COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS

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UNIVERSITAT ROVIRA i VIRGILI

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DOCTORAL THESIS

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ROVIRA i VIRGILI

Department of Business Management
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DEPARTAMENT DE GESTIÓ D'EMPRESES
Universitat Rovira i Virgili
Facultat d'Economia i Empresa

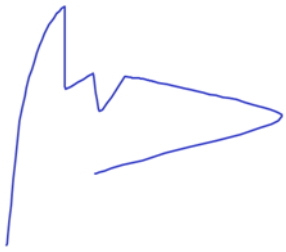
FAIG CONSTAR que aquest treball, titulat "Assistència sanitària col•laborativa: entendre els seus significats des de diferents agents", que presenta Tahereh Maghsoudi per a l'obtenció del títol de Doctor, ha estat realitzat sota la meva direcció al **Departament de Gestió d'Empreses** d'aquesta universitat.

HAGO CONSTAR que el presente trabajo, titulado "Cuidado de la salud colaborativo: comprender sus significados desde diferentes agentes", que presenta Tahereh Maghsoudi para la obtención del título de Doctor, ha sido realizado bajo mi dirección en el **Departamento de Gestión de Empresas** de esta universidad.

I STATE that the present study, entitled "Collaborative Healthcare: Understanding its Meanings from different Agents," presented by Tahereh Maghsoudi for the award of the degree of Doctor, has been carried out under my supervision at the **Department of Business Management** of this university.

Reus, 10 de maig de 2022 / Reus, 10 de mayo de 2022 / Reus, 10th of May, 2022.

Dra. Rosalia Montserrat Cascón Pereira



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Acknowledgments

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Dedication

When you come down the stairs behind your mother and notice how slowly she is stepping, you realize she is ageing! You know your father is old when you see him shaving and his hands shake! When they take pill upon pill after a meal, you well understand how painful it is, but they won't tell you. What makes it worse is realizing that half of their white hair is due to your sadness. A person's parents are a one-of-a-kind treasure that can never be replaced. Parents' eyes are the only ones filled with love and affection; they are entirely devoted to loving you.

My dad and mom, you are so far away, yet so close.
Our hearts are apart, yet they are one.
Our memories are whole, they keep us together.
I love you so much! And you are the only ones worthy of my adoration!

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Resumen

Esta tesis doctoral se centra en el estudio del concepto de asistencia sanitaria colaborativa. El sistema de provisión de asistencia sanitaria involucra distintos stakeholders y agentes que pretenden proporcionar servicios para promover, restablecer y mejorar los indicadores de salud de las comunidades a las que atienden. Esto pone de manifiesto la importancia de la colaboración en los sistemas sanitarios. El objetivo general de esta tesis consiste en abordar el vacío existente sobre quiénes son los agentes y cuáles son las prácticas y los significados de la asistencia sanitaria colaborativa.

Esta tesis comienza con un primer capítulo introductorio, en el que se muestran algunas de las ideas preliminares, la estructura, las preguntas y los objetivos de investigación. La tesis se ha desarrollado como un compendio de tres publicaciones, que se presentan en los siguientes capítulos. En el Capítulo 2, se desarrolló una revisión integradora de la literatura sobre el concepto de asistencia sanitaria colaborativa (Artículo 1) y se expusieron los agentes y las prácticas colaborativas que contribuyen a la sostenibilidad social de los sistemas de salud. Este artículo supone una contribución valiosa a la literatura académica sobre asistencia sanitaria colaborativa por ser uno de los primeros en investigar y proponer un marco conceptual que destaca los agentes y las prácticas colaborativas destinados a mejorar la sostenibilidad social. Al mismo tiempo, este artículo destaca los principales indicadores de sostenibilidad social de los sistemas de salud.

El Capítulo 3 (Artículo 2) tiene como objetivo aportar conocimiento sobre cómo se construyen los significados de la asistencia sanitaria colaborativa en las redes sociales. Por lo tanto, este artículo se centra en los significados de la asistencia sanitaria colaborativa tal y como quedan representados en las plataformas que brindan las redes sociales. Se adoptó un enfoque cualitativo de análisis visual y de texto de las publicaciones en Instagram, a través de las que se exploraron los significados de la asistencia sanitaria colaborativa desde las perspectiva de los proveedores de los sistemas de salud y del público en general. Este estudio ha contribuido a desvelar los múltiples significados que existen sobre la noción de asistencia sanitaria colaborativa compartidos por los usuarios de redes sociales y, en consecuencia, a desarrollar algunas reflexiones conceptuales e implicaciones prácticas para mejorar la salud pública a través de este concepto. El hallazgo más significativo fue descubrir el uso de la asistencia sanitaria colaborativa como un reclamo con propósitos comerciales, para anunciar o publicitar productos y servicios.

El Capítulo 4 (Artículo 3) explora los discursos estratégicos de los hospitales como artefactos formales utilizados por los consejos de administración de las organizaciones para construir significados sobre la colaboración en salud. Con este propósito, se realizó un estudio cualitativo longitudinal que exploró

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los informes anuales de los hospitales del Servicio Nacional de Salud del Reino Unido (NHS) pertenecientes a tres categorías distintas (*trusts*, *foundation trusts* y *teaching hospitals*). Para investigar la relevancia de la colaboración en los discursos estratégicos de los hospitales, se implementaron técnicas de *topic modelling*. Los resultados destacan cómo los discursos estratégicos han evolucionado a lo largo del tiempo con respecto al concepto de colaboración. También muestran diferencias respecto a este concepto entre los diferentes tipos de hospitales según sus perfiles institucionales.

La tesis finaliza con el Capítulo 5, en el que se exponen las conclusiones generales, aportaciones conceptuales y prácticas, limitaciones y futuras líneas de investigación. Esta tesis contribuye a aclarar qué significa la asistencia sanitaria colaborativa para diferentes agentes. En particular, se focaliza en la conceptualización de la asistencia sanitaria colaborativa en las redes sociales y los discursos estratégicos organizativos.

Abstract

This doctoral thesis focuses on the study of the concept of collaborative healthcare. The healthcare delivery system is a multi-stakeholder and multi-player system primarily aimed at providing services to promote, restore, and improve health indicators in communities. This highlights the importance of collaboration in the healthcare system. The general objective is to address existing gaps in collaborative healthcare agents, practices, and meanings.

Chapter 1 introduces the thesis by outlining some of the preliminary ideas, structure, research questions, and objectives of the investigation. The thesis was developed as a compendium of three publications, which we present in the chapters that follow.

In Chapter 2, an integrative literature review on the concept of collaborative healthcare was developed (Article 1), in which we discuss the collaborative agents and practices contributing to the social sustainability of healthcare systems. In addition to being a valuable contribution to the academic collaborative healthcare literature, this article is among the first to investigate and propose a conceptual framework of collaborative practices and agents aimed at enhancing social sustainability. This article also highlights the social sustainability indicators for healthcare systems.

Chapter 3 (Article 2) aims to address a lack of knowledge on how collaborative healthcare meanings are constructed in social media. Hence, this article focuses on the meanings of collaborative healthcare as portrayed on social media platforms. A qualitative approach using visual and textual analysis of posts extracted from Instagram was adopted to examine the meanings of collaborative healthcare as perceived by both healthcare providers and lay people. This study contributed to unveiling the multiple meanings of collaborative healthcare shared by social media users and accordingly helped in developing some conceptual reflections and practical implications for improving public health. The most significant finding was that the term *collaborative healthcare* is mainly used as a hallmark for advertising products and services and exploring some implications of that.

The Chapter 4 (Article 3) explores the strategic discourses of hospitals as formal artifacts for constructing meanings of collaboration in healthcare. For this purpose, a longitudinal qualitative study examined the annual reports of UK National Health Service (NHS) hospitals across three distinct categories (trusts, foundation trusts (FTs), and teaching hospitals). To investigate the relevance of the concept of collaboration in the strategic discourses of hospitals, topic modelling techniques were implemented. The

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findings highlight how strategic discourses have evolved over time regarding collaboration. They also show differences between NHS hospital types based on their institutional profiles.

The thesis ends with Chapter 5, which sets out the general conclusions, conceptual and practical contributions, limitations, and future lines of research. This thesis contributes to clarifying what the emerging concept of collaborative healthcare means for different agents. It specifically focuses on the conceptualization of collaborative healthcare in both social media and strategic organizational discourses.

Resum

Aquesta tesi se centra en l'estudi del concepte d'assistència sanitària col·laborativa. El sistema de provisió d'assistència sanitària involucra diferents parts i agents que pretenen proporcionar serveis per promoure, restablir i millorar els indicadors de salut en la comunitat que atenen. Això evidencia la importància de la col·laboració en els sistemes sanitaris. L'objectiu general d'aquesta tesi consisteix a abordar el buit existent sobre quins són els agents, les pràctiques i els significats de l'assistència sanitària col·laborativa.

Aquesta tesi comença amb un primer capítol introductori que mostra algunes de les idees preliminars, l'estructura, les preguntes i els objectius d'aquesta recerca. La tesi s'ha desenvolupat com un compendi de tres publicacions, que es presenten en els capítols següents. Al Capítol 2 es desenvolupa una revisió integradora de la literatura sobre el concepte d'atenció sanitària col·laborativa (Article 1) i s'exposen els agents i les pràctiques col·laboratives que contribueixen a la sostenibilitat social dels sistemes de salut. Aquest article suposa una contribució valuosa a la literatura acadèmica sobre assistència sanitària col·laborativa per ser un dels primers en investigar i proposar una marc conceptual que destaca els agents i les pràctiques col·laboratives dirigits a millorar la sostenibilitat social. Al mateix temps aquest article destaca els principals indicadors de sostenibilitat social en els sistemes de salut.

El Capítol 3 (Article 2) té com a objectiu aportar coneixement sobre com es construeixen els significats de l'assistència sanitària col·laborativa en les xarxes socials. Per tant, aquest article se centra en els significats de l'assistència sanitària col·laborativa representats a les plataformes de les xarxes socials. Es va adoptar un enfocament qualitatiu d'anàlisis visual i de text de les publicacions a Instagram, a través de les quals es van explorar els significats de l'assistència sanitària col·laborativa des de la perspectiva dels proveïdors privats de serveis de salut i del públic en general. Aquest estudi ha contribuït a mostrar els múltiples significats que existeixen sobre la noció d'assistència sanitària col·laborativa compartits pels usuaris de xarxes socials i, en conseqüència, a desenvolupar algunes reflexions conceptuals i implicacions pràctiques per a la millora de la salut pública a través d'aquest concepte. La troballa més significativa va ser descobrir que l'assistència sanitària col·laborativa era utilitzada com un reclam amb propòsits comercials per anunciar o publicitar productes i serveis.

El Capítol 4 (Article 3) explora els discursos estratègics dels hospitals com a artefactes formals de les organitzacions utilitzats pels consells d'administració per construir els significats de la col·laboració en salut. Amb aquest propòsit es va dur a terme un estudi qualitatiu longitudinal que va explorar els informes

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anuals dels hospitals del Servei Nacional de Salut del Regne Unit (NHS) pertanyents a tres categories (*trusts*, *foundation trusts* i *teaching hospitals*). Per investigar la rellevància de la col·laboració en els discursos estratègics dels hospitals, es van implementar tècniques de *topic modelling*. Els resultats destaquen com els discursos estratègics dels hospitals han evolucionat respecte del concepte de col·laboració al llarg del temps. També mostren diferències pel que fa a aquest concepte entre els diferents tipus d'hospitals segons els seus perfils institucionals.

La tesi finalitza amb el Capítol 5, en el qual s'exposen les conclusions generals, aportacions conceptuals i pràctiques, limitacions i futures línies de recerca. Aquesta tesi contribueix a aclarir què significa el concepte emergent d'atenció col·laborativa sanitària per a diferents agents. En particular, es focalitza en la conceptualització de la l'assitència col·laborativa sanitària en les xarxes socials i els discursos estratègics organitzatius.

Chapter 1.

Introduction

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Chapter 1. Introduction

1.1 Chapter overview

Collaboration is something we are naturally inclined to do. Collaboration opens you to a world of possibilities because you are not limited by your own knowledge, expertise, and resources (Huxham and Vangen 2013). Currently, organizations must collaborate with a far broader range of partners, both internally and externally, to pull together underlying expertise, knowledge, resources, and perspectives to solve challenges and thereby achieve success. In particular, when it comes to the healthcare system, collaboration should be stressed more extensively as the healthcare delivery system is multi-stakeholder in nature (Bauchner and Easley 2020), and no single profession can meet all of a patient's health expectations and needs (Matziou et al. 2014).

Hence, a shift toward community-based healthcare delivery models has been emphasized in contrast to the traditional in-hospital model of care (van Hoof et al. 2016). The increased demands for healthcare coverage (Mascia, Di Vincenzo, and Cicchetti 2012), limited resources, aging populations, chronic diseases, the Covid pandemic (Barnett et al. 2012; Van Der Wees et al. 2016; El-Awaisi et al. 2020) are among the key challenges that underscore the significance of redesigning healthcare systems according to more collaborative models to more efficiently address people's healthcare expectations and to enhance the performance of healthcare organizations (Singh 2019; D'Amour et al. 2009; Schepman et al. 2018). Collaboration envisages a multifaceted and complex scenario, which can bring together a wide range of participants, medical or non-medical, for collaboration (Latten et al. 2018; Javed et al. 2020; Chong, Aslani, and Chen 2013) at inter- or intra- organizational levels (D'Amour et al. 2009) through various practices such as sharing information, knowledge, critical resources, patients, and specialists (Wald et al. 2018; Okpala 2018; Lomi et al. 2014).

There has been much discussion on the advantages of collaborative healthcare in terms of patient satisfaction and quality of care (Reeves et al. 2017; van Weel 1994), cost-effectiveness, and increased job satisfaction (Schepman et al. 2018). Effective collaboration may, for instance, reduce unnecessary treatments and help patients shift from costly to affordable and sustainable care (Schepman et al. 2018; Frankowski 2019). Patient involvement in their treatment process and decision-making may result in greater patient satisfaction and higher care quality, especially in chronic care scenarios (Greenfield, Kaplan, and Ware 1985; Montori, Gafni, and Charles 2006; Ahgren and Axelsson 2011). Similarly, collaborative healthcare models may lead to higher satisfaction and engagement of health staff/professionals since they incorporate and facilitate knowledge transfer, major learning, and specialization (Fisher et al. 2017; Nair et

al. 2012; Westra et al. 2016). Hence, the importance of developing effective collaborative models is widely emphasized by policy makers, funders, and healthcare providers who see their potential benefits (Kaiser et al. 2018).

This doctoral thesis is a collection of articles. Chapter 1 presents an introduction, a justification for the study, research questions, and objectives. This serves as the project's starting point and outlines the thesis' structure and development.

Collaborative healthcare has been acknowledged as a key model to enhance sustainable behaviors as well as performance (Khayatzadeh-Mahani et al. 2019). Sustainability has been recognized as a magnet (Béland and Cox 2010) for bringing together the interests of healthcare stakeholders and committing them to a common objective of sustainability development. Although sustainability involves economic, social, and environmental (or ecological) dimensions (Boyer et al. 2016)—collectively referred to as the triple bottom line—established research in this critical area has primarily focused on the economic dimension (Boyer et al. 2016), and issues such as the financial performance of collaborative healthcare models. While social sustainability is critical for the healthcare system, research on this dimension is still in its infancy (Borgonovi and Compagni 2013). Therefore, one of the objectives of our current research is to provide a conceptual framework for collaborative healthcare contributing to social sustainability, which is addressed in Chapter 2. This section examines a conceptual framework emphasizing the contribution of collaborative healthcare networks to societal sustainability, as well as the specific actors involved in these collaborations. Diverse networks, particularly inter-professional networks, are included in the collaborative healthcare system to enhance social sustainability through a variety of practices, most notably communication and information sharing. The primary aim of this study was to review the literature on collaborative healthcare models in order to lay down a conceptual framework of agents and practices constituting the basis for this thesis.

Since meaning-making and discourses are a fundamental aspects of articulating and understanding effective collaboration and collaborative actions (Jørgensen, Jordan, and Mitterhofer 2012; Ralston, Russell, and Egri 2018; Kelly 1995), in the subsequent research stage of this thesis (composed of two empirical studies), we aim to explore what collaborative healthcare means and how these meanings and discourses are socially constructed. In particular, we conducted two empirical studies. In the first, we investigated meanings retrieved from social media, in role as general and public platforms; while, in the second, we analysed strategic discourses of public hospitals, as a more specialized meaning-making context for understanding healthcare organizations' aims, directions, and values.

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The underpinning role of shared meanings and meaning-making in developing effective collaboration and collaborative actions remains underexplored (e.g., Karam et al. 2018; Aunger, Millar, and Greenhalgh 2021). Addressing this lack constituted the main aim of the research described in Chapter 3, which addresses the following research question: What are the various meanings of the term "collaborative healthcare" as portrayed by social media users? Using Instagram, we discuss how social media users construct the meanings of collaborative healthcare. Social media users who use the hashtag #collaborativehealthcare portray and use the term “collaborative healthcare” for knowledge exchange, events, self-care, and advertising. Interestingly, this term is mainly applied as a “hallmark” advertising health-related services and products by private healthcare centres.

Our finding that the term “collaborative healthcare” is used for advertising purposes by private healthcare centres, gave rise to the question on the term’s use by hospital boards of directors. We addressed this in further research—specifically, “How do hospital boards of directors employ the term “collaborative healthcare” in their formal information disclosure to construct meanings among their staff and stakeholders?” Any success in establishing the collaborative model is primarily contingent on effective collaboration among these agents. The collaborative healthcare literature has mainly focused on the different forms of collaboration, the agents, and the practices involved. However, exploring the shared understanding of the term, and how this might contribute to enhancing and achieving greater collaboration, is crucial. The effectiveness of collaboration depends, not only on bringing together participants, but also on constructing and developing “new ways of thinking, talking, and behaving.” Thus, Chapter 4 seeks to explore the role of strategic discourse, as a key communication tool of organizations, in forming and developing the meanings of collaboration. The study was conducted using the annual reports of the U.K. National Health Service (NHS) hospitals. It also discusses differences between strategic discourses of NHS hospital types with different institutional profiles. The findings confirm the strong emphasis, across all NHS hospitals, on collaboration in their strategic discourses.

Finally, in Chapter 5, we outline the thesis' main conclusions and implications. This section highlights the most significant results obtained during the study and the conceptual and practical contribution of these findings. Likewise, we highlight the research's limits as well as some of its potential future directions.

Table *1.1* summarizes the publications included in this thesis, their corresponding chapters, and the journals in which they have been published or are under review.

Table 1.1 Summary of the articles

	Chapter 2	Chapter 3	Chapter 4
Article Title	The Role of Collaborative Healthcare in Improving Social Sustainability: A Conceptual Framework	Collaborative Healthcare: Exploring its Meaning through Visual and Textual Analysis in Social Media	The role of UK public hospitals' strategic discourse in making sense of collaborative practices: A longitudinal analysis
Journal	Sustainability	Digital Health	Public Performance & Management Review
Quartile JCR	Q2	Q1	Q2
Quartile SJR	Q2	Q2	Q1
Impact Factor JCR & SJR	3.251	3.495	2.745
Status	Published	Under review	Submitted
Subject area	Environmental Studies	Health Policy & Services	Public Administration
Journal position within the area	59/125	15/88	24/48
Keywords	Collaboration, Collaborative Healthcare, Sustainability, Social Sustainability	Collaborative Healthcare, Meanings, Social Media, Instagram, Health Informatics	Collaboration, Healthcare, Strategic Discourse, Sensemaking, Topic Modelling
Data source	Academic papers	Instagram	NHS-Annual reports
Type	Conceptual (literature review)	Empirical (secondary data)	Empirical (secondary data)

1.2 Justification of the study

This thesis is part of the project titled "Collaborative Healthcare Management", for which the Doctoral student obtained a grant co-funded by the European Union's Horizon 2020 research and innovation program, as part of the Marie Skodowska-Curie COFUND grant, funded by the European Commission and the Rovira i Virgili University (URV). This entailed pursuing doctoral studies in Economics and Business, with a focus on business and management, linked to the Business Management Department at URV.

The study topic of this thesis falls under the umbrella term of collaboration, and more particularly, collaborative healthcare (Patel et al. 2000; D'Amour et al. 2009; Ferlie et al. 2011; Hulscher, Schouten, and Grol 2009; O'Daniel and Rosenstein 2008), which emerged as an important subtopic after an initial literature review process and the definition of the thematic area (Walliman 2005). Since the researcher was familiar with healthcare system challenges, from management, policy, and strategy angles, this constituted a viable starting point for the investigation. The study topic must be realistic, particular, and relevant, and it must also adhere to institutional standards and regulations. Above all, the topic has to be of interest to the

researcher, as it is the source of the most inspiration throughout the process of conducting a PhD (Walliman 2005; Wilson 2014). The researcher's interests and the directors' experience were aligned with the general project of which this thesis was a part. The first stage was to find a working title that would directly link to the study topic and represent a general idea that would be refined over the course of the investigation (Creswell 2009).

The nature of the healthcare system necessitates a high level of collaboration in order to more efficiently fulfil healthcare demands and improve healthcare system performance (Singh 2019). Accordingly, the collaborative healthcare model is accepted as an effective paradigm for the healthcare system (D'Amour et al. 2009; Schepman et al. 2018). Despite the growth in the number of studies in the area, there is still a lack of clarity on the definition, meanings, actors, and practices of collaborative healthcare (Karam et al. 2018). The primary aim of this thesis is to understand the stakeholders/agents, practices, and meanings that a collaborative healthcare model entails. We conducted the study in two stages: conceptual and empirical. The conceptual part was composed of the first article, which proposed a conceptual framework of collaborative agents and practices according to the literature in the field. In the empirical stage, composed of the second and third articles of this thesis, we attempted to explore, firstly, what meanings are articulated around the term collaborative healthcare by public opinion (specifically by retrieving information from social media); and secondly, how shared meanings of collaborative practices are constructed in formal corporate disclosures (strategic discourses retrieved from the annual reports of hospitals).

All organizations need to embrace sustainability; increasingly, it is becoming a crucial business approach to creating long-term value and fostering organization longevity by respecting ecological, social, and economic environments. In particular, when it comes to healthcare organizations, sustainability must be emphasized as the primary requirement as well as a quality concern because they must be able to meet high standards even in the face of changing circumstances (Capolongo et al. 2015). Even though social sustainability is fundamental for healthcare systems (Malby, Amoo, and Mervyn 2016; Shelton, Cooper, and Stirman 2018), it has received relatively little attention in healthcare studies (Hussain et al. 2018). Hence, our initial conceptual study attempted to fill the existing gap through revising collaborative healthcare literature to introduce a conceptual framework of agents and practices contributing to the social performance of healthcare systems. This study explored the collaborative agents and practices that contribute to social performance indicators, such as professionals' wellbeing, safety, security, satisfaction, and patients' accessibility to healthcare and fair distribution (Capolongo et al. 2016; Chiu 2003).

