>	<i>Masters</i>	<i>58 minutes</i>

Table 1: Participant demographics

Table 2: Themes, Sub-themes, and Illustrative Quotes from Participants

Themes	Sub-themes	Illustrative quotes	Participant
Technology	Online appointment	“Because of online technology, healthcare providers' service delivery is fast since our records are in their system”	P 19
	Online appointment	“Now, almost all of their operations are digitalized in the sense that you can book an appointment at the clinic at your comfort for malaria treatment”	P 12
	Website	“There is a general university website where you can get in touch with them through their contacts and book an appointment for a visit”	P 8
	Telephone call	“I tend to communicate with healthcare providers via the telephone”	P 6
	Online appointment	“For now, the healthcare providers at the clinic are doing well because the activities of all units are coordinated online”	P 7
	Telephone calls and online appointment	“The individual who wishes to report to the clinic using the appointments system will call the clinic”	P 3
	Telephone calls and online appointment	“There is the dedicated staff who will respond to the calls and assist the patients in booking an appointment”	P 5
	Telephone call	“Oh! The clinic has activated its communication means through the telephone... I book appointments to visit the clinic for malaria treatment through the emergency telephone numbers provided”	P 20
	Service design (journey and touchpoints)	Access to facility	“In my case, I think the healthcare providers at the clinic make available all the needed tools and equipment to facilitate the treatment of malaria”
Flexible scheduling		“I like the treatment at the clinic because they over flexible scheduling options when you book an appointment”	P 3
Convenient service delivery		“They deliver very convenient service as compared to other places...healthcare providers at the clinic are accommodating”	P 1
Excellent encounter		“I appreciate the staff at the clinic for the excellent services they have been giving to staff who go there when they are not well and need medical attention”	P 20
Good reception		“I am impressed with the kind of services rendered by the healthcare providers... the number of times I've been there, their reception, and the services rendered are on point”	P 4
Quality healthcare delivery		“They had enough time for me and gave me quality healthcare services during the malaria treatment”	P 2

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Themes	Sub-themes	Illustrative quotes	Participant
Patient empowerment	Good interaction	“Their services have been good and they are welcoming in terms of interaction with patients”	P 5
	Patient welfare	“The healthcare providers are more into my welfare whenever I go to the clinic for malaria treatment”	P 4
	Room suggestion	for “To a larger extent, I am happy with the way the healthcare providers interact with me...they gave room for me to make suggestions as to how I want to improve my health and the services that they currently have at the facility”	P 16
	Access to healthcare information	to “The healthcare professionals are very nice people and you are well taken care of when you visit the clinic and give you access to every health information”	P 6
	Option for medication	for “I like the way the medical officer gives me the option of medication for the treatment of my malaria”	P 13
	Advice on malaria management	on “There is a suggestion box located at vantage areas at the clinic where I can register my displeasure and then the management will take it up from there to make sure that the system is well improved to ensure efficient delivery of health service”	P 18
	Advice and intervention	and “I think the way the healthcare providers give me advice and the intervention needed in the treatment process for malaria is very educative for me”	P 14
	Healthcare information	“I was provided with the necessary information to help me understand the causes of malaria...my health condition was well explained to me”	P 10
	Access to healthcare decision-making	to To me, I like the way my health data is stored in the database... this gives me confidence that when the need arises, I can get access to my health information for further healthcare review	P 9
	Advice on treatment	on “The doctor recommends I take the full medication to get better and I adhere to the instructions”	P 10
Provider Relationships	Cordial relations	“I would say that I appreciate the way the healthcare providers communicate with me. It was very cordial, and great...this gave me fulfillment as a patient toward the malaria treatment process”	P 1
	Cordial relations	“The way they talked to me and their relationship was cordial and they carried out their duties diligently and with professionalism”	P 12
	Cordial relations	“I think besides the treatment; their relationship is cordial and gives me the free will to ask questions based on their treatment and medications”	P 13
	Cordial relations	“Oh! Because of the good relationship with the healthcare providers, not even after treatment, but still on medication, the senior medical officer or some of the nurses can call to check on you”	P 17

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Themes	Sub-themes	Illustrative quotes	Participant
	Friendliness in interaction	“I must say, they are friendly and my interaction with them was good... They put themselves in your shoes when you go to the clinic for malaria treatment”	P 2

Figure 1: Conceptual framework