In the course of the conceptual study, we found significant variations across the health and social care literature in the definition of collaboration, its meanings, determinants, practices, and agents (Karam

et al. 2018). Efforts to promote collaboration might suffer from this lack of clarity. In particular, the significance and relationships of 'soft' and 'intangible' factors, such as shared value and meaning, trust, fairness, openness, consensus, and accountability, in advancing collaboration is has been little examined (e.g., Karam et al. 2018; Aunger, Millar, and Greenhalgh 2021). Shared meaning serves as an essential facilitator for 'soft' factors such as trust and consensus as it involves shared understanding, beliefs, knowledge, and assumptions (Mulder, Swaak, and Kessels 2002). Additionally, shared meanings, understood as the ability to coordinate practices and behaviors towards achieving common goals and actions, is introduced as collective learning (Langan-Fox, Anglim, and Wilson 2004; Mathieu et al. 2000). Despite being a significant determinant in educating and instilling collaborative actions, shared understanding/meaning-making is, nevertheless, insufficiently addressed by research. In this regard, our second and third studies aimed to investigate the construction of meaning-making and the meanings of collaborative healthcare. Specifically, the second study explored what lay people and healthcare organizations on social media platforms mean by the term collaborative healthcare. We looked at social media because of its influence on user perceptions and its popularity in communicating, constructing meaning, and exploring public understanding in a collective way (Lomborg 2015; El-Awaisi et al. 2020). It has also been widely recognized as a rich resource in healthcare studies (Bour et al. 2021). Previous healthcare studies have mainly focused on the significance of digital media in enhancing collaborative practices such as sharing information, experience (Wayne et al. 2015), and developing collaborative digital apps (Javed et al. 2020). However, few have explored the meaning-making role of social media, particularly for collaborative healthcare. This study intends to contribute to collaborative healthcare literature by exploring the meaning-making role of social media. The results show that private healthcare organizations mainly apply the term "collaborative healthcare" as a hallmark to advertise their services and products. Health care providers, in addition to being the most important participants in the meaning-making process on social media, play a central role in the practice of collaborative healthcare (Shaw, Rosen, and Rumbold 2011)

Likewise, exploring how healthcare organizations contribute to constructing meanings of collaborative practices via strategic discourses is a significant research area. The present trends toward collaborative practices point to the necessity of examining how well strategies and guidelines are being constructed, disseminated, and implemented within healthcare organizations with a focus on team-based practice (Medves et al. 2010). The third study of the thesis examines strategic discourses given their relevance for transferring an organization's critical strategies, values, and priorities, and because they constitute a key linguistic practice (Grazzini 2013) that contributes to shaping collective understanding and actions (Jørgensen, Jordan, and Mitterhofer 2012; Ralston, Russell, and Egri 2018). Indeed, strategic discourse is a key resource, and constructing a shared meaning is a potential tool for training and motivating

stakeholders to engage in collaborative practices. Nevertheless, there is still lack of studies on the crucial role of strategic discourse in constructing collaborative actions (Balogun et al. 2014). Therefore, our third study investigates how the boards of hospitals use the formal strategic discourses to share meanings of collaborative practices among stakeholders. Additionally, it investigates how the different institutional profiles of hospitals affect their strategic discourse in relation to collaboration.

1.3 Research questions

The general objective of this thesis is to investigate what collaborative practices and agents exist in the collaborative healthcare system, as well as what the term "collaborative healthcare" covers when shaping a shared understanding of collaboration in healthcare. This was accomplished by reviewing previous studies and investigating formal and informal discourses employed by healthcare organizations when constructing a shared understanding. We started with a broad concept and worked our way down to more specific instances of how this term is constructed. To achieve this objective, we proposed the following research questions:

- *What collaborative practices and agents are considered in the collaborative healthcare model to contribute to social sustainability?*
- *What meanings are portrayed under the hashtag #collaborativehealthcare in social media?*
- *How is collaboration-related strategic discourse used over time by UK NHS hospitals to make sense of collaboration in healthcare?*
- *How do the different institutional profiles of UK NHS hospitals affect their strategic discourse in relation to collaboration?*

1.4 Structure of the thesis

This doctoral thesis was developed and organized as a compendium of publications. We developed its structure (Figure 1.1) based on the "Sandwich Model A" presented by Mason and Merga (2018, 1461). Chapter 1 is an introductory chapter, followed by two layers, namely conceptual and empirical studies. They involve a set of publications in the form of independent chapters (Chapters 2, 3 and 4); each of these chapters encompasses its own literature review, methodology, results, discussion, and conclusion. A closing chapter concludes the thesis (Chapter 5).

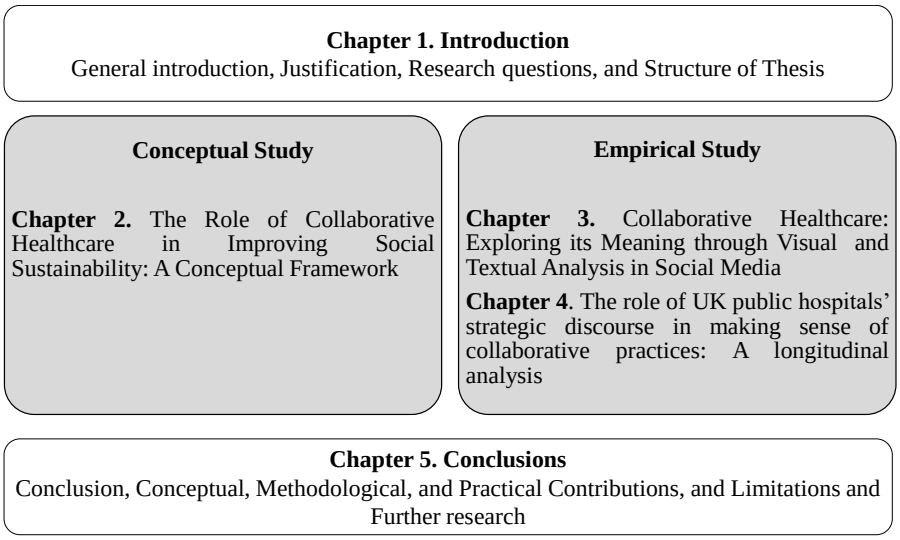

Figure 1.1 Thesis organization-based publication- Sandwich Model

1.5 References

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Chapter 2.

Understanding Collaborative Healthcare Agents and Practices Contributing to Social Sustainability

UNIVERSITAT ROVIRA I VIRGILI
COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
Tahereh Maghsoudi

Chapter 2. Understanding Collaborative Healthcare Agents and Practices Contributing to Social Sustainability

Integrative literature review

The Role of Collaborative Healthcare in Improving Social Sustainability: A Conceptual Framework

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Presented in the BAM Conference in the Cloud 2020, 02-04 September, Oral presentation

2.1 Introduction

Globally, healthcare systems aim to provide services to promote, restore, and improve the health indicators of the population (Roussos and Fawcett 2000; Singh 2019; Mishra, Sarkar, and Singh 2012). However, they do so in the context of facing multiple social challenges such as an unfair distribution of resources and increasing healthcare demands (Bernal-delgado 2010). In this regard, social sustainability is seen as a key indicator of quality (Shelton, Cooper, and Stirman 2018). The growing body of research on the development of effective healthcare systems has placed greater emphasis on relevant policies and ethical implications and less on social sustainability issues (Scheirer and Dearing 2011). There is little research on the organizational factors contributing to the development of social sustainability-oriented healthcare systems and it is crucial to explore more appropriate healthcare models embedding such principles.

Healthcare systems are identified by multiple players or stakeholders, including professionals (clinicians and non-clinical professions), managers, patients, providers of healthcare products, scientists, and governments/policymakers. The multi-stakeholder nature of healthcare systems highlights the need for a collaboration model. Shared interests among stakeholders need to be developed in defining different policies, strategies, and objectives. Social sustainability improvement represents an opportunity for aligning such interests. For multi-stakeholder institutions, collaboration implies greater credibility, commitment, accountability, support, and legitimacy of stakeholders. However, the healthcare literature shows that the culture of healthcare organizations suffers from low trust and limited collaboration at both professionals and organizational levels (Mitchell et al. 2010). Collaborative healthcare has been introduced to address such challenges and improve the quality of care (Malby, Amoo, and Mervyn 2016).

In particular, collaborative healthcare models contributes to sustainability development (Khayatzadeh-Mahani et al. 2019). Sustainability has been acknowledged as a magnet (Béland and Cox 2010) to pull healthcare stakeholders' interests together and commit them to the common goal of sustainability development. Although sustainability encompasses economic, social, and environmental (or ecological) dimensions (Boyer et al. 2016), named as the triple bottom line, existing research in this highly relevant area has mainly been limited to the economic dimension (Boyer et al. 2016), such as the impact of collaborative healthcare models on the financial performance. Although social sustainability is essential to the healthcare system, research on this dimension is relatively sparse and emerging (Borgonovi and Compagni 2013). Hence, this study aims to broaden this incipient research line by introducing collaborative healthcare as an alternative model for social sustainability improvement. To do so, we developed a conceptual framework based on a literature review of collaborative healthcare and social sustainability. In doing so, we explicitly focus on the social dimension of sustainability.

The paper is organized by first describing how the integrative literature review was conducted to construct the conceptual framework. Second, the conceptual framework is developed by reviewing the concept of collaborative healthcare and then proposing the relationship between different collaborative healthcare networks and social sustainability. We finally discuss the potential of this conceptual framework for developing further research in the area.

2.2 Integrative Literature Review

Our aim here was to contribute a final conceptual framework that related collaborative networks and social sustainability, thus making it appropriate to conduct an integrative literature review. The main purpose therein was to "revise, criticize, and synthesize the representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated" (Torraco 2005, 357). Integrative literature reviews are mainly articulated for dynamic, mature, and new emerging topics with rapid growth (Torraco 2016), features that appear in the research line of social sustainability in healthcare systems (Hussain et al. 2018).

Unlike the systematic literature review, the integrative literature review does not function on the basis of a prescribed methodology or standardized format for review (Jesson, Matheson, and Lacey 2011; Torraco 2005). In our case, we used Scopus and Web of Science databases for conducting the review. We also formulated our review around three key relevant bodies of literature in the context of healthcare, including social sustainability, social performance, and collaboration/participation practices.

In the same vein, we articulated our review around the relevant keywords exiting in the title, abstract, or keywords of publications. The following terms were used in the search: sustainability, social sustainability, social performance, corporate social responsibility (CSR), healthcare, collaborative/participative healthcare, collaborative/participative healthcare, collaborative/participative care, medical collaboration, collaboration, and collaborative/participative practices (e.g., communication). To identify relevant articles in the databases, we matched specific keywords (e.g., the terms collaborative healthcare* and participative health* were matched with sustainability, social sustainab*, social performance, and CSR).

The initial search of the keywords in both titles and abstracts identified 9813 articles. We subsequently narrowed the search to include only the key relevant literature bodies for the present study, which are social sustainability, social performance, collaborative/participative healthcare practices. Adopting these restrictions produced a database of 546 articles.

We only included what we considered relevant articles based on the following criteria:

- They should address one or more collaborative practices, such as communication and knowledge sharing.
- They should consider researches conducted in healthcare, business, and management.
- They should be written in English.

Based on the above procedures, the final dataset was composed of forty-five articles.

2.3 Theoretical Background

This section examines the literature related to collaborative healthcare and its practices, and the relationship between collaborative healthcare and social sustainability improvement. Also, we explore a conceptual framework to show how collaborative healthcare can contribute to social sustainability improvement.

2.3.1 Collaborative Healthcare

Change and revision of policies and approaches in healthcare systems to redesign traditional practices have been emphasized in order to improve the quality and effectiveness of healthcare (Malby, Amoo, and Mervyn 2016; Doyle et al. 2013; Scott and Thurston 1997). For instance, enhancing knowledge exchange within a healthcare system (Scott and Thurston 1997), and ensuring its social sustainability (Touati et al.

2018) have been highlighted as cornerstones of new healthcare system models. Concepts such as teamwork, collaborative networks, and partnership have emerged (Scott and Thurston 2004).

Collaboration in healthcare refers to a coordinated team activity, in which members with various knowledge, skills, and capabilities work together to conduct a series of tasks for meeting the shared targets (Patel et al. 2000). Wood and Gray (1991, 146) indicated that collaboration "occurs when a group of autonomous stakeholders of a problem domain engages in an interactive process, using shared rules, norms and structures, to act or decide on issues related to that domain". The Institute of Medicine (IOM) offers a more comprehensive definition, when it mentions that collaborative healthcare is "designed to generate and apply the best evidence for the collaborative healthcare choices of each patient and provider; to drive the process of discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in healthcare" (Smith et al. 2012, 436).

More readily than traditional models of healthcare, collaborative healthcare can address the growing expectations of healthcare users (Elpern et al. 1983) and current healthcare challenges, such as an increase in chronic diseases and population ageing, both of which require of greater collaboration among healthcare actors to be properly addressed (Knowles et al. 2013).

The quality collaboration that brings together healthcare stakeholders to achieve common and improved objectives (Rossiter et al. 2017) is key for healthcare improvement. Collaboration may result in optimizing the development of resources, enhancing communication, coordination, and consequently a better healthcare performance (Braithwaite et al. 2018). Collaboration within different healthcare networks, such as professionals-patients, inter-professionals, leadership, and healthcare research, has been introduced as an innovative model to improve healthcare performance, considering different aspects such as social sustainability improvement (Touati et al. 2018) and comprehensive quality care (Doyle et al. 2013; Ahgren and Axelsson 2011; Malby, Amoo, and Mervyn 2016).

Notwithstanding the common agreement on the positive effects of collaborative models in healthcare, there is less agreement on what exactly collaborative practices consist of (Huerta, Casebeer, and Vanderplaat 2006). Communication among team members (Patel et al. 2000), sharing information (Wald et al. 2018), sharing experience, power and responsibility, involvement in decision-making process, and sharing resources (Bourgeault and Mulvale 2006) have all been highlighted. Wald et al. (2018) proposed the Mayo Clinic model as an innovative and scalable model that shows the importance of collaboration in the development of quality of care. In their model, clinical collaboration emerges in the form of sharing information via technology and involves eConsults, the AskMayoExpert (AME), eBoard conferences, and

healthcare consulting. On the other hand, Bourgeault and Mulvale (2006) indicated that collaborative healthcare involves interdependent teams sharing power and responsibility. These different views on what collaboration is and, in particular, on what is shared through collaboration, whether it be merely information or also includes decision-making, responsibility, or power to accomplish these responsibilities, show the need for common ground or understanding in order to make the results of different models comparable.

Another relevant issue relates to who collaborates. Previous studies have identified different stakeholders involved in the healthcare system such as professionals (including clinicians such as nurses, medical doctors, physiotherapists, psychologists), and non-clinical professionals (such as accountants and administrative staff among others), managers, and patients, suppliers of healthcare products, healthcare scientists, and policy makers. The available studies have focused only on one or two stakeholders in defining the healthcare network. For instance, some research has focused on the role of patients in this network (Doyle et al. 2013; Ahgren and Axelsson 2011). Another major stream of research refers to the collaboration between nurses and physicians (Zwarenstein and Bryant 2000; Caricati et al. 2015). Similarly, Buchanan (Buchanan 1996) defined collaboration in this context as an interdependent association among different healthcare providers, including nurses, physicians, and other allied healthcare workers, who have a shared goal of providing quality patient care while having differing authorities and responsibilities. This view consequently excludes other actors such as scientists or policy makers.

These studies represent only a partial view of what collaborations and networks might be included in the healthcare sector. The collaboration among different actors results in the emergence of a wide range of possible healthcare networks, such as inter-professionals, professionals-patients, leadership, and research networks. Further clarification is needed in terms of what actors collaborate when referring to collaborative healthcare models. The consideration of a wider range of relevant actors, which might involve managers, clinical and non-clinical professionals, scientists, suppliers of healthcare products, political actors and patients will allow consideration of more and varied impacts of collaborative healthcare networks on social sustainability.

2.3.2 Social Sustainability

The ever-changing lifestyles and conditions have long constituted the importance of not only natural but also social sustainability because health and safety status of people are affected by both environmental and social factors and a community must prioritize the health and safety of its population to sustain itself (Vuong et al. 2017). Having the focus of majority of previous research on the role of unhealthy

environmental factors in sustaining communities, human health also depends on social matters (Vuong et al. 2017).

Due to the notion that it constitutes the forerunner for environmental sustainability, the concept of social sustainability has been under-theorized (Colantonio 2009) in sustainability literature (Hardoy, Mitlin, and Satterthwaite 1992). Recently, however, there have been a few attempts to introduce social sustainability as an independent component (Colantonio 2009). Three main approaches can be identified in social sustainability; (1) social sustainability as equal to environmental sustainability; (2) social sustainability as an environmental-oriented factor referring to a necessary precondition for meeting environmental sustainability; (3) social sustainability as a people-oriented dimension which emphasizes the wellbeing of individuals and the fair distribution of resources (Chiu 2003). Given the characteristics of the healthcare context, in which the concept of social sustainability is explored, the third, people-oriented approach is judged as the most appropriate. In particular, because this context implies both the improvement of the wellbeing of patients and employees and the need for justice in the distribution of resources, so the people-oriented dimension of social sustainability becomes key in this context.

In the sustainability literature, the terms social performance and social sustainability are sometimes applied interchangeably (Awan, Kraslawski, and Huiskonen 2018a). Given that there is not a singular definition for social sustainability in the literature (Granovetter 1973), the concept can refer to key themes that embody social issues relevant to sustainability, such as access to basic needs (Fine 2001), social justice (Avery and Swafford 2009), and equity (Min, Kim, and Chen 2008). In this regard, a system is sustainable when a wide range of human needs are addressed in a way that secures its nature and its regenerative abilities over time, considering committing to social justice, human dignity, and engagement (Konovsky and Pugh 1994). Social sustainability emphasizes the human side of sustainability involving human rights, and health and safety (Hussain et al. 2018; Anisul Huq, Stevenson, and Zorzini 2014). Social sustainability relates to “something human beings value, strive for or hope to attain” (Thompson 1997, 75).

Therefore, to address social sustainability in the healthcare context, a healthcare system must provide sufficient resources and activities to meet individual and public health needs (Oslen 1998). Social sustainability in the healthcare context has been defined as a “process of creating an accessible, integrated and equitable community that successfully meets the needs of health and well-being of users” (Capolongo et al. 2016, 16). Similarly, Awan et al. (2018a) indicated that social sustainability implies both the fair distribution of health and safety resources and providing equal opportunities to access these resources. These objectives of social sustainability in healthcare systems may secure the survival of a healthcare system as they address the expectations of stakeholders.

Social sustainability can result in a chain of interconnected positive outcomes. For instance, it may enhance individuals' satisfaction (Masocha 2019) and satisfied individuals would feel more commitment and be more willing to share their knowledge in an organization (Cugueró-Escofet, Ficapal-Cusí, and Torrent-Sellens 2019), which in turn can develop sustainable performance (Muhammad et al. 2020). In a similar way, social sustainability may shape the perceived organizational support (POS) among individuals in healthcare system as its key concern, like POS (Eisenberger et al. 1986), is valuing individuals through fair distribution of care facilities and promotion of well-being (Capolongo et al. 2016; Awan, Kraslawski, and Huiskonen 2018a). When employees perceive organization care about them, their organizational identification might increase and this can develop their collaboration, task performance, and extra-role helping behaviour, namely organizational citizenship behaviors (OCB) (Shen and Benson 2014). Quality of performance and OCB are the key in healthcare systems that are people-oriented and play a significant role in providing and securing health and safety of communities.

Given the sparsity of theoretical and empirical studies concerning social sustainability in the healthcare context (Hussain et al. 2018), existing studies have introduced different indicators to evaluate it (Table 2.1). For instance, Capolongo et al. (2016) identified safe and security, wellbeing, health promotion, accessibility, and fair distribution, and quality of relationships as the main indicators of social sustainability in healthcare.

Table 2.1 Social sustainability indicators in healthcare context.

Indicators	Relevant Studies
Professionals' wellbeing, safety, security, satisfaction	Capolongo et al. (2016), Chiu (2003)
Professionals' comfort (daylighting, social thermal comfort, acoustic, and indoor air quality)	Capolongo et al. (2016)
Patients' accessibility to healthcare and fair distribution	Awan et al. (2018a), Capolongo et al. (2016), Chiu (2003), Capolongo et al. (2013)
Patients' satisfaction	Faezipour and Ferreira (2013)

Accordingly, Malby et al. (2016) claimed that a high-performance collaborative healthcare system needs to involve the concept of social sustainability in its practices and approaches. Hence, social sustainability is also a shared concern of healthcare actors, which promotes collaboration among them (Dohlman 2016; Béland and Cox 2010; Khayatzadeh-Mahani et al. 2019; Browning, Torain, and Patterson 2011; Okpala 2018; Shrivastava and Guimarães-Costa 2017; Wald et al. 2018). It has been considered as a collaboration magnet among different actors, enhancing their collaborative spirit and behaviors (Béland and Cox 2010). Similarly, Khayatzadeh-Mahani et al. (2019) pointed out that multi-actors collaboration is a crucial contributor to equity and quality of health at the social level, and this, in turn, shows that social

sustainability plays the role of a magnet for collaboration among the different actors of the health system. Similarly, Wald et al. (2018) proposed a collaborative healthcare model, namely the Mayo Clinic model. Their model proved that working collaboratively with a network of physicians can result in social sustainability development. From a different approach, Browning et al. (2011) indicated that the collaborative leadership style can contribute to sustainability development. This leadership style implies a collective activity rather than an individual activity, where all members of a network share the leadership responsibility to fulfil the mission. They introduced it as a powerful means of attaining social sustainability since it contributes to reducing resistance and exploring new directions, opportunities, and alternatives which finally exert a positive impact on the healthcare system, in terms of quality. Along the same lines, Okpala (2018) investigated collaborative leadership as a means of enhancing the quality of care. He found that the patient-centred and inter-organizational collaboration strategies promoted by collaborative leadership are cost-effective without having a negative effect on the quality of care. His results substantiated the thesis that collaborative leadership in healthcare can improve social sustainability, finding that health services become more affordable and consequently more accessible to patients.

2.3.3 Collaborative Healthcare and Social Sustainability

Collaboration contributes to expanding more sustainable behaviors or approaches, long-term survival, and providing adequate skills and resources for improving social sustainability performance (Chen et al. 2017). Social sustainability and collaborative healthcare are concepts that interact (Khayatzadeh-Mahani et al. 2019). To some extent, they follow common grounds in terms of improving the health level of individuals, accessibility of healthcare services, and share the same objective which is continuing or improving health benefits or outcomes for healthcare system users (Scheirer and Dearing 2011; Scheirer, Hartling, and Hagerman 2008; Stirman et al. 2012; Shelton, Cooper, and Stirman 2018). For instance, the Institute of Medicine (IOM) (Smith et al. 2012) indicated that ensuring the quality, safety and value in healthcare are the aims of collaborative healthcare, and these objectives are in line with social sustainability objectives, in terms of wellbeing. Indeed, the concept of collaboration seems key in developing the "accessible, integrated, and equitable community" where people benefit from both current and future emotional-physical inclusion (Capolongo et al. 2013). This also confirms addressing social sustainability objectives through collaboration aims. Similarly, Capolongo et al. (2016) indicated collaboration is one of the means to obtain social sustainability objectives.

Collaboration within the healthcare network may address all social sustainability indicators through its practices; it involves communication (Patel et al. 2000), sharing resources and information (Burnap et al. 2012), shared responsibility, cooperation, and trust (Arcangelo et al. 1996). These characteristics of

collaboration improve health and safety indicators, and the availability of several types of resources. Quality communication, as a form of collaboration, can facilitate the process of sharing information, knowledge, experience, and resources among stakeholders and then this can improve the quality of care and the accessibility of care services for patients. For instance, Vuong et al. (2017) showed that quality communication provides patients with more medical information, both in quality and quantity, and this results in enhanced user wellbeing. Furthermore, if user needs were explored, the healthcare system would be better able to fulfil them. Collaboration among stakeholders is fundamental in ensuring that their disparate needs are identified and addressed (Capolongo et al. 2016). In a similar way, hospitals can communicate to share their resources and facilitate the referral process of patients to avoid negative consequences caused by delay treatment such as double transfer, and extra burden (Rush et al. 2018). Consequently, collaboration is an essential characteristic of the improvement of social performance (social sustainability) of the healthcare system.

Patient satisfaction is identified as the key indicator for social sustainability, as it involves the well-being of the patient, quality of services, efficiency of staff, and the availability of resources (Faezipour and Ferreira 2013). However, previous research seems to have been more focused on exploring legislative issues or legal and political rights when addressing social sustainability (Khan et al. 2018). As Hussain et al. (2018) has already identified, there is a need to explore what makes a healthcare system more socially sustainable, particularly from the patients' perspective as they are the main customers of the healthcare system. Involvement of patients in collaborative models will result in higher service quality and greater satisfaction of both patients and professionals (Ahgren and Axelsson 2011; Doyle et al. 2013). Along similar lines, Greenfield et al. (1985) found that collaboration among patients and professionals through communication, shared information, and joint decision making enhances wellbeing, satisfaction, and knowledge, particularly in the case of chronic care (Montori, Gafni, and Charles 2006). They indicated that professionals and patients may collaborate in all steps of the decision-making process, from sharing treatment preferences to reaching agreement on a common treatment. Such involvement of patients in healthcare can increase their engagement with the treatment process and, as a result, their satisfaction. In addition, sharing information between patients and professionals can add value, for not only for the patients, but also for the professionals (Joosten et al. 2008). Professionals are provided with complementary information allowing them to identify more effective treatments and expand their knowledge and experience. Therefore, the following proposition emerges:

Proposition 1. Collaborative healthcare model, through the collaborative network between patients and professionals, can contribute to social sustainability improvement in healthcare.

Collaboration among other stakeholders contributes to the development of social sustainability. For example, inter-professional collaboration enhances social sustainability. This type of collaboration adds value not only for professionals, but also for patients as a quality collaboration among professionals improves the quality of caring services and consequently the satisfaction of both patients and professionals (Bartunek 2011; Fisher et al. 2017). Inter-professional collaboration allows these professionals to "work cooperatively, share responsibility for problem solving, address conflict management, perform joint decision-making and use open communication'' (Nair et al. 2012, 1) as well as share their knowledge and experience (Wald et al. 2018). In the same vein, inter-professional collaboration results in more efficient access to specialist services and sources of new knowledge and experience (Berendsen et al. 2006), which, in turn, expand the experience, knowledge, and specialties of professionals and contribute to their satisfaction. So, collaborative practices may improve the social performance of healthcare; firstly for patients (Fisher et al. 2017) who may receive services that have been improved by professional collaborations. Secondly, for professionals as healthcare employees, who will feel more engagement and satisfaction from their consequent professional growth. In this regard, we advance the following proposition:

Proposition 2. Collaborative healthcare model, through the collaborative network among professionals, can contribute to social sustainability improvement in healthcare.

Similarly, collaboration among scientists working jointly to see the issues from different angles may contribute to social sustainability improvement in healthcare. They may share their knowledge and then different scientific techniques, and views can be combined to address the issues more effectively (Raza 2005). Previous studies find that collaboration in clinically-oriented research has contributed to resolving health-related challenges and finding diagnostic criteria, improved treatment, care and preventive alternatives, and enhancement of standards and policies in healthcare (Gu et al. 2003; Raza 2005). For instance, Gu et al. (2003) emphasized the need for collaboration among researchers to explore the prevalence of diagnosed and undiagnosed diabetes. Their findings contribute to health enhancement as the presence of diabetes increases the risk of other chronic diseases, such as vascular complications, and consequently, results in a considerable economic burden. In addition, collaboration among researchers may result in not only the improvement of current treatment methods or drugs but also the development of new ones which, in turn, improves not only the quality of services but also the accessibility and availability of healthcare resources. Thus, collaboration among scientists results in improvements in the social sustainability of healthcare, namely wellbeing, availability of resources, and satisfaction. In this regard, we propose:

Proposition 3. Collaborative healthcare model, through the collaborative network among scientists, can contribute to social sustainability improvement in healthcare.

Together with multidisciplinary collaboration (namely inter-professional collaboration and collaboration among scientists), transdisciplinary collaboration seems to be key for the development of social sustainability. The involvement of authorities, including policy-makers, managers, and professionals (WHO 2007), in collaborative healthcare models results in the delivery of higher quality care services (Boswell, Settle, and Dugdale 2015) as they can verify the possibility and applicability of the views proposed by professionals or scientists to the real world. In the same vein, Dabelko (2006, 1) indicated that "if the field is to have the kind of effects on the real world that it has always sought, it must move toward a more serious engagement with policy-makers." In addition, since they have the main responsibility and authority for this objective, policy makers and managers can set rules to ensure and even facilitate the implementation of the proposed views (Vlek and Steg 2007).

Furthermore, policy makers and managers can collaborate to establish a supportive environment contributing to the productivity and effectiveness of healthcare professionals. Al-Dweik et al. (2016) pointed out that collaboration among policy makers and managers is key in the development of an empowering environment that contributes to enhancing a nurse´s productivity. Similarly, policy makers and managers can work to facilitate the implementation of collaborative practices among other stakeholders. For instance, managers and policy makers can facilitate communication between professionals through the application of structural tools for communication (Wang et al. 2018). A network of authorities, including policy makers, managers, and professionals (WHO 2007) can contribute to social sustainability development, thus suggesting the next proposition:

Proposition 4. Collaborative healthcare model, through the collaborative network among managers, policy makers, and healthcare professionals, can contribute to social sustainability improvement in healthcare.

Inter-organizational collaboration also constitutes a type of collaboration that contributes to developing social sustainability in healthcare. It contributes to the availability of medical resources through sharing resources (Lomi et al. 2014) and knowledge between professionals (Okpala 2018). This type of collaboration contributes to social sustainability improvement by enhancing the availability of resources and maintaining the quality of care (Okpala 2018). Inter-hospital collaboration, which may include patient sharing, provides patients with higher quality care (Lomi et al. 2014). Patients benefit from this opportunity to transfer from lower to higher quality hospitals with better resources. In this regard, inter-organizational

collaboration is highly recommended to increase social sustainability in health systems as suggested in the next proposition:

Proposition 5. Collaborative healthcare model, through the collaborative network among healthcare organizations, can contribute to social sustainability improvement in healthcare.

A multi-disciplinary collaborative network of healthcare scientists, suppliers of healthcare products, and healthcare professionals may result in increased satisfaction for both professionals and patients. The stakeholders can collaborate to see the health-related issues from different views in order to explore/uncover more efficient alternatives in the form of technology or theory. This, in turn, enhances the quality of treatment methods as well as the availability of healthcare services, reduces harmful practices, and consequently results in social sustainability improvements. The specialties of professionals may also expand because of their sharing different views, which results in increased job satisfaction. For example, it has been found that the involvement of suppliers of products and services in a collaborative model can result in higher social sustainability performance as they share knowledge, and work jointly to create value and improve social performance (Sancha, Gimenez, and Sierra 2016; Awan 2019; Awan, Kraslawski, and Huiskonen 2018b). Therefore, the next proposition can be advanced:

Proposition 6. Collaborative healthcare model, though the collaborative network among healthcare professionals, scientists, and suppliers of healthcare products, can contribute to social sustainability improvement in healthcare.

Table 2.2 shows the summary of the collaborative networks and the collaborative practices which might be used in each network to develop social sustainability. In addition, it refers to some relevant studies whose results directly support, or which can be regarded as supporting evidence for, our propositions. Figure 2.1 also illustrates the propositions of study in a conceptual framework.

Table 2.2 Collaborative networks and practices contributing to social sustainability in healthcare context

Collaborative Networks	Collaborative Practices	Relevant Studies
Patients-professionals	communication, sharing information, shared decision making	Ahgren and Axelsson (2011), Doyle et al. (2013), Greenfield et al. (1985), Joosten et al. (2008)
Inter-professionals	shared responsibility, joint decision making, communication, shared knowledge and experience, cooperative work, conflict management and shared problem solving	Bartunek (2011), Fisher et al. (2017), Nair et al. (2012), Wald et al. (2018), Berendsen et al. (2006)
Scientists- scientists	Sharing knowledge and view	Raza (2005), Gu et al. (2003)
Managers-policy makers-professionals	sharing knowledge, view, power and responsibility, and joint decision making	Boswell et al. (2015), Dabelko (2006), Al-Dweik et al. (2016), Wang et al.(2018)
Inter-organizational	sharing resources and sharing knowledge	Lomi et al. (2014), Okpala (2018)
Professionals-scientists-supplier of healthcare products	sharing knowledge, communication, cooperative work	Awan (2019), Awan et al. (2018b), Sancha et al. (2016)

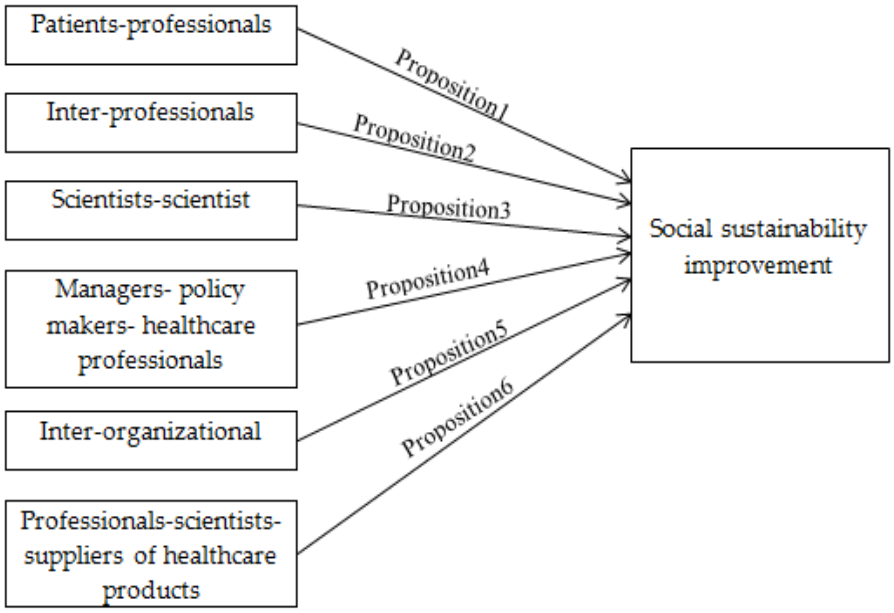

Figure 2.1 Conceptual framework of the study

2.4 Discussion and Conclusions

This study has aimed at improving our understanding of the relationships between collaborative healthcare and social sustainability improvement. To do so, it has identified what collaborative networks exist in the healthcare context. On the other, however, it has explored what these networks share. In other words, it has explored what collaborative practices these networks can contribute to improving social sustainability (Table 2.2). Accordingly, we have developed six propositions relating to the collaborative

networks that exist in the healthcare context and their potential contribution to social sustainability, as a starting point or a roadmap for developing further empirical research. This constitutes the major theoretical contribution of this conceptual paper. Future empirical research should test the validity of these propositions.

Although previous research has emphasized the importance of economic and environmental sustainability in the healthcare context, social sustainability has been less analysed (Hussain et al. 2018; Capolongo et al. 2016; Awan, Kraslawski, and Huiskonen 2018a). This scant attention to social sustainability may be due to considering social sustainability as the forerunner for other sustainability dimensions, namely environmental sustainability, and ignoring its independent characteristics (Hardoy, Mitlin, and Satterthwaite 1992). Despite the interrelationships among the three dimensions of sustainability in healthcare systems, since the system is people-based and people-oriented, social sustainability needs in consequence to be regarded independently. In this regard, this study has contributed to the scarce literature on the relationship between collaborative networks and social sustainability in healthcare by setting the basis for conducting further empirical research based on the proposed conceptual framework.

Drawing on previous studies in the healthcare context, we have identified six collaborative networks (Figure 2.1) that can contribute to developing a social sustainable-oriented healthcare system. Of these, the collaborative network among healthcare professionals, especially among clinicians, is the one which holds more evidence in the literature to contribute to social sustainability improvement (Reeves et al. 2017). To support this, Reeves et al. (2017) indicated that the importance of inter-professional collaboration stems from the complexity and multidimensional nature of patients´ health and care requirements. Therefore, inter-professional collaboration may play a key role in the provision of a social sustainable healthcare system, with an increased patients and professionals' long-term wellbeing. However, to the best of our knowledge, the majority of previous studies have been limited to the collaboration between physicians and nurses (Caricati et al. 2015; Koerner, Cohen, and Armstrong 1985) while potential collaborations among other clinical professionals seem largely to be ignored. For instance, collaboration between cosmetic surgeons and psychologists can be explored for developing social sustainability through enhancement of the health, safety, and wellbeing of patients. Narcissistic and histrionic personality disorders and body dysmorphic disorder are the main motivation among patients seeking cosmetic surgery (Shridharani et al. 2010). Such patient groups are more likely to repeat cosmetic surgery or become addicted to other cosmetic surgeries (Mulkens et al. 2012), and this can have a negative impact on their health (Sarwer et al. 1998). Therefore, these possible collaborations among clinicians need to be explored in relation to patients' long-term wellbeing as a key indicator of social sustainability. Similarly, in our framework, collaboration networks between scientists, between scientists and policy makers, and even between scientists and patients

are suggested to enhance social sustainability. For instance, scientists can collaborate together, they can communicate and share their knowledge to study the health-related challenges from different scientific views, and then combine them to propose potentially more effective alternatives to increase patients' wellbeing (Raza 2005). Moreover, a collaboration network including healthcare professionals and scientists can improve patients' wellbeing and satisfaction, through discovering more effective treatment methods or improving the accessibility of people to healthcare knowledge through offering a new model of healthcare system such as e-health. Furthermore, together with this multidisciplinary collaboration, collaboration between scientists and policy makers and managers (transdisciplinary) seems to be crucial in verifying the real world feasibility and applicability of any views proposed by scientists (Dabelko 2006). We therefore suggest further research to explore the potential role of other stakeholders in social sustainability development.

Since they appear in all collaborative networks (Table 2.2), communication and the sharing of information are suggested as the basic and primary collaborative practices. Communication constitutes the main precursor for other collaborative practices of sharing resources, information, and understanding (Patel et al. 2000).

In conclusion, with the proposed conceptual framework, this study has offered a roadmap for conducting future empirical research to test the propositions.

Furthermore, this study offers some practical considerations. First, hospital managers should appreciate and promote the crucial role of collaboration in developing patients' and professionals' long-term wellbeing. Despite differences on the meaning of collaboration and how might one collaborate, our conceptual study suggests that collaborative healthcare systems, as compared to traditional healthcare, are better at developing social sustainability. Communication, sharing information, and joint decision making, are the main collaborative practices identified. Quality communication develops transparency in relationships and is a key to successful collaboration; it is also a necessity for other collaborative practices such as shared decision making (Joosten et al. 2008). A collaborative network aims at seeing issues from different perspectives and finding the most efficient alternatives to tackle issues, so sharing information is a basis for benefiting from collaborative networks. Therefore, development of the effectiveness of such practices through investment in their pre-requisites, such as trust and openness, is recommended.

Second, the collaboration among health professionals is crucial to the performance of the healthcare system (Zwarenstein, Goldman, and Reeves 2009) and especially for social sustainability objectives. Therefore, developing collaborative networks between them is recommended. Since the healthcare system

is a multi-stakeholder system, we recommend the involvement of all stakeholders in collaborative networks to increase its social sustainability. The involvement of policy makers is also a notable instance. Since they have the authority and power to set or control the laws (WHO 2007), they can work with other stakeholders, e.g., managers and professionals, to identify and set the alternatives to facilitate accessibility of rare healthcare services for anyone regardless of their geographical location or economic group.

This study is not without limitations. This study was conducted on the basis of an integrative literature review, which is not based on prescribed methodology or standardized format (Torraco 2005; Jesson, Matheson, and Lacey 2011). In this vein, due to the importance of this research line and its fast growth, further systematic literature reviews could complement and provide additional insights on the topic. This study is also a conceptual study which makes six propositions emerging from the literature review on which it is based. However, further empirical research should test the validity of these propositions, thus helping to determine the applicability of collaborative healthcare in improving social sustainability in the healthcare context. Furthermore, the propositions should be operationalized with appropriate indicators in further research.

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UNIVERSITAT ROVIRA I VIRGILI
COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
Tahereh Maghsoudi

Chapter 3.

Collaborative Healthcare's Meanings in Social Media Platforms

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COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
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Chapter 3. Collaborative healthcare's meanings in social media platforms

Empirical study

Collaborative Healthcare: Exploring its Meaning through Visual and Textual Analysis in Social Media

Under review in Digital Health Journal

Presented in EURAM Online Conference 2021, 16-18 June, Oral presentation,
and the XXX International ACEDE Conference 2021, 27-29 June, Oral presentation

3.1 Introduction

The multi-stakeholder and inter-professional (Bauchner and Easley 2020) nature of the healthcare delivery system highlights the importance of collaboration and collaborative practices in responding well to healthcare needs and improving healthcare indicators (Singh 2019). For multi-stakeholder organisations, collaboration follows with greater commitment, accountability, credibility, support, and legitimacy of stakeholders. Additionally, low trust and limited collaboration have been indicated as key challenges in the culture of healthcare organisations (R. Mitchell et al. 2010).Hence, collaborative healthcare has been developed to deal with such issues and enhance the quality of the healthcare system (Malby, Amoo, and Mervyn 2016).

Collaboration refers to a coordinated team activity in which members share their knowledge, skills, resources, and capabilities and collaborate to meet the shared objectives (Patel et al. 2000). In the healthcare context, the term collaborative is applied when multi-professional teams from multiple sites participate in and commit to the shared goals of addressing patient needs and improving quality and reliability of care through structured inter-disciplinary collaborative activities/practices (Hulscher, Schouten, and Grol 2009; O'Daniel and Rosenstein 2008). Shared decision-making, sharing knowledge/experience, problem-solving, and goal-setting processes have been highlighted as the key collaborative practices in the healthcare literature (Maghsoudi, Cascón-Pereira, and Lara 2020; Buchanan 1996). The collaborative network in healthcare can be at the inter or intra organisational level (Aunger et al. 2021) and includes a wide range of actors such as healthcare professionals, managers, patients/customers, healthcare product providers, healthcare researchers, and policymakers/government. The Institute of Medicine (IOM) defines a "collaborative healthcare network" as one that is "designed to generate and apply the best evidence for the collaborative healthcare choices of each patient and provider; to drive the process of discovery as a natural

outgrowth of patient care; and to ensure innovation, quality, safety, and value in healthcare" (Smith et al. 2012, 436). Despite the importance allocated to "collaborative healthcare networks" and "collaborative practices" in creating efficient healthcare systems, there is still a lack of understanding of what laypeople and healthcare professionals mean by the term collaborative healthcare. Under the principles of personal construct theory (PCT) (Kelly 1995), meanings are seen as the units by which human beings construct their experiences. Individuals' emotions, attitudes, and behaviours have their origin in the meanings they attach to their experiences. Therefore, if we want collaborative practices (behaviour) to increase in the healthcare context in order to improve health system efficiency and quality, then we first have to understand what people mean by collaborative healthcare. Since social media play a significant role in meaning-making (Lomborg 2015) and exert influence on user perceptions and intentions, which, in turn, may influence users' attitudes and practices, this study aims to explore the concept of collaborative healthcare through social media, and more specifically, among Instagram users.

Social media have been widely identified as a rich and potential resource to improve or complement health research studies (Bour et al. 2021). Currently, the usage of social platforms to communicate, explore public understanding, and construct meanings in a collective way, such as collaborative healthcare, by both individuals and organisations (Lomborg 2015; El-Awaisi et al. 2020), is widespread. Meanings are socially and collectively constructed (Weick 1995).Web 2.0 tools in the healthcare context not only foster collaborative practices such as creating health awareness (Lapointe, Ramaprasad, and Vedel 2014), knowledge sharing and translation (Eysenbach 2008), social exchange and support among patients to improve public health through self-management or self-care (Lin and Kishore 2021), communication, and collaboration between primary healthcare professionals located in rural and remote areas (Anikeeva and Bywood 2013) or developing professional networks (Shariff, Fang, and Desai 2013), but also contribute to constructing meanings in a collaborative way that might pave the way for creating new attitudes and behaviours.

Digital health studies are mainly concerned with the relevance of digital media for sharing information on health issues (e.g., Wayne et al. 2015), the usefulness and experiences of online support groups, and digital apps (e.g., Javed et al. 2020). However, little is known about the role of social media in collectively constructing meanings for collaborative healthcare. To the best of our knowledge, this study is the first that concerns itself with exploring the meanings of collaborative healthcare as constructed by users, whether lay people or healthcare providers, by means of social media, in particular by responding to the main research question: What meanings of "collaborative healthcare" have been portrayed by Instagram users?

3.2 Method

This study uses a qualitative approach of visual and textual analysis generated by individuals and organisations on Instagram. In this regard, the image of each post and its corresponding caption are analysed together. Instagram is chosen as a data source since, as opposed to text-based social networking platforms such as Twitter or blogs, it is an image-driven social media platform—one that attracts over one billion active users each month (Statista 2020a). Social media studies have mainly been performed on text-based platforms (especially Twitter). People are, however, increasingly sharing visual narrations of their personal lives, so key information may be embedded in visual postings (Highfield and Leaver 2014). Even if text and images are independent in storytelling, a combination of visual and textual imagery is worth more than a single format (Bateman 2014), and provides a more holistic understanding of the phenomena in hand (Highfield and Leaver 2014). In this regard, we applied both textual (captions) and visual (images) analysis to Instagram posts. Almost all posts affiliated with the hashtag #collaborativehealthcare contain both these dimensions, and we analyse them both.

3.2.1 Data collection

The visual and textual data collection procedure was applied as follows. Visual data included images posted on Instagram tagged with the hashtag #collaborativehealthcare. Textual data included the caption attributed to a particular image.

This study used a web scraping technique to download posts through the Instagram API (Application Programming Interface) during October 2020. The extracted dataset contained 677 posts. The images were extracted by capturing screenshots and each was coded to link it to the relevant post. After removing posts which had at least half of their hashtags in languages other than English, a total of 650 posts (including images and corresponding captions) containing the hashtag #collaborativehealthcare were collected and coded.

3.2.2 Textual and Visual analysis

Due to the exploratory nature of this research, no a priori coding was conducted, so an inductive approach based on open coding and creating categories (Kyngäs 2020) was applied. To explore how social media users perceive collaborative healthcare, we examined posts containing the #collaborativehealthcare hashtag on the Instagram platform. Thus, we indirectly explored social media users' perceived meanings of collaborative healthcare as the unit of analysis, through their posts. Thematic analysis (Braun and Clarke 2006) was then developed by analysing both the images in each post and the captions attributed to a

particular image, considering all 650 posts of this study. All captions were extracted through web scraping and were saved in an Excel file. Each caption was labelled with a number and the relevant captured image was also saved with the same number to link each caption to its image. We uploaded both the Excel file (for captions) and the images to NVivo 11. Braun and Clarke's six-step reflexive thematic analysis approach was followed (Braun and Clarke 2006; Braun et al. 2018) to extract the key meanings of collaborative healthcare in Instagram.

In Step 1, the main researcher reviewed carefully the two hundred early posts (i.e., 31% of the total posts) to become familiar with the data. In an iterative and reflexive process, frequently occurring features were identified as codes, and a consolidated coding strategy was developed. Step 2 consisted of the main researcher applying the coding strategy to all the posts according to the coding framework established in step 1. This initial codification was revised by the two co-authors and discussed until broad consensus was reached on the final codes and categories in an iterative and reflexive process of constant comparison of the meaningful codes (Steps 3, 4). In step 5, we jointly discussed and agreed the content of each category and refined them accordingly.

3.3 Results

To explore the groups of users that contributed to constructing the meaning of collaborative healthcare, we classified them based on the basic information shared on the profile of users and found that the majority were wellness centres and health-related professionals (38% and 36%, respectively). The remainder were lay people, educational centres, healthcare product suppliers and medical centres (16%, 4.5%, 4.5% and 1.1%, respectively).

Based on similarities among codes, we aggregated the codes into four main categories; knowledge sharing, events, self-care, and advertising (see Table 3.1 for exemplar keywords and frequency for each category).

Table 3.1 Categories, codes, and keyword exemplar, frequency

Categories	Codes	Definition	Exemplar	Frequency of both images and posts
Knowledge sharing	Health information, Health experience	Diffusing health-related news, tips, experience, and research through sharing information and experience	"journey," "3 ways to turn good posture", "share what I have really learned"	170
Events	Congress, Workshop, Lecture, Informal meetings	Containing different events associated with health issues such as congresses, workshops, lectures, and informal meetings.	"practitioner collaborative event," "symposium"	66
Self-care	Healthy food, Fitness, Positiveness	Referring to activities aiming to improve one's health on his/her behalf	"self-care," "Self-love," "yoga," "meditation," "Let food be the medicine"	198
Advertising	Inter-disciplinary collaboration, Collaboration with patients, Asking-answering, Promotion, Smiley photos from healthcare teams, Sharing blogs	Advertising health-related products, services, and centres	"25% off products", "Book your free 15 minutes", "Call 360-828-1429 to schedule", "work WITH patients", "inter-disciplinary collaboration"	262

3.3.1 Knowledge sharing

In the Knowledge Economy era, it is not surprising that one of the meanings of collaborative healthcare is knowledge sharing. Our findings reveal that both lay people and health-related professionals/centres used Instagram as a common platform to exchange health-related information, experience, questions, and answers, resulting in sharing information or knowledge relevant to health issues. In this regard, we explored two main sub-categories that imply sharing, health information and health experience.

Health information. Health information posts are those that disseminate healthcare research findings, health news, and health tips. In this study, health-related professionals and centres share their personal, educational information, and latest information on findings, advances, and news related to a particular health issue. For example, Holistics Health, a health and wellness coach shown in Figure 3.1 (I), offered a visual image of eight dimensions of wellness. A similar study by Wayne et al. (2015) explored Twitter hashtags for health, and they found Twitter users also share health information to promote health awareness.

We found that information related to chiropractic care, pregnancy, and self-care were some of the most common issues shared (examples are shown in Table 3.2, No. 1). Additionally, information on alternative medicines (e.g., the Graston Technique, naturopathic medicine) and their advantages are shared by healthcare professionals. In Figure 3.1 (II), the Movement Studio Melbourne offered an image of a patient being treated with the Graston Technique and attached a caption to detail how it helps with back pain (see Table 3.2, No. 2).

Health experience. Collaborative healthcare means also sharing personal experience with health problems. We found that two groups of users, namely health-related professionals, and lay people, shared their experiences and advice on Instagram. Patients share their personal experience as a health journey on Instagram, which includes selected information about their health problems, symptoms, and the treatments they apply. This can be a source of information for users whose family members, or they themselves, have the same problem. For instance, Kim Vopni, shown in Figure 3.1 (III), offered a photo containing "My Uterus End" to share what she learned from her health problem, which was heavy or prolonged menstrual bleeding. She explained the problem in detail and added the initiatives she had adopted in the caption (see Table 3.2, No. 3). Abnormally heavy menstrual bleeding is a very common health concern among women (Mayo clinic 2020); sharing a uterus journey can be useful for female viewers.

Additionally, health-related professionals/providers share their experience related to a health issue or process. For instance, the Movement Studio had encountered a common misunderstanding of patients regarding the role of healthcare providers (see Table 3.2, No. 4). Such sharing can enrich public understanding regarding the roles and specialisations of different healthcare professionals or providers. Similarly, Wayne et al. (2015) proposed health experience as a sub-theme for knowledge sharing based on Twitter hashtags for health.

3.3.2 Events

Collaborative healthcare is also understood as a meaning for collaborative events such as congresses, workshops, lectures, and informal meetings (e.g., lunchtime and coffee time). Instagram users posted photos to show their attendance at healthcare events and also to advertise these events on Instagram. Our findings show that these events can be for two main purposes: firstly, for sharing healthcare-related information, findings, and advances, and secondly, for social purposes, creating networks and having fun (e.g., lunchtime) and celebrating special events among healthcare professionals/providers (e.g., International Women's Day, Nurses Day). As regards participants, two main groups of people are interested in attending these events: healthcare providers/professionals and students who perhaps are interested in this field of study and want to join the healthcare community.

The findings show that events such as congresses, meetings, and seminars can provide professionals, researchers, and students with the opportunity to share knowledge and findings, learn from each other and even develop their collaborative networks. For instance, the Fertile Ground Health Group shared a photo from a collaborative practitioner event (see Figure 3.1 (IV)) and indicated, in the caption, that their collaborative event involves "juicy conversation" concerning "shared care" and "future referrals" (see Table 3.2, No. 5). They also posted a photo from another event and highlighted learning opportunities in collaborative events (see Table 3.2, No. 6).

Oasis Chiropractic, a wellness centre in Perth, shared a photo of a symposium and pointed out, in the caption, that different leaders and doctors had presented their findings and shared them with other participants (see Table 3.2, No. 7). We see that, on the social media, events may contribute to building and developing networks for sharing knowledge and findings at different levels (i.e., inter/intra organisational), to learning, and to collaboration in order to develop specialties, skills, advances, and technologies related to healthcare.

3.3.3 Self-care

Self-care posts relate to an individual's health and wellness. We found that Instagram users see self-care as both self-initiated activities and self-control. For instance, setting and sharing goals and plans for personal health and a healthy lifestyle are commonly shared. Themes such as herbal caring alternatives, having a fitness trainer, and proper nutrition are often used on Instagram in relation to self-caring and the development of a healthy lifestyle. This leads to a high co-occurrence of the #collaborativehealthcare and #selfcare hashtags.

This meaning of self-caring is in line with two perspectives on the concept of self-care. First, self-care is defined as activities that individuals initiate or perform on their own behalf (such as activity, food, water and rest), in order to improve health and well-being (Anna et al. 1978). For example, Dr. Cheslsey shared a textual image containing "your choices=your health" and attached the caption "You are in charge of your health. Whether you want to believe it or not, every decision you make impacts your well (or sick) being. If you always feel like crap, then maybe it is time to re-evaluate your daily habits. Are you drinking enough (if any) water? Are you eating healthful REAL food?" The expressions "drinking enough," "real food," and "daily habits" refer to individual health-sustaining activities.

Second, self-care is seen as self-control, which involves processes, such as health monitoring, preventive activities, seeking care as required and participating in treatment, by an individual who takes initiatives and responsibilities to develop their own potential health (Norris 1979). For instance, Avery

Knechtel (an Acupuncture student) offered an image of vegetables and added the caption "I'm taking time for self-care by booking in with other practitioners and signing up for workshops that I'm interested in…." The quotes "booking in with other practitioners" and "signing up for workshops" refer to primary activities applied to control and manage health or prevent diseases to improve health.

Our study identified healthy food, fitness, and positiveness as three main sub-categories for self-care. Previous theoretical and empirical studies have also pointed out these three activities as related to self-care undertaken by Instagram users to promote or restore their health and wellness. For instance, Nguyen et al. (2020) explored the #selfcare hashtag as a means of understanding public use of the term self-care and found that mental and emotional wellness and physical wellness are the most common dimensions for self-care. We found that the posts coded for healthy food, fitness, and positiveness co-occurred with the #selfcare and #selflove hashtags. This shows that these three sub-categories were perceived by the public as activities for sustaining and improving health and well-being.

Healthy food. Our findings reveal that Instagram users included the #collaborativehealthcare hashtag in their posts to label images such as a meal dish, herbs, veggies, fruits, and healthy food recipes. "Food porn", as a visual presentation of cooking or eating, is widely popular and common among social media users, particularly on Instagram (e.g., Cavusoglu and Demirbag-Kaplan 2017; Dawkins 2020). The former, for instance, clustered Instagram posts containing the #health hashtag, and explored the concept of food as the primary health representation.

Healthy eating and food allergy topics are highlighted by lay people and nutritionists. We found that Instagram posts were mainly dominated by green eating (i.e., vegetables and fruit) to develop a healthy lifestyle (see, for example, Figure 3.1 (V)). This trend has been seen in previous findings reported by research analysing Instagram posts (Cavusoglu and Demirbag-Kaplan 2017; Inan-Eroglu and Buyuktuncer 2018; Holmberg et al. 2016), which contrasts with traditional and old-style eating (i.e., based on meat and bread) (Wansink, Mukund, and Weislogel 2016). For instance, Inan-Eroglu & Buyuktuncer (2018) investigated publicly available Instagram profiles of dieticians for #onlinediyet. Analysing 1,103 images, they found that vegetables, as opposed to the fat and oil food group, were the most commonly shared food group for health promotion. Sharing healthy food photos on Instagram is likely to be considered as a ritual or online trend to inspire users toward a healthier lifestyle (Jin 2018). Holmberg et al. (2016) explored how adolescents communicate food images on Instagram (1,712 Instagram accounts); fruits and vegetables were commonly portrayed, and they perceived food as a means of health promotion. Along these lines, we also found that Instagram users viewed food as a medicine or complement to treatment (Table 3.2, No. 8); for instance: "Let food be thy medicine, thy medicine shall be thy food …" (with an image of vegetables) was shared in the captions by Avery Knechtel.

Fitness. Fitness appears to be another meaning of collaborative healthcare. Photographs from the gym, fitness equipment, people exercising, and fitness trainers are the main visuals in this category. Also, yoga and meditation are the most common training methods posted on Instagram. This shows that mental and emotional wellness was critical for Instagram users in our study; this is in contrast to the traditional social media discourse found in previous studies, where the focus was on physical fitness, fit bodies, or sexy bodies (Cavusoglu and Demirbag-Kaplan 2017; Park et al. 2016; Villiard and Moreno 2012). Photos of active individuals in the gym during meditation, Pilates, or yoga training occasionally appear with a view to motivating viewers and followers. For instance, when Figure 3.1 (VI), an image of mothers during exercise while taking care of their children, was posted by Vancouver Wellness Studio they captioned it "Multitasking Mama". This shows the significance of exercising for a healthy lifestyle and motivating viewers with motherhood responsibilities.

Cavusoglu & Demirbag-Kaplan (2017) found that fitness is perceived as a theme for health by Instagram users, and was mainly associated with a well-built and sexy body. In our study, on the other hand, fitness is mainly communicated as an ideal way for health improvement. Expressions such as "mental clarity," "mood balance," "stress reduction," "chronic pain," "headaches," and "mental peace" were commonly used by both healthcare providers and lay people as the benefits of, or reason for, fitness. This shows that Instagram posts affiliated with #collaborativehealthcare are more applied to fitness for self-caring through mental and emotional well-being, healing benefits, pain relief, and self-defence, than to the improvement of physical appearance. For instance, the Vancouver Wellness Studio posted an image of a yoga class and attached a caption to highlight yoga as a way for "digestive healings" (see Table 3.2, No. 9).

Positiveness. Positiveness mainly involves motivational quotes for improving health and portrays positive feelings of love, self-love, and inner peace as greatly developing a healthy lifestyle. These posts were mainly shared by Holistics Health. For instance, in Figure 3.1 (VII) a photo containing a motivational and positive phrase was shared and followed by motivational quotes in the caption (see Table 3.2, No. 10).

Additionally, healthcare providers mainly share photos from Nature and of themselves and insert a caption to inspire positive feelings in followers or viewers. Holistics Health, for instance, posted a photo of a snowy day and attached a caption containing positive and inspiring messages for wellness and self-loving, such as "stop being at odds with my body", "celebrate the little things", and "thankful every single day" (see Table 3.2, No. 11). Similarly, Cavusoglu & Demirbag-Kaplan(2017) found that the majority of posts on Instagram affiliated with #health hashtags focused on the significance of self-love and appreciating life. Nguyen et al. (2020) found emotional wellness to be one of the most common dimensions of self-care perceived by people on Instagram.

3.3.4 Advertising

We found a significant amount of advertising content under the #collaborativehealthcare hashtag. This included advertising for collaborative wellness centres, healthcare teams, and health-related products and services. Healthcare providers used collaborations (in the form of inter-disciplinary collaboration and collaboration with patients), an "asking-answering" advertising style and promotions, as the main three advertising approaches under #collaborativehealthcare.

Collaboration. Collaboration was mainly applied as a "leitmotiv" by wellness centres or health-related professionals to advertise a centre/service/product. Wellness centres highlight "inter-disciplinary collaboration" and "collaboration with patients" when advertising their centres, collaborative teams, services, and facilities on Instagram. They share photos from their team or centres and attach information relating to their professional members and their specialities in the captions. For instance, the Vancouver Wellness Studio shared a photograph of their collaborative teams captioned with their specialties such as "Herbalist", "Fitness Trainer", and "Somatic Mental Health Therapist" (see Table 3.2, No. 12). This also highlights the broadening of the concept of collaborative healthcare and the wide range of experts from various fields, such as alternative medicine (e.g., "naturopathic doctor"), who can collaborate in order to develop effective collaborative healthcare.

Furthermore, from shared photos containing the friendly and smiley face of healthcare teams, it seems that members of a network are happy and satisfied because of their involvement in a collaborative network to achieve health goals or deliver quality care within a collaborative team. Sharing such smiley and friendly photos from collaborative teams can attract customers and patients. In addition to sharing the information on team members, the presence of special experts on particular days in the centre is advertised on Instagram posts to engage viewers to make a call and appointment. Vancouver Wellness Studio highlighted the presence of "Dr. Zarandi," a naturopathic doctor, and then encouraged viewers to make an appointment (see Table 3.2, No. 13).

Interestingly, collaboration or working with patients is often portrayed by alternative healthcare professionals when motivating customer engagement. For instance, in Table 3.2, No. 14, Dr. Nicole van Poelgeest (a naturopathic doctor) advances "working together", "work with patients", and "collaboration" as a reason "why I pursued naturopathic medicine". This highlights respect for and collaboration with patients. The quotes "collaboration on decision making," "you're the authority and ultimately the one deciding on treatment" and "effective treatment" show that joint decision-making is a collaborative practice for a network among professionals and patients to reach the effective and possible treatment. Patient involvement is a recurring point in advertisements for centres and services when attempting to engage users/patients/customers.

Likewise, inter-disciplinary collaboration is commonly cited by healthcare providers (both professionals and wellness centres) when attempting to attract more customers. Swell Health, nutritional therapist, inspires viewers by offering the expression "inter-disciplinary approach", then emphasizing communication and collaboration with different health-related professionals such as "GP", "osteopath", "physiotherapist", "herbalist", or "personal trainer", resulting in "comprehensive view", and finally indicating this approach as a "best plan" for treatment or prescription (see Table 3.2, No. 15).

Asking-Answering. "Asking-answering" is another technique used by healthcare providers to advertise centres, products, or services. In this regard, wellness centres or healthcare professionals shared posts in the style of "asking-answering" to introduce a service or product and then engage users or even create a demand among them. We found two different formats for "asking-answering." The first format was a question-answer format where a question is posed in order to engage viewers and is then answered immediately in order to advertise a service/product by highlighting its features and possible health benefits. This format of "asking-answering" was more common and mainly employed by wellness centres, for instance, Movement Studio, a user active in advertising its centre and services. An example is when it shared an image of a patient being treated by a needling service with attached information in the caption (see Table 3.2, No. 16). The caption started by asking questions like "Do you have a need for needling?", "WHAT IS DRY NEEDLING?", and "WHAT TYPES OF PAIN CAN DRY NEEDLING HELP?", then immediately answered each question to highlight the service and finally encouraged the users with "Ask your practitioner when you're next in the studio".

In the second format, some information about a service/product is shared; then, some questions are given, and viewers are asked to share their answers (experience or ideas) by adding comments. Similarly, this type of "asking-answering" is mainly shared by wellness centres and aimed at advertising their services. The same user, for example, shared a post containing an image of a patient being treated, with advertising context in the caption (see Table 3.2, No. 17); the foot, as "the most commonly injured part of the human body", was highlighted in order to advertise Movement Studio's chiropractic services.

Additionally, "asking-answering" includes a call/invitation for question and answer—these were mainly posted by healthcare teams/centres. Viewers were asked to share their questions regarding a specific health-related issue through comments or private messages. Then, the healthcare team would answer their questions through a voice recording or a live session. This style of "asking-answering" also follows business and advertising objectives. For instance, Vancouver Wellness Studio posted a textual image containing an invitation "Ask us a Question!" and attached a caption to ask viewers to share their questions regarding "Self-Love" which relates to the main services of this centre (see Table 3.2, No. 18).

Promotion. Some posts also included advertising for the health and beauty products within the wellness centre (e.g., in the lobby). As shown in Figure 3.1 (VIII), Vancouver Wellness Studio advertised its new "goodies" in the lobby. Offering a promotion is another advertising approach used by wellness centres to engage viewers. People are more interested in buying their health and beauty products in wellness centres rather than shopping centres as they feel they can trust them more. For instance, Vancouver Wellness Studio shared an image of its massage room and attached a caption to advertise its products in the lobby and offer a discount (see Table 3.2, No. 19). Similarly, Body Mind Clinic shared an image of its osteopath accompanied by an advertising message "FREE 15 MIN CONSULTATION!" and added in the caption: "Free 15 minutes consultation! Book it online" (see Table 3.2, No. 20).

Healthcare providers also used Instagram to advertise their blogs, Facebook, and other web-based channels, containing health-related information such as herbal medicines or digestive plans (see Table 3.2, No. 21).

Table 3.2 Exemplar of captions

Codes	No.	Exemplar of captions	Concept	User
Health information	1	"….Chiropractic care during pregnancy is a safe, drug-free way to reduce many types of pain that may occur during pregnancy such as: Low back pain, Neck pain, Headaches, Sciatic nerve pain, Pubic pain…."	Sharing health information mainly for chiropractic care, pregnancy, and self-care.	Wellness centre
	2	"How does the Graston Technique® help with back pain? If you have back pain and reduced mobility. In your body, an Instrument Assisted Soft Tissue Modality (IASTM) method called Graston Technique® may be something to explore. The technique uses specialised tools to break down scar tissue and restrictions in your connective tissue that have resulted from trauma…"	Sharing information related to alternative medicines.	Wellness centre
Health experience	3	"I explained the ups and downs and where I am now but didn't get a chance to share what I have really learned and what my advice is. …. IT'S BEEN A JOURNEY. I love my uterus...but there have been some ups and downs. …… I was bleeding a lot and was starting to notice clots. I went to my doctor and had my hormones tested. They came back normal but my iron was extremely low…"	Sharing experience of a health problem such as the Uterus.	Lay people
	4	"Patients come into our office for care of their musculoskeletal pain. As with any health office, we take a detailed medical history to better understand what brought them to our office. During this process, it is incredibly common for patients to ask us questions about their prescriptions. While chiropractors are educated on the foundations of pharmacology, IT'S NOT OUR SPECIALTY!"	Sharing experience relating to patient misunderstandings.	Wellness centre
Events	5	"We got the pics from our practitioner collaborative event!... It was wonderful to hear so many juicy conversations about shared care, different perspectives and potential for future referrals…"	Conversation on shared care in collaborative events.	Wellness centre
	6	"We had the opportunity to learn the latest updates on immune mediated food reactions, appropriate, most effective testing methods and treatment considerations"	Learning opportunity in collaborative events.	Wellness centre
	7	"This is a great symposium on metabolic, immunological, neurological and digestive disorders. The focus this year is on brain-immune-gut health in women and children, with presenters who are leaders in the field, ranging from naturopathic doctors, GPs, and chiropractors. So great to hear GP Dr Yeow this morning state in her presentation on the gut-immune connection…"	Sharing findings and information in collaborative events.	Wellness centre

Healthy food	8	" Let food be thy medicine, thy medicine shall be thy food …"	Food is offered as a key factor in health improvement and as a part of medicine.	Lay people
Fitness	9	"Tonight we have our new yoga class starting. Rest & Digest-Yoga and mindfulness for digestive healing…"	Yoga is introduced as a caring method.	Wellness centre
Positiveness	10	"...I see people cooking and crafting, and walking and baking, and painting and singing and picking up that old guitar. They are playing boards games and old videos, they are laughing and talking and thinking. They are thinking. For themselves. About themselves. They are thinking about what they like, what makes them feel happy, what connects them to others. They are taking care of themselves…"	Sharing inspirational and motivational expressions to support mental/emotional wellbeing.	Healthcare professional
	11	"How will you choose to live from here on out? This wellness thing. It is a choice. Years ago I chose to stop being at odds with my body. To settle my mind. To find the everyday peace I seemed to have searched a lifetime for. To invite gratitude into every moment, and to celebrate the little things…. I am thankful every single day that I am here. And I am elated to share the process of understanding, living, and choosing wellness in your life with you!…"	Encouraging self-loving.	Healthcare professional
Collaboration	12	"We are ready to support you in 2019! Our Healthcare Team From left front around the table 💛💛💛 Ron Bryan, Fitness Trainer • Lemecia Lindsey, EMDR Trauma Therapist • Haley Vilhauer, Dietitian + Nutritionist + High Performance Coach • Megan Burns, Acupuncturist + Herbalist • Krystal Meyer, Massage Therapist • Kendall Hagensen, Somatic Mental Health Therapist + Clinical Director • Maral Zarandi, Naturopathic Doctor ✨✨✨"	Advertising through introducing collaborative team and specialities.	Wellness centre
	13	"We love that Dr. Zarandi, our ND offers Saturday appointments for your convenience! Call 360-828-1429 to schedule …"	Advertising through highlighting the presence of special specialities.	Wellness centre

	14	"I recognize that you know your body best and when it comes to your health, you are the authority and ultimately the one deciding on treatment. I simply get to act as your guide and interpreter. A big part of why I pursued naturopathic medicine is because I wanted to work WITH patients to improve their health……. Ultimately, we work together to restore balance and #vitality to your life using the most #natural and effective treatments possible"	Advertising through highlighting involving patients in caring process.	Healthcare professional
	15	"…I firmly believe in maintaining an inter-disciplinary approach to health care (and sports optimisation!). There's so much value in collecting perspectives from a range of sources and professionals to establish a really comprehensive view of what's going on. 💪 Whether it's a GP, osteopath, physiotherapist, herbalist, or personal trainer, we all see the field in a slightly different way depending on our areas of expertise. 📩 That's why I'll never hesitate to be in communication and collaboration with any other health care professionals you may be working with. 📞 It's all about integrating as much information as possible to design the best plan we can to support your goals."	Advertising through using an "inter-disciplinary approach" as a leitmotiv.	Healthcare professional
Asking -Answering	16	"🗨️Do you have a need for needling? 🔘WHAT IS DRY NEEDLING? Dry needling, also called trigger point dry needling or myofascial trigger point dry needling, is done by physical therapists to treat myofascial pain….. Interested in learning more? Ask your practitioner when you're next in the studio."	Advertising a service by giving information in "asking-answering" format	Wellness centre
	17	"In each foot we have over 200,000 nerve endings and 26 bones. With all that going on in a relatively small space, it's no wonder that the foot is the most commonly injured part of the human body - even more than the back! You'll be relieved to know that the Chiros at Movement Studio deal with foot and ankle issues every day and have an entire toolkit of treatments to get you back up and running. Have you ever had your feet adjusted? Talk about getting off on the right foot 😆 Comment your answer below😉 "	Advertising chiropractic services by giving information, then asking viewers a question to share their experience.	Wellness centre
	18	"Ask our Healthcare Team questions about Self-Love as it relates to your health! What do you want to know from us that can support you on your self-love journey? Each month, we'll be answering your questions in discussion as a team and sharing the voice recording with you! … Leave your question in the comments or send us a private Message … Some ideas might be: How does self-esteem affect my health and wellness?"	Advertising through invitation for asking questions relating to a service.	Wellness centre
Promotion	19	"25% off products in our lobby when you book a massage from now until January 1st! ✨Call 360-828-1429 to book and get your discount code💛"	Advertising products in the lobby and offer discount	Wellness centre

20	"FREE 15 MIN COSULATION! … Margot Pic, our osteopath offers free 15 minutes consultation! Book it online"	Advertising by offering free 15 minutes consultation.	Wellness centre
21	"Have you checked out my blog series on Herbal Medicine for Beginners? ✨I know a lot of people are curious about how herbs can work as medicine… Follow the link in bio to read the blog"	Advertising blog.	Lay people

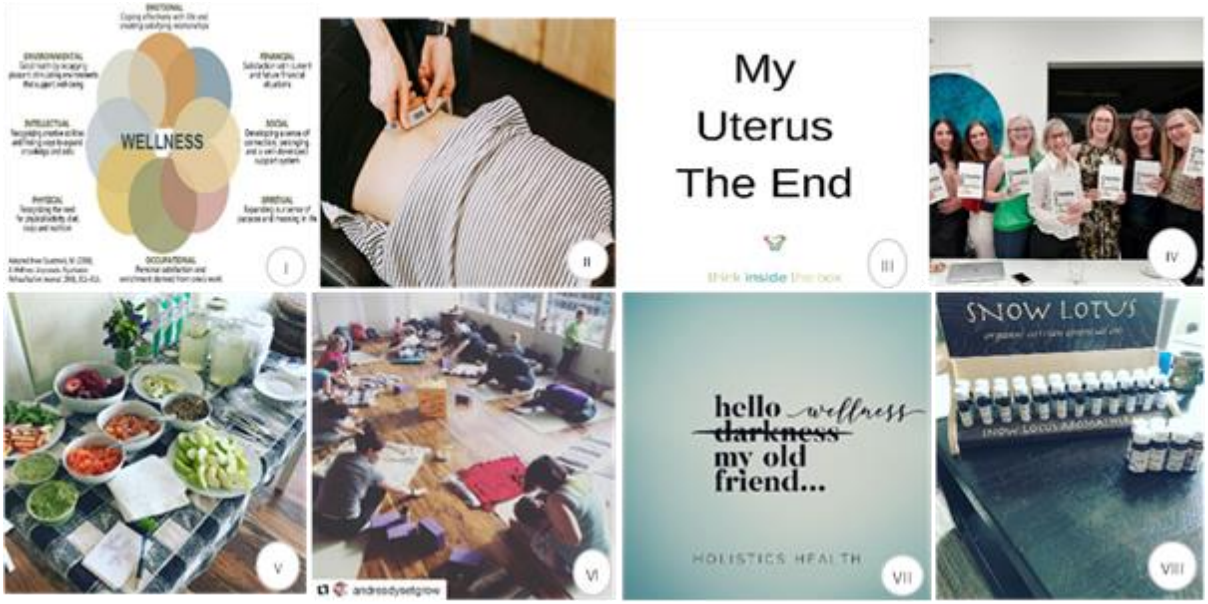

Figure 3.1 Exemplar of images
(I) an image of wellness' dimensions, (II) applying naturopathic medicine for back pain, (III) sharing health experience about Uterus, (IV) group photo of participants in a collaborative event, (V) an image of a green table containing fruit and vegetables, (VI) an image of mothers' Yoga while taking care of their babies, (VII) a textual image including positive quotes, (VII) benefiting the lobby for selling products in a wellness centre

3.4 Discussion and conclusion

This study uses Instagram as a data source to explore how social media users, in particular lay people, healthcare-related professionals, and wellness centres, construct the meaning of collaborative healthcare. Based on our empirical findings, our contribution is four-fold. First, our findings reveal that collaborative healthcare is portrayed and used by social media users who post about #collaborativehealthcare hashtag, as for: knowledge sharing, events, self-caring, and advertising. Hence, we have clarified what is meant on Instagram by "collaborative healthcare." In the healthcare literature, "collaborative" is defined as the interdependent associations and collective actions of multi-professional teams, mainly clinical professionals (Mervyn, Amoo, and Malby 2019), committed to the shared objective of providing quality care and addressing patient safety and needs through interdisciplinary collaborative practices (O'Daniel and Rosenstein 2008). They collaborate within the same organisation or across organisations to improve care quality through various practices such as communication, sharing knowledge, experience, resources, problem solving, and joint decision making (Maghsoudi, Cascón-Pereira, and Lara 2020). In line with this definition, our findings show that collaborative healthcare is also portrayed by Instagram users as knowledge sharing, this being a crucial and nuclear aspect of this concept. Nevertheless, Instagram users also portray collaborative healthcare as self-caring, joint events, and as a "hallmark" for advertising their

services and products. So, the definition is broadened by these new categories. In accord with our data, we suggest the new broadened definition of collaborative healthcare as the interdisciplinary collaborative practices of different healthcare professionals and organisations committed to the shared objective of improving individuals' health, such as: sharing knowledge that promotes self-caring and participating in health-related events. Also, we can refer to this term as a "hallmark" for advertising health-related services and products from private healthcare centres. The addition of these new aspects as part of the concept of "collaborative healthcare" can be due to the important presence of private healthcare centres in the collected sample. Previous healthcare studies have mainly investigated "collaborative healthcare" among public healthcare centres and healthcare professionals, while our findings show how private healthcare centres, as one of the main groups of Instagram users, portray "collaborative healthcare." This finding can be in the interest of future studies to compare the use and evolution of this term among public and private healthcare centres.

Secondly, our study shows that most (262) of the Instagram posts affiliated with the #collaborativehealthcare hashtag, use this term for advertising purposes since this platform is widely employed for business and advertising purposes. Interestingly, we discover that wellness centres use collaborative healthcare as a hallmark to advertise their centres and services on social media. Thus, advertising seems to be one of the main aspects of the term "collaborative healthcare" on social media. The advertising revenue of social media is continually increasing; the healthcare and pharmaceutical industry in the United States spent 8.34 billion US dollars on online advertising in 2019, and this is expected to increase to 11 billion dollars by the end of 2021 (Statista 2020b). Our findings support these statistics by evidencing that Instagram is much used by healthcare businesses for advertising purposes. Collaborative healthcare conveyed as multi-disciplinary collaboration and working with patients offers appealing messages to influence customers wishing to choose a centre or service. Previous studies have pointed out that patients show more engagement and satisfaction when they are provided with collaborative healthcare and are involved in the treatment and decision-making process (Greenfield, Kaplan, and Ware 1985; Doyle et al. 2013). In addition, "asking-answering" was an advertising approach applied by wellness centres. Posing questions and discussion topics, and then adding informational content to underscore the functional attributes (such as product features, performance, and properties) of products and services (Swani et al. 2017) relate to rational appeals (Campbell et al. 2011). Rational appeals exert an effect over social media users in terms of active and passive engagement (Dolan et al. 2019). In the healthcare context, informational and educational content strategies are crucial in both building an effective impression of products/services and advertising them, since an individual's health and life are the target topics, and customers prefer to make informed purchasing decisions. Consequently, "asking-answering" seems to be an effective strategy

that is applied by healthcare providers. Promotion is another common approach in advertising, one which wellness centres also exploit.

Thirdly, and counterintuitively, self-care has taken on a meaning for collaborative healthcare. Wellness centres not only use "collaborative" as a hallmark to advertise their services/centres and attract customers, but also construct this meaning by supporting and empowering healthcare consumers with self-caring tools to improve their health. Including the self-care concept in collaborative healthcare can add value for both users and healthcare providers through, for instance, improvements in the health status of people who live in an area with limited accessibility to care (King 1980), through supporting/educating patients with a chronic condition in their adoption of a lower risk healthy lifestyle (van Puffelen et al. 2020; Hunt, Koteyko, and Gunter 2015), and through reducing the unnecessary intervention of physicians and cutting costs (King 1980) through preventive medicine based on self-care. Accordingly, this meaning of collaborative healthcare shows a major shift of the healthcare system towards being customer-driven and patient-centred, which is known as the Triple Aim of healthcare (better health for individuals, better health for the population, and reduced costs) (Berwick, Nolan, and Whittington 2008; Renzaho et al. 2013). Patients have historically been portrayed as important actors in the healthcare system and their self-caring actions have been proved to have an impact on healthcare results; for instance, in chronic conditions (Barnes et al. 2018; e.g., van Puffelen et al. 2020), heart failure (e.g., Davidson, Inglis, and Newton 2013), and cancer (e.g., Berry et al. 2018). Our findings showed self-care posts as evidence of putting both patients and people without special health issues at the centre of the collaborative healthcare model with a view to developing the general public's health awareness. This shows the potential value of person/patient-centred consultation in moving towards enablement and self-efficiency of users through self-care and awareness (Wagner, Austin, and Korff 1996; Mead, Bower, and Hann 2002). Current healthcare strategies have mainly relied on collaboration among health-associated actors such as healthcare providers, patients, and policy-makers (e.g. Maghsoudi, Cascón-Pereira, and Lara 2020; Wang et al. 2018), while this study contributes to the healthcare literature by highlighting self-care as a collaborative practice for lay people. For instance, previous studies have offered digital health technologies that can be adopted by people for self-monitoring and self-care (Or et al. 2020; Yoo and Suh 2021). A network of health providers can support and educate the public, particularly patients with long-term conditions, with self-caring activities through social media (Hunt, Koteyko, and Gunter 2015). Future empirical studies might explore self-caring further as an important dimension of collaborative healthcare.

Fourthly, previous studies have mainly explored the collaborative concept in the medical environment and have also indicated medical professionals (e.g., Wald et al. 2018), patients (e.g. Doyle et al. 2013), and policy-makers (e.g., Wang et al. 2018) as three members of a collaborative healthcare

network. Meanwhile, nurses and physicians are mainly portrayed as members of a healthcare team in print and other media (G. Mitchell 2019; El-Awaisi et al. 2020) and in previous empirical studies (Caricati et al. 2015). This study contributes to the literature by highlighting the under-emphasized role of non-medical professionals in improving public health. Our findings, for instance, show that wellness centres and health-related professionals including fitness trainers, nutritionists, herbalists, and self-care coaches integrate collaborative healthcare and therefore might also be key contributors to improve public health. Future empirical and experimental studies may explore the degree of contribution of such centres and health-related professionals to the improvement of public health indicators.

As to the practical implications of this study, we consider it of interest especially to policymakers, healthcare providers, and healthcare professionals. In particular, the findings of this study show the important role of healthcare providers and professionals in promoting self-care as part of a collaborative healthcare model. Since Web-based media play a significant role in meaning-making (Lomborg 2015), healthcare providers can use social media platforms to change or develop a public understanding regarding specific healthcare issues and healthcare practices. But, on the other hand, based on our findings, there is a risk of this information being misleading from a healthcare point of view. Applying the "collaborative healthcare" term to advertise products/services by private healthcare centres requires the supervision of this information by healthcare professionals to guarantee that it is evidence-based practice and does not entail any risk for users. Although social media platforms are increasingly being used as a significant source of health-related information (Wayne et al. 2015) and a health intervention (Shaw et al. 2015) which can influence the decisions of patients (Lee et al. 2012), the dissemination of inaccurate and misleading information for advertising purposes is a common concern (Aagaard 2020), such as advertising the misleading and unreliable claims concerning the efficiency of herbal supplements or herbal remedies (Ismail et al. 2019). Hence, to avoid the possible risks of dissemination of misleading information for purely commercial purposes there is, in addition to jurisdictions' legislation for the marketing of healthcare services (Schenker, Arnold, and London 2014), a need to audit the collaborative networks of different professionals and providers so that they share reliable information through their social media accounts. The public can also be allowed to post their health-related information or experience under the control of healthcare professionals/providers to avoid dissemination of inappropriate and misleading information for advertising purposes. Hence, a more active role of policy makers to regulate these issues is required.

Finally, one of the meanings of collaborative healthcare found in this study was that of knowledge sharing (Maheshwari et al. 2020). Healthcare providers and researchers can use social media as collaborative and interactive platforms to share and acquire information to translate knowledge or research evidence into clinical practice (Tunnecliff et al. 2015). Social media can also enhance public health

awareness by disseminating information (Al-Dmour et al. 2020) on issues such as cancer awareness (Lyson et al. 2019), mental health awareness (Saha et al. 2019), and health protection against COVID-19 (Al-Dmour et al. 2020).

In conclusion, this study has contributed to unveiling the multiple meanings of collaborative healthcare shared by Instagram users and accordingly to developing some theoretical reflections and practical implications to improve public health.

3.5 Limitations and further studies

Health views are socio-cultural products and, accordingly, vary cross-culturally, so health worldviews should be seen in a specific cultural context (Hughner and Kleine 2004). The first limitation of this study is that it includes multiple socio-demographic and socio-cultural groups of people when exploring the meanings of collaborative healthcare portrayed in digital media. This lack of focus on a particular group of people at a specific time and place could be addressed by conducting future cross-cultural, cross-professional, and cross-generational research to compare meanings of collaborative healthcare.

Related with the former, the lack of in-depth biographical information on Instagram users is another limitation of our study. Instagram is a social media platform for both lay and professional audiences from different professional and educational backgrounds, so there are no definite standards for biographical information from users, and even providing this information is not mandatory. This limits our analysis, particularly on classifying health-related professionals based on their specialties. It would be necessary to address this limitation with future research through comparing the meanings of collaborative healthcare portrayed among different groups of health-related professionals such as nurses, physicians and alternative health-related professionals, and lay people on social media platforms, such as Twitter, which do provide such information.

The transferability of findings is another limitation of this study as it relies on the perception of the members who have publicly shared posts on Instagram. These posts may, therefore, not be entirely representative of the perception of a wider population. To minimise this, we chose a hashtag that was promoted on a global scale.

It is also the case that the content of public posts is more likely to be significantly close to the content of the entirety (public and non-public) of posts (Fiesler et al. 2017). In this context, future research could explore other global or specific hashtags on Instagram or other social media platforms to explore the meaning of collaborative healthcare.

Additionally, as this study is among the first to explore the public perception of collaborative healthcare on Instagram, similar studies on other social media platforms, such as Twitter, Facebook, could be considered to complete and expand our results. Future studies might also explore the meanings portrayed by both posters and followers/viewers who comment on posts.

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Chapter 4.

Collaborative Healthcare's Meanings in Annual Reports

UNIVERSITAT ROVIRA I VIRGILI
COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
Tahereh Maghsoudi

Chapter 4. Collaborative Healthcare's Meanings in Annual Reports

Empirical study

The role of UK public hospitals' strategic discourse in making sense of collaborative practices: A longitudinal analysis

Submitted to Public Performance & Management Review

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4.1 Introduction

Collaboration across healthcare organizations refers to a transformation from traditional hierarchies to networked organizational forms (Ferlie et al. 2011). Collaboration in different healthcare settings, whether intra- or inter-organizational (e.g., multidisciplinary collaboration, academic or clinical partnerships, or interprofessional teamwork) are acknowledged to improve health policy outcomes (D'Amour et al. 2009) in terms of both quality of care and financial performance (Schepman et al. 2018). Collaboration, as compared with the traditional healthcare system, can more appropriately tackle complex issues (Ferlie et al. 2011). Agents in any healthcare setting need to collaborate to address increasingly complex health needs as individual professionals may not be able to meet a patient's needs (Matziou et al. 2014).

Collaboration places great emphasis on breaking down boundaries through improving trusting relationships and appreciating that each collaborative agent is only one piece of a new entity (Innes and Booher 2010). The literature on collaborative models in healthcare has mainly focused on the different forms of collaboration between the implied agents i.e. inter-professional, inter-organizational or patient-professionals (e.g., Ahgren and Axelsson 2011; Aunger et al. 2021; Moncatar et al. 2021; Renedo et al. 2015) and their practices (e.g., Lomi et al. 2014; Westra et al. 2016). However, it remains critical to understand the determinants of enhanced collaboration (Karam et al. 2018). The question "How can a sense of belonging and collective identity be promoted?" remains unanswered in the collaborative literature (Karam et al. 2018). Building and enhancing 'intangible' and 'soft' factors, such as shared value, meanings and understanding, trust, fairness, openness, consensus, and accountability to boost collaboration are the key challenges in the field and understanding them is central to the literature (Karam et al. 2018; Aunger et al. 2021; Cristofoli, Meneguzzo, and Riccucci 2017; Willem and Lucidarme 2014). The effectiveness of collaboration depends, not only on bringing together members, but also on "moulding the members and

their resources into a different functioning entity underpinned by new ways of thinking, talking, and behaving" (Mandell, Keast, and Chamberlain 2017, 1). In this regard, meanings formulate cognitive frameworks which define or influence individual values, norms, attitudes , behaviours, and experiences (Huta 2017; Krauss 2005; Park 2017). Meanings thus constitute an initial basis for developing mutual understanding, knowledge, beliefs, and assumptions (Mulder, Swaak, and Kessels 2002) on a specific concept that can influence collective attitudes and actions (Anklam 2007; Mandell, Keast, and Chamberlain 2017; Keast et al. 2004). Sensemaking is defined as the ongoing retrospective development of plausible images that rationalize what people are doing (Weick, Sutcliffe, and Obstfeld 2005). Creating shared meanings of collaboration relies on sensemaking by relevant stakeholders. In this regard, strategic discourse is a key method for sharing meanings as it is a key communication tool of organizations. It can facilitate stakeholders in forming a shared understanding of collaborative actions through collective sensemaking (Weick 1995).

Strategic discourse is a linguistic practice including words, values, symbols, and language (Grazzini 2013) that can establish meanings and meaningful practices (Hall and Gieben 1992). It constructs a context on which organizational members rely to interpret their own experiences and form the basis for collective actions and decision-making structures (Grazzini 2013; Jørgensen, Jordan, and Mitterhofer 2012), thus constituting "an obvious anchor in organizational sensemaking" (Weick 1995, 155). Sensemaking is conceptualized as a discursive process and a way to construct "a shared understanding" (Weick 1995) and "a coordinated system of actions"(Taylor and Van Every 2000). Hence, strategic discourse is a key resource for managers to share meanings of collaboration. However, there is still a lack of studies on the links between strategic discourse and sensemaking (Balogun et al. 2014). The significance of discursive sensemaking in sharing meanings of "collaboration" is yet to be explored. This study attempts to fill the existing gap regarding the role of strategic discourse in sharing meanings of collaboration, as a 'soft' factor, (Cristofoli, Meneguzzo, and Riccucci 2017; Karam et al. 2018; Aunger et al. 2021), through sensemaking to develop cognitive frameworks related to collaboration. Specifically, this study aims to respond to the following research question: RQ1 "*How is collaboration-related strategic discourse used over time by UK NHS hospitals to make sense of collaboration in healthcare?"*

According to institutional theory, certain forces are exerted on organizations through certain institutions (i.e., government agencies, professional associations, and citizens) (DiMaggio and Powell 1983). In response to these pressures, organizations adopt the isomorphic process to change the structure procedures and practices (Scott 1987) and imitate existing patterns of acceptable organizational behaviour and operations to gain legitimacy in society (Suchman 1995). Isomorphism leads organizations to converge towards a common strategic discourse advocated by peer organizations (DiMaggio and Powell 1983).

Hence, the institutional profile of NHS hospitals seems to play a significant role in differentiating the strategic discourse. In this regard, the second research question of this study is: RQ2 "*How do the different institutional profiles of UK NHS hospitals affect their strategic discourse in relation to collaboration?"*

To answer these research questions this study explores and compares the strategic discourses related to collaboration used in the annual reports of three distinct types of UK NHS hospital over time.

4.2 Theoretical background

4.2.1 Collaborative frameworks in healthcare

Collaboration in healthcare is defined as a coordinated team activity, in which partners work together to achieve shared goals (Patel et al. 2000). Wood & Gray (1991) stated that collaboration "occurs when a group of autonomous stakeholders of a problem domain engages in an interactive process, using shared rules, norms and structures, to act or decide on issues related to that domain". The definition of collaborative healthcare has broadened and evolved based on various levels of collaboration, namely intra-organizational, inter-organizational, and inter-professional collaboration. Intra-organizational collaboration includes collaboration among partners or departments within a single organization (McCullough, Eisen-Cohen, and Lott 2020). Inter-organizational collaboration refers to collaboration among organisations across organizational boundaries while maintaining their legal identity and autonomy (Luke, Begun, and Pointer 1989). Finally, inter-professional collaboration is defined as "a negotiated agreement between two or more healthcare professionals who have specific roles, perform interdependent tasks, and share a common goal, which values expertise and contribution that each individual brings to patient care" (Gagliardi, Dobrow, and Wright 2011). This type of collaboration exists at both intra-organizational level, when professionals collaborate within a single organization, and inter-organizational level when healthcare professionals contributing to several healthcare organizations collaborate interdependently on patient care (Keyton, Ford, and Smith 2008).

Notwithstanding the differences in levels of collaboration, there are some similarities between the frameworks of different collaboration levels. In this regard, Karam et al.(2018) compared intra- and inter-organizational levels through inter-professional collaboration. They showed that "communication, trust, respect, mutual acquaintanceship, power, shared goals, consensus, patient centredness, and task characteristics" are the similarities in frameworks for inter- and intra- organizational collaboration of professionals—the differences between frameworks being in "formalization, professional role clarification, the individual's role, team identity, leadership, and outcome." Inter-organizational collaboration has been

shown to be more challenging and complex as the sense of belonging is more difficult to attain (Karam et al. 2018). In successful inter-organizational collaboration, partners needs to draw on their organizational ties while transcending those ties to act collectively (Lawrence, Hardy, and Phillips 2002). Additionally, prompting the shared interests or goals and trust is less easily achieved when working collaboratively across organizational boundaries (Vangen and Huxham 2003) as there is a risk of an opportunistic act by one's counterpart (Gulati 1995).

Another relevant issue relates to the agents involved in a collaborative healthcare system. They can be classified into internal and external collaborators. The traditional collaborative network is mainly established among nurses and physicians (Caricati et al. 2015). Besides these key traditional internal stakeholders, other medical and non-medical stakeholders have emerged such as pharmacists, therapists, psychologists, social workers (Chong, Aslani, and Chen 2013; Latten et al. 2018), policy-makers (Zielińska-Tomczak et al. 2021), and gym trainers (Javed et al. 2020). They work collaboratively through diverse practices. For instance, communication (Wang et al. 2018), knowledge sharing, shared responsibilities, shared resources (Wald et al. 2018; Okpala 2018; Lomi et al. 2014), shared decision-making, and problem-solving (Neale 1999) are the common collaborative practices regardless of collaboration level, while patient sharing (Lomi et al. 2014), and specialist sharing (Westra et al. 2016) are especially relevant at the inter-organizational level. Figure 4.1 represents the collaboration framework among different collaborators at two main levels, namely the intra- and inter- organizational. It also shows the similarities and differences in terms of collaborative practices at these levels.

Figure 4.1Collaboration agents and practices in the healthcare system

Similarities: the collaborative practices occur at intra- and inter- organizational levels
Differences: the collaborative practices occur at inter-organizational level

The development of various collaborative relationships is a core component of organizational strategy (Huxham and Vangen 2013), particularly for healthcare organizations (D'Amour et al. 2009). The establishment and enhancement of collaborative practices among healthcare professionals across various organizations have received increasing attention in strategic goal setting to optimize resources, improve quality of care and safety, and bridge healthcare fragmentation (D'Amour et al. 2009). There is a positive link between collaborative strategies and healthcare organizational performance. Organizational values guide strategies that highlight what is key to attaining common and collective goals (Van der Wal, Graaf, and Lasthuizen 2008) and shaping individual and collective behaviours around appropriate practices in the organization (Ralston, Russell, and Egri 2018). A team-based culture, characterized through shared values (Davies and Lowe 1999), and encouraging collaboration and coordination is key to enhancing team working spirit in healthcare organizations and integrated care (Mark Smith 2013). Strategies can influence sensemaking and meaning construction towards the preferred redefinition of organizational reality (Gioia

and Chittipeddi 1991), and this can be an infrastructure for decision-making and action (Steinthorsson and Söderholm 2002; Giuliani 2016). Therefore, in the following section, we revise the role of strategic sensemaking in sharing meanings in organizations regarding collaboration.

4.2.2 The role of strategic sensemaking to construct meanings of collaboration in healthcare

Sensemaking studies in management have focused on how managers influence others' understanding, and as a result shape others' actions, as an ongoing intertwined cycle of interpretation and action (Rouleau and Balogun 2011; Weick 1995).

Sensemaking leads to a shared understanding (Weick 1995) as a key conduit of power in organizations (Clegg, Courpasson, and Phillips 2006). Managers construct shared understanding and action through strategic sensemaking (Cornelissen and Schildt 2015; Gioia and Chittipeddi 1991). Strategic sensemaking research has focused on social processes of interaction to understand how managers inspire/impact on the meanings, interpretations, and understandings of others through the sensemaking process. Strategy process and practice studies (Burgelman et al. 2018; Vaara and Whittington 2012) have highlighted a growing interest in the key role of language in organizational strategies (Mantere 2013) and strategic sensemaking (Balogun et al. 2014; Jalonen, Schildt, and Vaara 2018). Language has a formative impact on meaning construction and hence influences actions and attitudes (Cornelissen, Mantere, and Vaara 2014). Organizational strategies may be seen as a language game that governs how to properly use the strategy vocabulary to set shared goals, understandings, and behaviours (Mantere 2013). Words, therefore, are identified as powerful resources (Balogun et al. 2014; Min et al. 2020) to create cognitive frameworks for collaboration (Mandell, Keast, and Chamberlain 2017; Joyce and Holzer 2014) and as a means for collective sensemaking (Anklam 2007, 297).

In this regard, Jalonen et al. (2018) highlighted language as a core tool for strategic sensemaking and indicated that "linguistic expressions, essentially words or phrases with established and at least partly shared meanings" are the most significant parts of an organization's strategy discourse. Successful strategic discourses often develop sensemaking in a particularly effective way through applying compelling ideas and expressions in persuasive and convincing way (Balogun et al. 2014). This is why sensemaking is central to strategic change processes in organizations (Gioia and Chittipeddi 1991). Strategic discourse reflects the board of directors' substantive attitudes, meanings, values, and actions so that it can be a key source for sensemaking.

Despite recent advances in strategic sensemaking, there is still a lack of knowledge on the role of strategic discourse in organizational strategy (Jalonen, Schildt, and Vaara 2018). This is also the case regarding the use of collaboration-related words in healthcare organizations' strategic discourses. The literature analysing the potential effects of strategic discourse has ignored the exploration of its power in sensemaking to share meanings of collaboration. Applying specific words not only encodes or determines meaning, but also larger background frames, or cognitive schemas promoted by these words, which govern interpretations and actions (Cornelissen, Mantere, and Vaara 2014; Hardy, Lawrence, and Grant 2005). Shared meaning is a type of collaborative learning of a specific concept since it can develop mutual knowledge, beliefs, and assumptions (Mulder, Swaak, and Kessels 2002; Stahl 2003). Hence, when the hospital boards of directors use words such as "collaboration", "coordination", "group", "team working, "together", "team", "public/patients/ staff engagement", and "working closely with patients/partners/ public", in their strategic discourses, they might, in consequence, form a shared meaning around collaboration that shapes how collaboration might be understand in their organizations. In this regard, our study aims to address the existing gap on the role of strategic discourse (Cristofoli, Meneguzzo, and Riccucci 2017; Karam et al. 2018; Aunger et al. 2021) to share meanings on collaborative healthcare as reflected in the annual reports of the UK NHS hospitals.

4.3 Methods

4.3.1 Organizational context of the study

We conducted this study using data from NHS hospitals in the UK. The NHS represents a complex organizational model in an increasingly interdependent healthcare system including rich direction for performance and collaboration through networks to address better, safer, health services in face of increasingly complex health issues (Malby and Mervyn 2016). Large-scale collaboration has been applied in the NHS to enhance care in the case of accessibility, cancer services, and primary care. Across England, the NHS collaborates to obtain quality care improvement via a mixture of knowledge, resource, and problem-solving sharing (Ham, Berwick, and Dixon 2016). Strategies are the key to boosting collaboration at different levels within the NHS (Ham, Berwick, and Dixon 2016).

There are three distinct types of hospitals among the NHS. NHS Trusts are public sector bodies that provide healthcare services to the local population. They have a board of executive and non-executive directors and are accountable to the Secretary of State (NHS 2015). Foundation Trusts (FTs) are a semi-autonomous type of NHS trusts that have some managerial and financial freedom. FTs are the cornerstone of the government's commitment to devolution and decentralization (Lewis 2005). They are free from

Whitehall control and replace it with local managers and staff working with local people to innovate and develop services according to the demands of patients and local communities. FTs are known as the patient-led NHS and are "a new form of social ownership where health services are owned by and accountable to local people rather than to central government" (Department of Health 2002). The core management for FTs is the board of directors; it is not directed by government so they have more freedom to make strategic decisions (NHS 2014). Patients, staff, members of the public and partner organizations are included in the strategic planning of the organization (NHS 2021a). Being an FT means having a greater capability and ability to provide and manage services to meet the priorities of the local community as the Trust is free from central government control. However, the freedoms given to FTs are underpinned by a framework of national standards which safeguard quality and protect the public interests. The third type are Teaching hospitals, affiliated with academic partners and are often co-located with medical schools to provide medical education and training for healthcare professionals or benefits from research (NHS 2015). There is an increased willingness among FTs and Teaching hospitals to merge. Like FTs, their board of directors include patients, members of the public, and staff, who have been elected as representatives. The major components of Teaching hospitals' mandate are education and research, and they are responsible for pioneering advances in medical technologies and treatments.

Despite their differences in terms of freedom and governance, all NHS types are subject to NHS standards, performance ratings, and systems of inspection; their primary goal is providing NHS care and services for NHS patients according to NHS quality standards and principles (NHS 2021a).

4.3.2 Data collection and analysis

This study is developed based on qualitative content analysis to identify sensemaking differences among NHS hospitals. In this regard, we used topic modelling as a statistical technique to cluster large numbers of texts into topics on the basis of word frequency and co-occurrence across documents (Moro et al. 2019). It is only recently that such machine learning applications for data mining have become available management studies, and they are increasingly seen as promising tools to deal with large volumes of qualitative data (Moro et al. 2019).

The research design consists of the application of text analysis to a dataset comprising the annual reports of 21 NHS hospitals in the period 2012–2020. Annual reports are administrative documents prepared or approved by the board of directors that identify the organization's performance in the preceding year. They contain organizational visions, objectives, and strategies, and define the indicators to be used to measure, monitor, and evaluate organizational performance. There is a long tradition of using annual reports

as a useful, reliable, and unobtrusive sources of textual data (Heyden et al. 2015) in management studies (Ruud 2006).

We adopted a purposive sampling strategy (Palinkas et al. 2015); NHS hospitals of each region were searched and sorted based on the following criteria; (1) region, (2) NHS types (NHS Trusts, FTs, or Teaching Hospital), and (3) the availability of annual reports over a long time period. We chose 8 years (2012–2019) as the common period for our study and randomly included NHS hospitals that published their annual report for this period. One sample from each NHS Trust, Teaching, and FT for each region was retrieved; a total of 21 NHS hospitals were included in this study.

The resulting 168 annual reports were analysed through a topic modelling procedure, an unsupervised machine learning analysis to explore common topics or patterns and to categorize clusters and identify themes through commonly co-occurring word sets (Blei, Ng, and Jordan 2003). The topic modelling is based on the Latent Dirichlet allocation (LDA) algorithm, a hierarchical generative Bayesian learning model (Blei, Ng, and Jordan 2003). The purpose of LDA is to learn the representation of a fixed number of topics and, given this number of topics, to learn the topic distribution for each document in a collection. It builds a topic-per-document model and a words-per-topic model, modelled as Dirichlet distributions.

A standard pre-processing data cleansing step is always needed in the text analysis of corpora. In this case, pre-processing of data includes tokenization, removing stopwords, lower-casing, removing URLs, special characters, numbers, hyperlinks, and lemmatization. Python Gensim and NLTK (Rehurek and Sojka 2010) libraries were used in the pre-processing phase. Then, a Bag of Words (BOW) (Harris 1954; Kite 2021) was created, this being a list of words each with its frequency of occurrence in the document. Word frequency equals the number of times a word appears in a document, which reflects how common a word is in the specific corpus.

For each NHS hospital type, the strategy content of all annual reports was considered for the pre-processing step and then the LDA algorithm (Blei, Ng, and Jordan 2003; Swani et al. 2017) was applied for exploring topics.

4.4 Results

The results extracted from topic modelling provide us with the appropriate evidence to advance our investigation into the benefits of machine learning textual analysis for sensemaking. The results for each NHS hospital type are considered in the following subsections.

4.4.1 NHS Trust hospitals

The LDA model was applied for different numbers of components. To determine the optimal number of topics to describe the corpus, we initially build upon quantitative evidence, using the popular UMass metric of topic coherence (Röder, Both, and Hinneburg 2015; Mimno et al. 2011); the UMass metric of coherence considers high scoring words in a topic and estimates the number of documents in which the word occurs divided by the total number of documents (Mimno et al. 2011). The maximum coherence value we find, as shown in Figure 4.2, is for five topics.

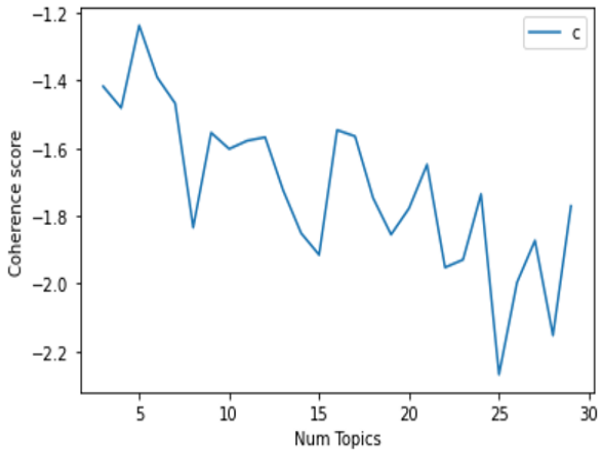

Figure 4.2 The optimal number of topics for the NHS Trust

Five topics (Topic 1 through 5) guaranteed the best face validity, in terms of the distinctiveness of meanings being represented. The five topics, and the most relevant terms for each topic identified in the annual reports, are presented in Table 4.1. This table includes the ten most relevant terms (top-10) for each topic based on the highest posterior probability (Pro). We also use a word-cloud to visualize striking differences in the most salient terms of each topic. In the word-cloud of each topic (Figure 4.3), the size of each word is directly proportional to its posterior probability. As such, the more salient the associated keyword, the greater its probability and the bigger the size of the word in the word cloud. The topics are inferred from the distribution of words in the topic and related knowledge. In an iterative process, co-authors of this paper discussed the final appropriate label for each cluster of keywords until they reached agreement. The following labels/names are assigned for each topic cluster (see Table 4.1); Topic 1: measuring integrated-care and high quality; Topic 2: research for patient safety; Topic 3: healthcare models based on compassion; Topic 4: research and decision-making; Topic 5: collaboration for healthcare quality. The terms relating to collaboration, such as integrated care, together, others, group, and network, appear in all topics. Topic 1, labelling integrated care, and Topic 5, labelling collaboration for healthcare quality,

involve terms more associated to collaboration. This shows that the board of directors has frequently applied terms relevant to collaboration in strategic discourses over time. Additionally, Topic 2 and Topic 4 show that the board of directors represented themselves as committed to the NHS England research plan. (NHS 2021b). Topic 4 refers to a key research plan of the NHS which is supporting the use of evidence for decision making and research into practice (NHS 2021b). Topic 2 contains "others" and "network" among its 10-top keywords; these illustrates that the board of directors has attempted to highlight collaboration in research.

Table 4.1 The five most important topics with most relevant terms for NHS Trust

Topic 1: Measuring integrated-care		Topic 2: Research for patient safety		Topic 3: Healthcare models based on compassion		Topic 4: Research and decision-making		Topic 5: Collaboration for healthcare quality	
Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro
survey	0.00599	research	0.00646	nurse	0.00698	research	0.00885	**group**	0.00615
integrate_ care	0.00580	patient_ safety	0.00553	response	0.00615	nurse	0.00610	communication	0.00519
provide_ high_ quality	0.00468	transformation	0.00483	compassion	0.00553	admission	0.00552	nurse	0.00457
responsive	0.00427	nurse	0.00480	share	0.00473	gps	0.00459	compassion	0.00445
together	0.00422	research_ development	0.00479	nursing	0.00465	decision	0.00458	ambition	0.00430
communication	0.00408	efficiency	0.00455	**integrated _ care**	0.00452	surgery	0.00449	provide_ high_ quality	0.00408
ambition	0.00386	**others**	0.00428	friend	0.00446	carers	0.00422	stp	0.00405
involve	0.00384	share	0.00387	admission	0.00425	specialist	0.00411	**integrated_ care**	0.00393
response	0.00381	recruit	0.00380	**group**	0.00421	involve	0.00408	colleague	0.00392
share	0.00376	**network**	0.00373	progress	0.00419	appointment	0.00384	progress	0.00388

Figure 4.3 Word-clouds for the topics emerging from the topic modelling analysis for NHS Trust

It is interesting to note the topic distribution across the observation period. Figure 4.4 illustrates the generalized topic span over time. The Y-axis represents the associated probabilities of each topic. A greater probability in a particular year indicates that the topic was more popular in that year. Note that this forms a probability distribution for each year and the sum of the probabilities in each year is equal to one. From the evolution of topics over time, we can see the distribution of all five topics has varied over time, with "measuring integrated-care and high quality" and "research for patient safety" increasing in popularity over the years, while "healthcare models based on compassion" and "research and decision-making" have declined. After a sharp upward trend for "collaboration for healthcare quality" up to 2017, its popularity has sharply declined since then.

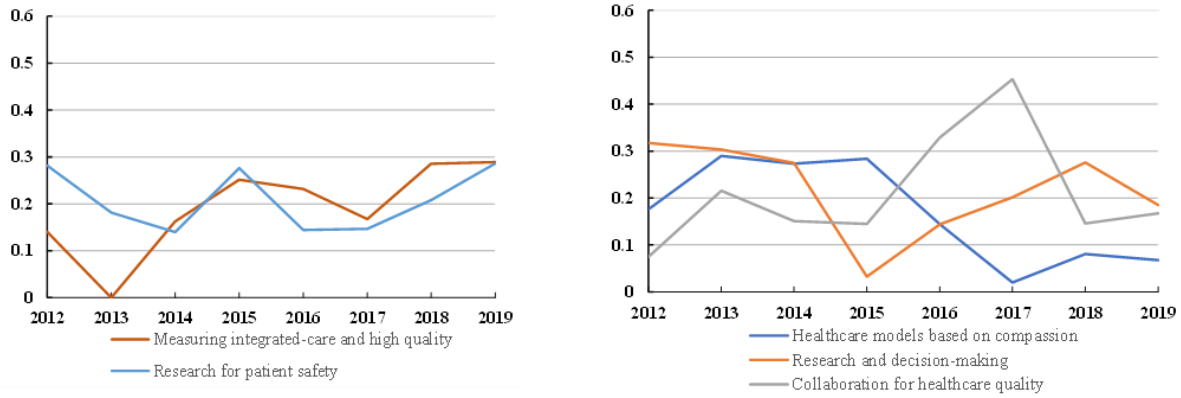

Figure 4.4 Topic distribution over time for NHS Trust

4.4.2 NHS Teaching hospitals

We adopt the same approach to extract and validate the optimal number of topics through U_mass coherence (Figure 4.5). The optimal number of the topic is five.

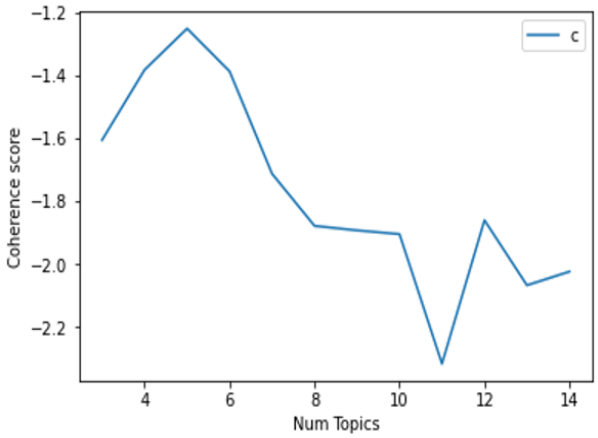

Figure 4.5 The optimal number of topics for the NHS teaching

Like the approach in the NHS Trust hospitals, the five topics and the top-10 relevant terms for each topic identified in the reports by means of topic modelling are presented in Table 4.2. Figure 4.6 represents the word-cloud for each. Topics were inferred using the same process and the following labels/names were assigned for each topic cluster (see Table 4.2); Topic 1: collaboration for quality-improvement-strategy; Topic 2: finance and recruitment; Topic 3: working together for primary care improvement; Topic 4: integrated-care; Topic 5: working together and digital technology. Regardless of Topic 2 concerning financial issues, the terms relating to collaboration, collaborate, integrated care, together, and others, appear in all topics. Terms related to collaboration are included mainly in topics concerning non-financial issues. Interestingly, terms with collaboration concepts are viewed among the top-10 keywords of each topic. The integrated model of care seems to be a core meaning for collaboration for the board of directors as this term is viewed in three topics, Topic 1, Topic 4, and Topic 5. This shows that, over time, the board of directors has emphasized terms including the collaboration concept in their strategy sensemaking. Surprisingly, digital technology is highlighted in Topic 5; digital technology is offered as a new service model in NHS long-term plan in which "patients get more options, better support, and properly joined-up care at the right time in the optimal care setting " ("The NHS Long Term Plan" 2019). In Topic 5, digital comes with keywords like "together", "integrated-care", "efficiency", "finance"' and "right-time"; this forcefully confirms that the board of directors shares a clear alignment to the NHS long-term plan regarding digital technology.

Table 4.2 The five most important topics with most relevant terms for NHS Teaching hospitals

Topic 1: Collaboration for quality-improvement-strategy		Topic 2: Finance and recruitment		Topic 3: Working together for primary care improvement		Topic 4: Integrated care		Topic 5: Working together and digital technology	
Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro
collaborate	0.00368	recruitment	0.00414	**together**	0.00567	**integrated_ care**	0.00564	**together**	0.00427
grow	0.00351	finance	0.00394	others	0.00352	cqc	0.00380	digital	0.00420
quality_ improvement_ strategy	0.00337	appointment	0.00371	efficiency	0.00348	award	0.00379	efficiency	0.00379
appointment	0.00332	cqc	0.00362	primary_care	0.00344	**together**	0.00338	**integrated_ care**	0.00304
together	0.00322	right_time	0.00358	cqc	0.00325	redesign	0.00329	admission	0.00300
success	0.00317	income	0.00328	quality_ improvemnt _strategy	0.00320	skill	0.00328	incident	0.00298
consultant	0.00316	skill	0.00324	study	0.00315	efficiency	0.00315	finance	0.00296
right_place	0.00314	assess	0.00307	covid	0.00315	deficit	0.00310	right_time	0.00287
integrated_ care	0.00311	efficiency	0.00301	comprehensive	0.00315	perform	0.00309	cqc	0.00280
nhs_long	0.00295	visitor	0.00301	deficit	0.00308	digital	0.00307	timely	0.00272

Figure 4.6 Word-clouds for the emerging topics for NHS teaching hospitals

Figure 4.7 illustrates how topics change over time. We see that the distribution of all five topics has fluctuated, with an upward trend for the popularity of "working together for primary care improvement," but a downward trend for the popularity of "collaboration for quality-improvement-strategy," "finance and recruitment," and "integrated-care." "Working together and digital technology" rose sharply until 2016, strongly declined from 2016 to 2018, but has recovered since then.

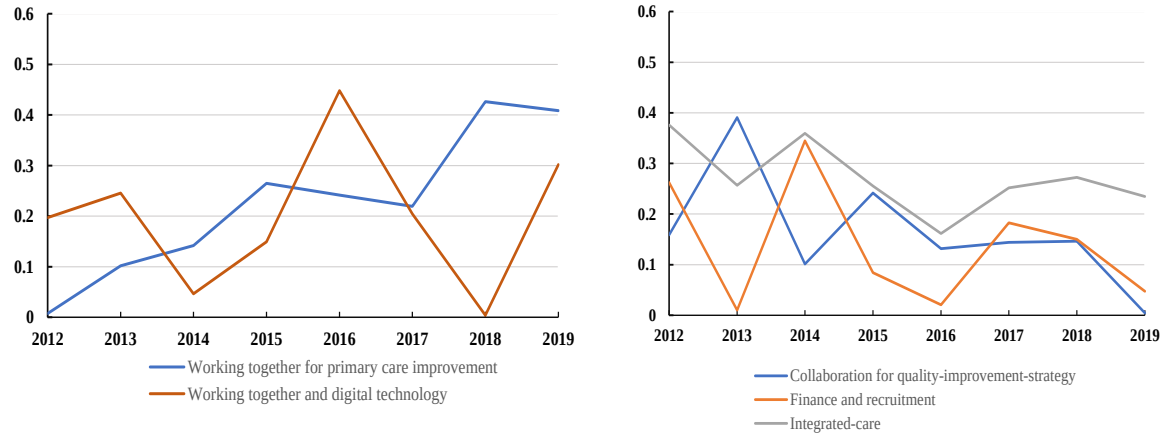

Figure 4.7 Topic distribution over time for NHS teaching hospitals

4.4.3 NHS Foundation Trust hospitals

The U_mass coherence (Figure 4.8) was evaluated to determine the optimal number of topics. The appropriate number of topics is seen to be five.

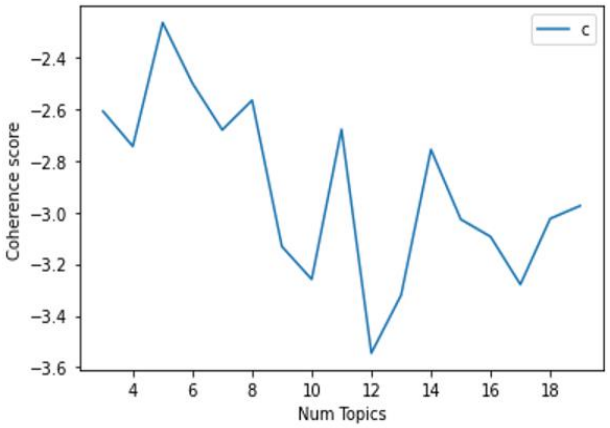

Figure 4.8 The optimal number of topics for the NHS foundation trust

The five topics and the ten most relevant terms for each topic identified are presented in Table 4.3. Figure 4.9 also visualize the high probability terms for each topic cluster. The following labels/names are assigned for each topic cluster (see Table 4.3); Topic 1: R&D and staff-engagement; Topic 2: collaboration and colleague; Topic 3: patient-centred and expenditure; Topic 4: patient-centred and collaboration; Topic 5: collaboration, R&D, and technology. The terms relating to collaboration, staff-engagement, network, join, and work together, appear in all topics. It is interesting to note, at least a one collaboration concept

comes up among the top-5 keywords of each topic. Staff engagement seems to be highlighted as the main collaboration meaning applied by the board of directors in their companies' annual reports, as it is viewed among the 10-top keywords of three topics (Topic 1, Topic 2, and Topic 4). Topic 4 is the main topic highlighting collaboration as the three most relevant terms to collaboration with high probability appear among the 10-top keywords of this cluster. This shows that the board of directors of FTs has strongly applied terms relating to the collaboration concept in strategic discourses over time. Topic 3 and Topic 4 highlight patients; this validates that the board of directors launch a message through the annual reports which is aligned to the main characteristic of FTs, that of creating a patient-led NHS (NHS 2021a). Topic 5 involves R&D and technology; this shows that the board of directors of FTs, like Teaching hospitals, introduce themselves as dedicated to the digital technology objectives of the NHS long-term plan ("The NHS Long Term Plan" 2019).

Table 4.3 The five most important topics with most relevant terms for FTs

Topic 1: R&D and staff-engagement		Topic 2: Collaboration and colleague		Topic 3: Patient-centred and expenditure		Topic 4: Patient-centred and collaboration		Topic 5: Collaboration, R&D, and technology	
Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro	Keywords	Pro
rd	0.00687	colleague	0.00738	patient_first	0.00576	patient_first	0.00609	colleague	0.00486
staff_ engagement	0.00489	**join**	0.00466	expenditure	0.00463	colleague	0.00428	rd	0.00449
incident	0.00406	employee	0.00438	incident	0.00397	network	0.00424	commission	0.00441
transform	0.00354	transfer	0.00361	**staff_ engagement**	0.00390	**staff_ engagement**	0.00393	technology	0.00401
wait	0.00345	secure	0.00353	survey	0.00375	transform	0.00390	**join**	0.00396
consistent	0.00343	expenditure	0.00343	wait	0.00361	**work_ together**	0.00342	courtesy	0.00385
transfer	0.00323	council	0.00325	timely	0.00304	expenditure	0.00338	leadership	0.00343
technology	0.00309	**network**	0.00321	**join**	0.00299	**join**	0.00337	economy	0.00337
control	0.00307	drive	0.00312	redesign	0.00298	incident	0.00335	requirement	0.00336
evidence	0.00296	wait	0.00307	sustain	0.00295	urgent_care	0.00331	grow	0.00332

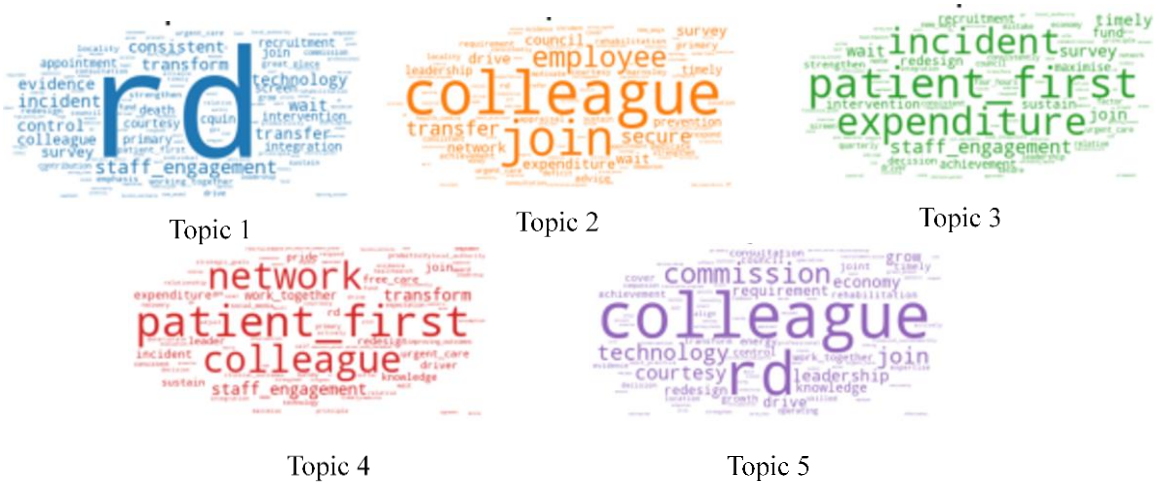

Figure 4.9 Word-clouds for the topics emerging from the topic modelling analysis for FTs

Following the same approach explained in two previous NHS hospital types, Figure 4.10 illustrates how topics vary over time. From this, we note a downward trend in the popularity of "R&D and staff-engagement," "collaboration and colleague," and "patient-centred and expenditure," while "collaboration, R&D, and technology" has peaked in 2016. The popularity of "patient-centred and collaboration" increased until 2016, declined from 2016 to 2018, and subsequently rose again.

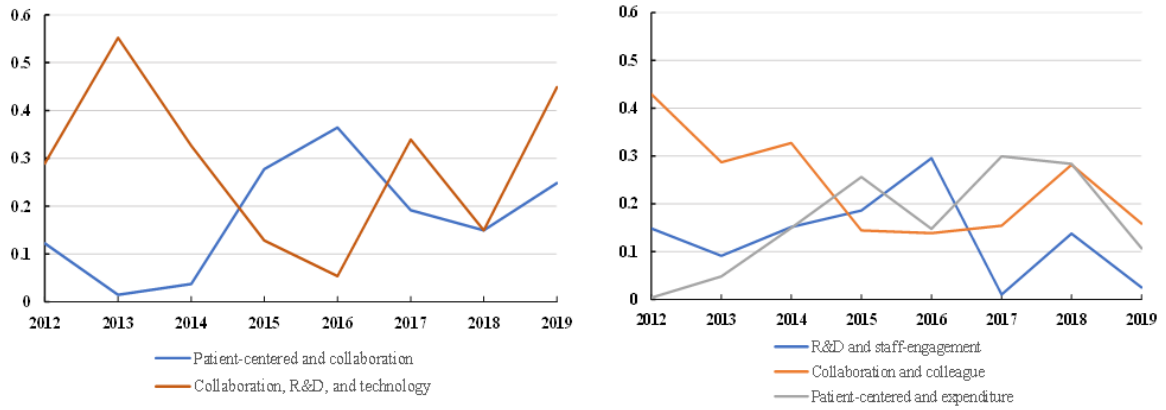

Figure 4.10 Topic distribution over time for FTs

4.5 Discussion

The topic modelling results provide insights into the role of strategic sensemaking in sharing meanings of collaboration.

Interestingly, the strategic discourses related to collaborative practices appear among the top-10 keywords of topics for all NHS hospitals. This means the boards of directors of all NHS hospital types seem to value collaboration in their strategic discourses, using the mechanism of the annual reports. As long as these strategic discourses may influence the organizational culture, this finding agrees with the NHS long-term plan to move away from competition to collaboration (Alderwick and Ham 2016) through developing and embedding a culture of compassion and collaboration as a key to long-term strategic planning and investment (NHS 2019). However, there are some differences among hospitals depending on type, which provide some insights into the role of the different institutional profile of NHS hospitals in their strategic discourse on collaboration. For instance, the term collaboration is most frequently used in Teaching hospitals' strategic discourses, as collaboration appears among the top-10 keywords, followed by FTs with the terms referring to collaboration viewed among high probability keywords (among top-5 keywords).

The number of topics involving collaboration also is a major difference among NHS hospitals. Here, we can conclude that the boards of Teaching hospitals and FTs place collaboration higher in the strategy statements of their annual reports. Teaching hospitals' discourses involve four collaboration-related topics; Topic 4 refers to integrated model of care; Topic 1 and Topic 3 focus more on quality improvement; and Topic 5 stresses the digital technology for working-together and integrated-care. Strategic discourses of FTs come after Teaching hospitals in having the highest number of collaboration-related topics in their annual reports. We found four topics focusing on collaboration; Topic 1 relates to collaboration for research development; Topic 2 includes join and colleagues which, in turn, mark collaboration among colleagues; Topic 4 emphasizes network for patient-centred care; and Topic 5 highlights collaboration for R&D and technology. Finally, two collaboration-related topics are detected in strategic discourse of NHS Trust hospitals; Topic 1 involves survey and integrated-care; and Topic 5 refers to collaboration for quality care improvement. Additionally, collaboration for research development is indicated in the strategic discourse of NHS Trust hospitals as collaboration is seen among keywords for Topic 2 labelled research for patient safety. It is also interesting to note (as shown word-cloud Figure 4.3) that nurses are reflected in the annual reports as the main collaboration actor by the board of NHS Trust hospitals. This finding is in accordance with previous studies (Martin et al. 2005; Caricati et al. 2015). In summary, collaboration is portrayed for three main subjects in strategic discourses of NHS Trust hospitals including a) care quality and patient safety, b) research development, and c) communication. In addition to these subjects, the board of Teaching

hospitals as well as FTs use collaboration in relation to digital technology. Teaching hospitals' and FTs' strategic discourses are presented as responsive to NHS long-term plans in regard to making use of new service models based on digital technology ("The NHS Long Term Plan" 2019). This illustrates greater similarities among FTs and Teaching hospitals; this might be due to the growing trend in merging Teaching hospitals and FTs.

Another key difference between FTs and the two other NHS hospital types is what the board of directors considers as key agents for collaboration in their strategy statements. The boards of FTs tend to develop collaboration meanings through staff engagement as it appears among the high probability keywords referring to collaboration. Staff engagement is introduced among the primary strategic objectives of the NHS units; organizational effectiveness and care quality are unlikely to be attained without staff engagement in the NHS units (West and Dawson 2012; Darling and Venkitachalam 2020). Darling & Venkitachalam (2020) found that staff engagement is one of the four main strategic competences in fostering NHS unit performances. As the findings have shown, the board of FTs place staff, rather than patients, at the centre of their collaborative model. Interestingly, however, this reveals a disconnect between the institutional profile of FTs, in terms of structure and governance, and their strategic discourses. An FT is assumed to be publicly owned and governed by actors chosen from among patients, the public, and staff (NHS 2021a). Knowing exactly the reasons for this result would require different analyses to those conducted in this study. On the other hand, NHS Trusts,' and Teaching hospitals' strategic discourses place patients in the annual reports at the centre of collaboration as integrated-care appears among the top-10 keywords of topics; this shows that integrated-care is a key meaning of collaboration shared by the boards of these hospitals. This finding is compatible with long-term NHS plans (NHS 2019; Wright and Turner 2021); the integrated model of care has become central to the long-term plan for an NHS aiming to shift from competition to integration and collaboration and a redesign of the care pathway (NHS 2019). Another key difference between FTs and other NHS types is related to the notion of a patient-led NHS (NHS 2021a); our findings show that patient-centred care is portrayed as a meaning of collaboration in Topic 3 by the board of NHS FTs.

Research is a pivotal objective for NHS units to improve outcomes and develop new care models, primary care, and quality of care (NHS 2021b). Our findings reveal that collaboration for research is shared as another meaning of collaboration by the boards of NHS Trust hospitals (Topic 2 and Topic 4) and FTs (Topic 1 and Topic 5) in their strategic discourses. We did not label any cluster for research for Teaching hospital. This might be due to, firstly, Teaching hospitals being mainly developed based on research and education purposes and affiliated with academic partners (NHS 2015) so that research and training might be a tacit assumption integrated into their strategy and structure. Secondly, as developing primary care, new

care models, and quality of care are the objectives of the NHS England research plan (NHS 2021b), the board of Teaching hospitals are likely to value research because the terms like integrated care, primary care, efficiency, growth, and quality development emerges frequently among the 10-top keywords.

The topic distribution over time is another topic on which to compare NHS hospitals. Relatively few changes over time have been seen in hospitals. This is interesting since it suggests that the strategic discourse on collaboration is stable over time and does not seem to be much affected by health policy changes. This can be interpreted in accord with the long-term NHS plans to shift from competition to collaboration (Alderwick and Ham 2016), collaboration has been indicated as a crucial priority in strategic discourses by the boards of NHS hospitals over time.

We expand our comparative analysis based on the trend for common topics among NHS hospitals. Integrated-care is the most frequent meaning of collaboration indicated in NHS Trust and Teaching hospitals' annual reports; the distribution topic trend for integrated-care is upward over time for NHS Trusts, while, conversely, it has been downward for Teaching hospitals. Regarding FTs, the collaboration concept is shared around staff (Topic 2); the appearance of collaboration and colleagues (Topic 2) has reduced but, in contrast, the popularity of collaboration and patient-centred care (Topic 4) and collaboration, R&D, and technology (Topic 5) have increased over time. Also, the board of NHS Trust hospitals expands the collaboration concept for nurses (Topic 5) for care quality improvement; the popularity of this topic had a sharp upward trend, it sharply declined from 2016 to 2017 and subsequently increased.

4.6 Conclusions

This study contributes to the body of knowledge related to strategic sensemaking and collaborative healthcare by highlighting the central role of language (Jalonen, Schildt, and Vaara 2018; Mandell, Keast, and Chamberlain 2017) in strategic blueprints to construct meanings of collaboration. Previous research has mainly stressed bringing different members/ stakeholders/ actors together (e.g., Renedo et al. 2015) to engage in various collaborative practices (e.g., Lomi et al. 2014) at different levels (e.g., Moncatar et al. 2021; Mervyn, Amoo, and Malby 2019) in healthcare. We shed new light on these studies by emphasizing the projected understanding of collaboration (Mandell, Keast, and Chamberlain 2017) through strategic sensemaking in annual reports which may be employed by the board of directors to promote collaboration. Shared meanings form a basis for understanding attitudes and behaviours and for developing mutual understanding, assumptions, and attitudes that eventually boost collaborative behaviours. This study is among the first attempts that explore how strategic discourses are deployed by the boards of NHS hospitals to portray the meanings of collaborative healthcare. Interestingly, collaboration is strongly evident in the

strategic discourses of all NHS hospital types. This might be due to isomorphic pressure to gain legitimacy in society because first, all NHS hospitals, despite their different institutional profiles in terms of governance, should conform to general NHS policies and plans (NHS 2021a). Second, annual reports are public information; hence, they are more likely to be prepared with a view to legitimacy. Nevertheless, further experimental studies would be required to investigate whether the emphasis on collaboration in annual reports is intended to construct meaningful collaborative practices to enhance collective behaviours or rather is employed by the board of hospitals to portray themselves as being in alignment with general NHS policies and the public image.

Our second conceptual contribution is expanding the understanding of whether strategic sensemaking differs across NHS hospitals with different institutional profiles. In response to isomorphic pressure, organizations adopt the strategies, practices, and structures advocated by peer organizations (DiMaggio and Powell 1983). Our study compared strategic discourses related to the collaboration of three types of NHS hospitals. In accord with institutional isomorphism, we have shown that hospitals with different institutional profiles develop different strategic sensemaking to gain legitimacy. For instance, FTs place staff at the centre of collaboration since staff governors are among their directors in the board (Monitor 2014) whereas the NHS Trust and Teaching hospitals place patients at the centre since patient-centred care is a value for NHS. Our findings, nevertheless, show a disconnect between the institutional profile and strategic discourses for FTs since the latter have been more focused on staff rather than on the public or patients. This raises important questions about the nature of FTs. One might well ask "Why there is a conflict between the institutional profile of FTs and their strategic discourse?" "Is this conflict due to specific environmental pressures?" or "Do FTs use some discourses, such as the public and patient governors, in its institutional profile as a hallmark to creating a brand image or gain social recognition?" Furthermore, consistent with institutional theory, this study has revealed that, despite the differences among NHS types, there are similarities among their annual reports, presumably because all NHS hospitals must be accountable and follow NHS standards, performance ratings, and systems of inspection (NHS 2021a). Hence, we have shown that all NHS types attempt to be isomorphic with general NHS policies and rules regarding developing collaboration in their annual reports. This confirms that general NHS policies are likely to be the most powerful forces in the dissemination of strategic discourses across NHS hospitals.

Our third contribution is methodological. This study applies topic modelling as a computer-aided content analysis technique to address the main challenge of content classification and coding, which is to generate unbiased classifications and metrics of textual (qualitative) data (Blei, Ng, and Jordan 2003). Topic modelling can accommodate supplemental information (i.e., topic frequency, topical prevalence, keyword frequency) that aid in qualitative content analysis to discover invisible and unknown topics or specific

discourses (Piepenbrink and Gaur 2017). This method enables us to investigate a large volume of discourses over an eight-year period to unveil the latent topics, thereby enriching our understanding of meanings and assumptions intertwined in strategic discourses and exploring their distribution over time; how different topics emerged and evolved. For instance, we found the strategic discourse related to collaboration is strongly linked to integrated care and patients for NHS Trust and Teaching hospitals and to staff for FTs.

This study conducted a longitudinal analysis for a limited number of NHS hospitals over an eight-year period. Future studies might explore strategic sense-making for a larger sample. Since annual reports are only the statement of intent of the board of directors, it might be interesting for future empirical studies to explore how these strategic discourses are perceived and debated among other organizational members and whether the annual reports' claims (such integrated care and patient-centered care) actually happen. This would help to answer a key question "Do strategic discourses concerning collaboration permeate all levels of staff, or is this just another corporative image strategy to gain either social recognition and reputation or legitimacy from government policies?" Finally, what impact might these strategic discourses have on hospital performance, in terms of efficiency, staff engagement and satisfaction, and patient satisfaction? Future empirical studies might address this question.

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COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
Tahereh Maghsoudi

Chapter 5.
Conclusion

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Chapter 5. Conclusion

5.1 Chapter overview

This thesis deals with collaborative healthcare as an emerging and rapidly growing topic. Across the globe, healthcare organizations continue to develop collaborative frameworks to achieving outcomes that are too ambitious for individual delivery. The improvement of collaborative efforts has been recognized as an emergent and crucial strategy for healthcare reform (Huxham and Vangen 2013; D'Amour et al. 2009), in order to meet the growing healthcare demands of the public (Matziou et al. 2014), as well as to make available healthcare providers with more efficient performance in terms of both care delivery and financial outcomes. Regarding the public, the collaborative healthcare system has been shown to improve patient outcomes such as quality of care (e.g., Labrague et al. 2022), patient safety (e.g., Lee and Doran 2017; Regan, Laschinger, and Wong 2016), accessibility, and affordability of care services (e.g., Okpala 2018; Hardin, Kilian, and Spykerman 2017; Morley and Cashell 2017; Reeves et al. 2017), the lowering of drug-induced side effects, and a reduction in morbidity and mortality rates (Bosch and Mansell 2015; Share et al. 2011). Additionally, from the healthcare providers' view, the underlying premise driving interest in establishing collaborative systems is pooling diverse partners' resources, skills, and knowledge, resulting in a competitive advantage for all the parties involved (Huxham and Vangen 2013; Pfeffer 1987; Khalili and Price 2021).

But collaborations are evidently difficult to manage since collaborative inertia rather than collaborative benefits often reflects actual practice (Huxham and Vangen 2013; Saz-Carranza 2012). Such difficulties justify the growing interest in exploring its determinants (Karam et al. 2018; Aunger, Millar, and Greenhalgh 2021) with a view to contributing to establishing effective and successful collaboration relations. This thesis aims at addressing the existing gaps (see Table 5.1), by exploring the meanings of collaboration in healthcare as the key basis for establishing an effective collaborative performance (Langan-Fox, Anglim, and Wilson 2004; Mathieu et al. 2000; Bittner and Leimeister 2014; Vangen 2017).

Specifically, we place special emphasis on the meanings found for collaborations in both social media and the strategic discourses constructed by hospitals in their annual reports. According to Personal Constructs Theory (PCT) (Kelly 1995), people make meanings of the world around them through interpretation of information and experiences, and these meanings underlie their attitudes and behaviors. Indeed, human understanding and action are predicated on interpreting information and events by the people who are witnessing or experiencing them (Rabinow and Sullivan 1979). Therefore, the meanings assigned to any set of events or concepts are the basis for understanding attitudes and behaviors of individuals (Kelly

1995). Likewise, the meanings shared on a specific concept are likely to construct a common understanding that influences collective attitudes and actions (Anklam 2007; Mandell, Keast, and Chamberlain 2017; Keast et al. 2004). Hence, a deeper knowledge of the meanings of the collaborative healthcare term should help boost our understanding of efficient collaborative models and practices. In this regard, the main objective of this thesis was to explore what meanings of "collaborative healthcare" are constructed and shared. We have done so considering two different analysis units: firstly, lay people who express their meaning of what they understand by collaborative healthcare using social media platforms; and secondly, hospital managers and directors who construct the strategic discourses of their institutions through the annual reports. Therefore, this thesis has targeted two groups of people to explore the meanings of the collaborative healthcare concept; lay people because they are key agents of and customers of collaborative healthcare systems; and hospital boards of directors since they are the primary agents and in charge of the implementation of collaborative healthcare systems.

Social media was chosen to explore meanings shared by lay people since it is the most common public platform for collective meaning-making (Lomborg 2015) and shaping collective imaginaries (Taylor 2002). They also exert influence on individuals' perception, intentions, and attitudes. The public sphere (i.e. social media) is key in portraying and forming social imaginaries and meanings regarding common or popular understandings of what is worthwhile and right for a concept (O'Neill 2016; Taylor 2002). Hospital annual reports were analysed as a proxy for the strategic discourses of these institutions to aid us in understanding the hospital board of directors' interpretation of collaborative healthcare. Strategic discourses: a) mainly reflect the imagination and understanding of the directors, b) are identified as a source of power in constructing meaning and meaningful practices that may influence attitudes and actions (Hardy and Thomas 2014), and c) also influence how ideas are put into practice and used to regulate the conduct of others (Hall and Gieben 1992, 72).

Figure 5.1 maps a comprehensive framework for this doctoral thesis, which has been organized into a compendium of articles. It reflects different collaborative agents and practices respectively on the left and right sides of the map. In the middle, the factors that this thesis considers are highlighted and their significant role in facilitating and fostering collaborative practices is identified.

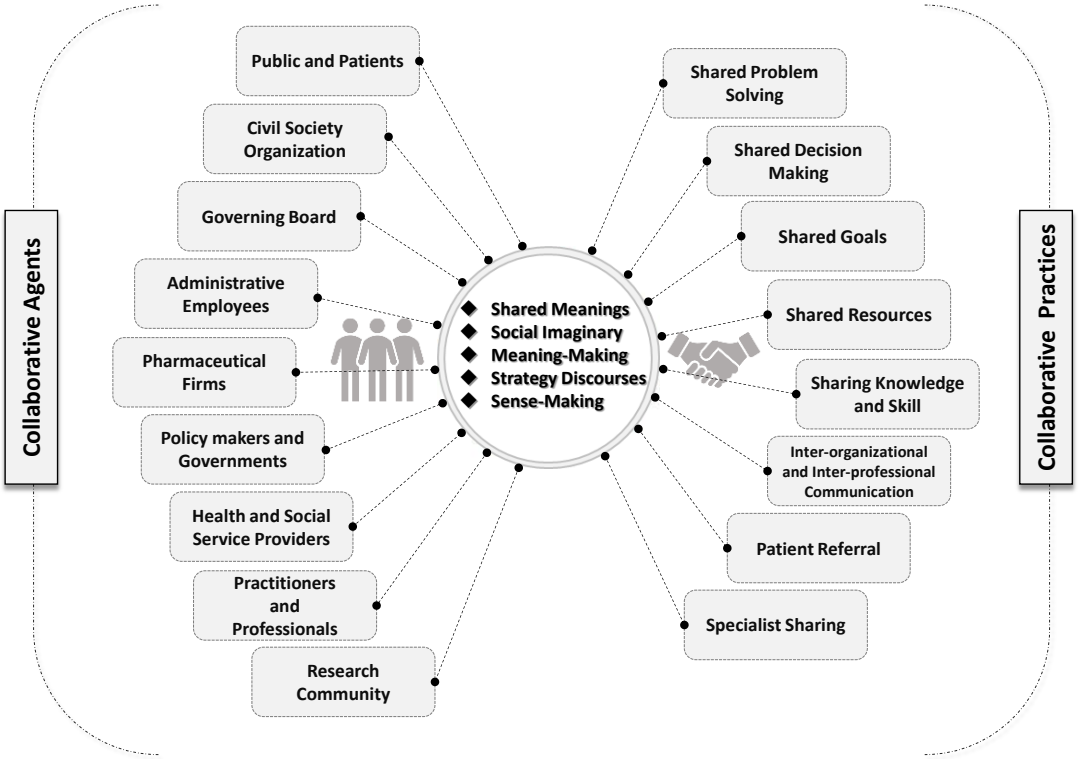

Figure 5.1 General framework of thesis

Table 5.1 illustrates a summary of the chapters of this doctoral thesis and their corresponding gaps and contributions. The findings contribute to, and advance, the literature in the field along three main lines: conceptual, methodological, and practical. These are discussed in the following sections.

Chapter 5. Conclusion

Table 5.1 Summary of research gap, question, and contributions

Research Gap	Research Question	Main Contributions	Chapter
A lack of integrative understanding on which agents and practices are considered in a collaborative healthcare model and how they can contribute to social sustainability.	What collaborative practices and agents in the collaborative healthcare model are considered to contribute to social sustainability?	Proposing a conceptual framework of agents and practices contributing to the social performance of healthcare systems.	Chapter 2
		Identifying social sustainability indicators in healthcare systems.	
A lack of understanding of what meanings of collaborative healthcare are held and portrayed in social media.	What meanings are portrayed under the hashtag #collaborativehealthcare on social media?	Suggesting a definition of collaborative healthcare in the light of meanings portrayed on social media.	Chapter 3
		Identification of the term "collaborative healthcare" as a hallmark to advertise products/ services, as part of the brand image of healthcare organisations.	
A lack of understanding of what meanings of collaborative healthcare are shared in hospital annual reports.	How is collaboration-related strategic discourse used over time by UK NHS hospitals to make sense of collaboration in healthcare?	Revealing that hospital boards of directors use strategic discourse as a potential source to share meanings of collaboration and collaborative practices over time.	Chapter 4
	How do the different institutional profiles of UK NHS hospitals affect their strategic discourse in relation to collaboration?	Viewing that the institutional profile of hospitals and their strategic discourses are in synchrony.	

5.2 Conceptual contributions

The contributions of each chapter have been documented in detail within it. Here, the most significant contributions of the thesis are summarized and highlighted. We find that the contributions of this thesis are three-fold. The first contribution is a conceptual framework of agents and practices in collaborative healthcare. This is developed in the first article shown in Chapter 2. This study reviews collaborative healthcare and sustainability studies and finds and highlights the neglected role of social sustainability in healthcare studies. The primary aim of the healthcare system concerns social performance indicators such as wellbeing, care quality, and satisfaction. While previous studies have mainly focused on the ecological and economic aspects of sustainability (Borgonovi and Compagni 2013); the importance of social sustainability has either been ignored (Capolongo et al. 2016; Hussain et al. 2018) or considered as a factor intertwined with other sustainability factors (Hardoy, Mitlin, and Satterthwaite 1992). This study underlines the importance of social sustainability as a critical independent aspect that needs to be emphasized in developing an effective healthcare system. Moreover, the findings enrich social sustainability literature in the healthcare context by identifying the social sustainability indicators of the healthcare system. With a dearth of theoretical and empirical studies on social sustainability in the healthcare systems and its critical nature, this is an important contribution. In addition to social performance relating to outcomes relevant for the public, such as patient well-being and satisfaction (e.g., Awan, Kraslawski, and Huiskonen 2018; Rohini and Mahadevappa 2010; Hossain, Yahya, and Khan 2019), this study identifies and proposes other social sustainability indicators in healthcare systems; specifically, staff-related indicators, which include the well-being of professionals, their senses of safety, security, satisfaction, and comfort, in line with the suggestions of Capolongo et al. (2016).

Second, the empirical articles enlarge the collaborative healthcare literature by exploring the meanings of collaborative healthcare among different agents and means, social media and hospital annual reports. To comprehend attitudes and behaviors associated with a specific notion, such as collaborative healthcare, it is imperative to discuss underlying meanings. Meaning-making is the process by which people interpret situations, events, objects, or discourses and attach them to their experiences (Zittoun and Brinkmann 2012). Meanings refer to “mental representation of possible relationships among things, events, and relationships. Thus, meaning connects things” (Baumeister 1991, 15). Meanings provide cognitive frameworks which define or rule individual values, norms, attitudes, behaviors, and experiences (Huta 2017; Park 2017; Krauss 2005). Meaning has been explored as a facilitating factor for learning and adaptability during the transition phase of change, particularly organizational change (van den Heuvel et al. 2013). It can predict the forming or changing of behaviors and attitudes. Hence, the exploration of meanings of collaborative healthcare is a fruitful research area since first, the healthcare system is in the

transition phase from traditional to collaborative models. Second, a wide range of agents is involved in the change; their cognitive frameworks might influence the success of this transition, adaptability to collaborative models, and even the effectiveness of collaborative practices. Meaning-making is cited as the key "soft" determinant (Karam et al. 2018; Aunger, Millar, and Greenhalgh 2021; Cristofoli, Meneguzzo, and Riccucci 2017; Willem and Lucidarme 2014) in instilling collaborative actions and attitudes among members. In healthcare studies, the focus has primarily been on bringing agents from different organizational levels together to collaborate through a variety of practices (e.g., Renedo et al. 2015; Lomi et al. 2014; Moncatar et al. 2021). Nevertheless, little is known about the role of meanings in instilling and fostering collaborative healthcare practices. This study broadens previous research by emphasizing meanings as the underpinning foundation in influencing, directing and coordinating attitudes and practices toward greater collaboration (Langan-Fox, Anglim, and Wilson 2004; Bastian, Heymann, and Jacomy 2009). Shared meaning is a key determinant for the performance and efficiency of collaborative groups (Langan-Fox, Anglim, and Wilson 2004; Mathieu et al. 2000; Bittner and Leimeister 2014). Also, shared meaning is a kind of collaborative learning since it develops mutual knowledge, beliefs, and assumptions (Mulder, Swaak, and Kessels 2002; Stahl 2003). Increasingly, collaborative practices are recognized as an educational process (Sebas 1994; Thompson et al. 2009). Therefore, exploring the meanings of collaborative healthcare is a primary step in understanding collaborative practices, and constitutes a relevant conceptual contribution for this thesis. Chapter 3, reflecting the second article, enriches collaborative healthcare literature by highlighting the meanings of collaborative healthcare as portrayed in Instagram. This is a rich contribution since, first, healthcare-related issues are a public concern, and a wide range of people is involved directly and indirectly either as agent or customer; second, social media has become a relevant aspect in the daily life of the public, reflecting self-presentation/image (i.e., interests, attitudes, and experiences) of individuals; third, it exerts influence on collective meanings and imaginaries. Thus, exploring meanings on Instagram can expand our knowledge of what might constitute the visions (Taylor 2002) of collaborative healthcare from a lay person's viewpoint. According to the literature, collaborative healthcare refers to collective actions of multi-agents committed to a shared objective—they collaborate through different practices, particularly sharing knowledge and resources (Wald et al. 2018; Okpala 2018; Lomi et al. 2014), at horizontal and vertical levels (Patel et al. 2000; Luke, Begun, and Pointer 1989; Gagliardi, Dobrow, and Wright 2011; McCullough, Eisen-Cohen, and Lott 2020). In line with earlier research, this study reaffirms that collaborative healthcare is portrayed as knowledge-sharing by Instagram users. Our study also found a new dimension of collaborative healthcare known as self-caring practices. Hence, we propose a new, broadened definition of collaborative healthcare based on this finding, namely: collaborative healthcare refers to the interdisciplinary collaborative practices of different healthcare professionals and organizations committed to shared objectives of improving individuals' health, including

sharing knowledge and self-caring practices and participation in health-related events. This term is additionally viewed as a "hallmark" for advertising the products and services of private healthcare organizations. Bermúdez-Tamayo et al. (2013), in a cross-sectional survey among hospital managers in Spain, had the similar findings. They found that their primary motives for using social media applications were publishing news items and advertisements, reaching a larger audience, and modernizing the hospital's image, rather than promoting healthy behaviour changes. Previous studies have found social media influencers play a significant role in shaping collective imaginaries and consequently creating brand credibility, especially in the context of health-related products or services (e.g., Aguilar and Arbaiza 2021; Ferreira 2017). In line with previous studies, this study found private healthcare organizations have used social media to promote and sell products and services by influencing social imaginary that highlights collaboration in their brand messages.

Third, this study contributes to the body of knowledge on strategic management studies by exploring the projected understanding of collaboration (Mandell, Keast, and Chamberlain 2017) as displayed in the annual reports of UK NHS hospitals. The third article (Chapter 4) found that boards take advantage of strategic discourse as a pivotal resource and power to communicate meanings of collaboration and meaningful collaborative practices. Despite a growing interest in strategy as discourse and the underlying linguistic and interpretive nature of strategizing (e.g., Jalonen, Schildt, and Vaara 2018; Hardy and Thomas 2014; Hardy, Palmer, and Phillips 2000; Mantere and Sillince 2007; Denis, Langley, and Rouleau 2007), the role of discourse in strategy yet “remains theoretically underdeveloped and empirically under-explored” (Balogun et al. 2014). Strategy is something that organizational members “do” rather than something that organizations “have” (Hendry, Kiel, and Nicholson 2010). Discourses, occurring in “the form of talk, text, and conversation” (Hardy and Thomas 2014, 322), refer to collections of interconnected texts and practices that “systematically form the object of which they speak” (Foucault 1972, 49). Hence, discourse deals with “the production of knowledge through language” (Hall and Gieben 1992, 291). However, it deals with not only linguistic elements but is also intertwined with a complex set of practices (Foucault 1972). Meaning and meaningful practices are thereby established within the discourse (Hall and Gieben 1992). An arrangement of language and practices describes “who and what is ‘normal’, standard and acceptable” (Meriläinen et al. 2004, 544), accordingly affecting how ideas are put into practice and utilized to affect others' thinking, talking, and acting in certain ways (Hardy and Thomas 2014). Following the strategic discourse literature, the third article (Chapter 4) is among the first attempts to explore the strategic collaboration discourses of UK hospitals over time. This aim of Chapter 4 is a relevant conceptual contribution of this thesis. The findings showed collaborative practices frequently appear in UK hospitals’ annual reports. This provides evidence that hospital boards construct strategic discourses to convey collaborative healthcare practices as being key and strategic. Nonetheless, future empirical studies are

required to investigate if collaboration emphasis in annual reports is for constructing meaningful collaborative practices to enhance collective behaviors, or is rather a claim that they are aligning themselves with government policies and public image.

Additionally, this study investigates the differences among strategic discourses of NHS hospitals depending on their institutional profile. In accord with institutional isomorphism (DiMaggio and Powell 1983), the findings show that the institutional profile of hospitals influences their strategic discourses about collaboration. In particular, since staff governors sit on their board of directors, the NHS Foundation Trust emphasizes staff as the central agents of collaboration (Monitor 2014), while the NHS Trust and Teaching hospitals develop strategic sensemaking around the patient-centred care. Nevertheless, we identified a disconnect between the institutional profile of the Foundation Trust and its strategic sensemaking; while a Foundation Trust seems to be publicly owned and governed by a combination of patients, the public (NHS 2021), and staff, we found that their strategic discourses mainly stressed staff rather than patients or public.

5.3 Methodological contributions

This thesis contains a methodological contribution which has been highlighted in Chapter 4 (Article 3). We developed a qualitative computer-aided content analysis to identify meanings of collaborative healthcare constructed in the strategic discourses in Article 3. A recent trend is to use machine learning algorithms of topic modelling to analyse large volumes of qualitative data (texts) in social science and management studies, especially discourses (Moro et al. 2019; Hannigan et al. 2019). Not only can these algorithms reduce the textual analysis to a mechanistic process, but also "foreground and inform the analyst's interpretive decisions and theory work" (Hannigan et al. 2019, 4). Additionally, first, topic modelling, as a computer-aided content analysis method, does not need prior knowledge of the topics, which eliminates researchers' bias as the main limitation of human coding content analysis. Second, it can deal with large corpora of thousands to millions of documents while removing the computational constraints imposed by human coding and analysis. Third, it can capture polysemy as well as synonymy, which are both critical in content analysis of texts (Piepenbrink and Gaur 2017; Hannigan et al. 2019). This method is a fully automated classification and unsupervised learning algorithm which allows clustering of documents by semantic similarity based on word frequency and co-occurrence. Topic modelling can enrich discourse and longitudinal studies by providing supplemental information (i.e., topic frequency, topical prevalence) that aids in qualitative content analysis. Although topic modelling is still new in social science and organizational studies, we make a methodological contribution in Article 3 by using it for discourse analysis. This method critically allowed us to identify latent topics and specific discourses from a large volume of topics and to detect their evolution over time. Accordingly, this established a much deeper

awareness of the meanings and assumptions intertwined in strategic discourse, how they transformed over time, and how diverse topics within discourses emerged and evolved.

5.4 Practical contributions

One of the main drivers of research is to identify practical contributions to the transfer and translation of evidence into policy and practice lessons (Oliver and Boaz 2019). This thesis delivers practical guidance, particularly for developers of collaborative systems in healthcare organizations, which are presented in each chapter. The most important of these practical contributions are summarized here.

Two main lessons can be derived from the conceptual framework developed in Chapter 2 for managerial practice. First, healthcare managers need to place collaborative models at the centre of their strategy, value, and structure to meet all aspects of sustainability, particularly social sustainability. This study recommends collaboration and collaborative practices as the most effective paradigm in developing long-term well-being for patients and professionals. To implement this model, communication, sharing knowledge, and joint decision-making were identified as the most common collaborative practices. In particular, quality communication was identified as an underpinning for other practices (Wang et al. 2018) and transparency in communication was deemed pivotal in achieving a successful collaboration (Joosten et al. 2008). Investing in the financial and cultural pre-requisites of such practices is therefore highly recommended. We cite several instances of this—cultural pre-requisites meaning-making can be adopted in different organizational discourses (i.e., strategic discourses) to construct collective meanings/imaginaries which are the invisible ingredients of organizational culture (Schein 1986); in relation to financial support, investment in digitalization and developing platforms to store and share information with co-workers or partners is crucial to facilitate communication and collaboration. Since the healthcare system is multi-stakeholder in terms of agents, all stakeholders need to contribute to collaborative systems. Notably, besides the importance of inter-professional collaboration, policymakers' collaboration seems crucial in developing effective collaborative models since it is they who have the greatest authority and power to enact or control the laws (WHO 2007). It is also strongly advised that, as well as increasing patient-related social performance metrics, investments should be made to improve staff and professional social performance indicators. Professionals who are happy and comfortable in their jobs are better able to offer high-quality care and boost public well-being. In fact, social sustainability indicators for the public derive from social sustainability indicators for staff and professionals.

Second, two key recommendations can be delivered from the first empirical study (Chapter 3) for managerial practice in healthcare. This study found "advertising" as the most significant meaning of

collaborative healthcare shared on social media. This can be justified by the marketing goals of social media. In this regard, the dissemination of inaccurate and misleading information for advertising purposes is a common challenge, especially in the healthcare context (Aagaard 2020). Hence, the first lesson for managerial practice emphasizes avoiding the possible risks of disseminating misleading information for purely commercial purposes. Regulation of collaborative networks of multiple professionals and providers to ensure they communicate reliable information through their social media accounts, as well as the jurisdictions' rules for the marketing of healthcare services (Schenker, Arnold, and London 2014), can minimize the risk of dissemination of purely commercial-oriented information. In the case of public communication on social media, lay people can share their health-related posts under the control of collaborative networks of multiple professionals and providers to avoid the dissemination of misleading information for marketing purposes. Additionally, collective learning should be considered on social media to inform users about these reliable accounts as well as the risk of marketing-oriented health information. The second lesson emerges from social media's collective learning and meaning-making capability (Lomborg 2015). Healthcare providers can apply this power to either alter or construct collective imaginaries and shared understandings of healthcare issues and practices. In particular, this study revealed that self-care is portrayed as a meaning for collaborative healthcare practices; both patients and the public are placed at the centre of collaborative healthcare with the aim of raising general healthcare awareness. Accordingly, social media can be employed to educate the public on self-care practices, thereby contributing to the development of a person/patient-centred healthcare system. This can be in the interest of those who suffer from a chronic condition or those who have limited healthcare accessibilities (van Puffelen et al. 2020; Hunt, Koteyko, and Gunter 2015). It can even reduce healthcare costs for both communities and public since self-care measures can act as preventive treatments (King 1980).

Another lesson for managerial practice emerges from the empirical results of Chapter 4 on the understanding of strategic discourses of hospitals regarding collaborative healthcare. A shared understanding is the key to better understanding collaboration (Gomes, Tzortzopoulos, and Kagioglou 2016; Valkenburg 1998), without it, collaborative practices will not be supported by all members and may cause unnecessary iterative loops (Valkenburg 1998). Therefore, the significant lesson that can be drawn is in advancing strategic discourses in accordance with collaborative practices. The linguistic capability (Grazzini 2013) and interpretive nature of strategic discourses (Denis, Langley, and Rouleau 2007) are key in morphing shared meanings, understanding, attitudes, assumptions, and behaviours (Mantere 2013) which are the intangible levels of organizational culture (Schein 1986; 2010). Organizational leaders and founders are the chief source and drivers of creating new cultural principles by incorporating their assumptions, beliefs, and values into strategies (Flamholtz and Randle 2012). In this regard, new language, concepts, and symbols related to collaboration and collaborative practices should be instilled into organizational culture

by using strategic discourses to meld or develop larger frames or cognitive schemas that shape interpretation (Cornelissen, Mantere, and Vaara 2014) toward more collaborative models. Shared meanings of collaboration might, thereby, be transformed into the unseen basis of new culture (Schein 1986; 2010) supporting collaboration. For instance, this study found that NHS hospitals adopt combinations of collaboration concepts (such as 'integrated care,' 'working together', 'group', 'share', 'network', 'collaborate') and performance related terms (such as 'quality improvement strategy', 'efficiency', 'success', and 'provide high quality') in their strategic discourses. This might contribute to forming a shared understanding of the importance of collaboration as a crucial way to improve performance. In addition to adopting collaboration-oriented language, a clear language in strategic discourses can narrow the discrepancy (Mantere 2013) between what the board imagines and what those who act and implement strategies understand. Since annual reports target a wide audience, an appropriate and well-articulated language game in strategic discourses (Mantere 2013) can influence different audiences' cognitive frameworks toward collective meanings and practices. For instance, it may expand legitimacy, reputation, and social recognition as well as develop a greater sense of mutual trust, respect, and interest amongst partners and staff, which boost effective collective attitudes and behaviours. It would also aid stakeholders as they establish and embed a culture of working together with clear expectations about how individual interact and coordinate (Mandell, Keast, and Chamberlain 2017).

Additionally, this study revealed discrepancies among strategic discourses in respect to NHS hospitals' profiles. Our next practical finding is advice on the need to apply coherent language and images among institutional profiles and other organizational discourses, particularly strategic discourses. The institutional profile reflects a board image of a hospital, and strategic discourse implies the key image of priorities, values, and objectives. They are the main sources of meaning-making among stakeholders; a lack of consistency among them may either shape undesirable meanings or imaginations among stakeholders or reduce their legitimacy and social reputation/recognition.

5.5 Limitations and future research

While the most significant limitations of each chapter have been discussed in detail as they arose, there are a few others that should also be acknowledged. Even though source materials such as books, papers, digital media, and articles for the public could well be useful in exploring the collaborative healthcare paradigm (Chapter 2), only peer-reviewed journal articles were considered in this thesis. A vivid example is formal and informal healthcare organizations' information disclosures (e.g., annual reports and social media platforms) reflecting key information about collaborative practices and performance in various aspects; social, economic, and environmental performance. In the exploratory phase of the research process,

the review of grey literature can be extremely helpful (Savin-Baden and Howell-Major 2013). In this regard, it might be in the interest of future studies to investigate these sources of information to: (1) explore more critical social sustainability indicators in the healthcare context and (2) develop a collaborative framework contributing to social sustainability improvement.

Additionally, our conceptual framework (Chapter 2) was proposed in general without considering any specific classification, in particular the levels of collaboration (inter- or intra- organization collaboration). Despite some parallels between different collaboration levels, there are considerable differences in their collaborative practices and networks. As a result, the networks and practices contributing to the enhancement of social sustainability may differ at various levels. Various social sustainability indicators may be fulfilled even at different levels. Therefore, future studies might address how various levels of collaboration can contribute to social sustainability improvement. They might elaborate on the proposed conceptual framework based on the levels of collaboration: inter-/intra-organizational and inter-professional collaboration.

Some limitations also arise from the empirical studies conducted for this thesis. Regarding Chapter 3, in addition to the above-mentioned limitations, this study was limited to meaning-making through Instagram posts and the comments on, or reactions to, posts were not analysed. Given that the main objective of this research was to examine visual and textual posts, each post may contain useful ancillary information, such as comments, views, and likes. Hence, future studies might analyse this information to arrive at a deeper knowledge on what the public understands from the shared meanings or how people react. Furthermore, this study's main objective was to explore meaning-making regarding the term "collaborative healthcare" on social media. It might, however, be interesting to capture the impact of social media on the perceptions of those who utilize social media platforms. In this regard, future empirical studies might investigate the effects of social media on healthcare perceptions, using healthcare professionals and administrators as moderators.

In the case of Chapter 4, besides the limitations already indicated in the article, we should add that it was developed based on secondary data, in particular annual reports. While annual reports contain organizational strategies, primary data might bring beneficial and complementary information about the strategic sensemaking process. Since this thesis was conducted during the pandemic crisis, any interviews with hospital boards were out of reach. It might be valuable for future studies to collect data through interview or questionnaire from board members who are responsible for preparing or approving strategic discourses in annual reports. Additionally, it would be interesting to see how these strategic discourses are perceived and debated among organizational members. It might be fruitful to contrast the meanings shared in formal corporate disclosures (i.e., strategic discourses, annual reports) with the perceived meanings of

healthcare providers. This would address the key question "Do strategic discourses on collaboration permeate all stakeholders or is this just another corporate image plan to attain social recognition and reputation?"

Another limitation of this chapter is the investigation of how meanings are constructed through strategic discourses. Although the main objective of this study was to explore strategic sensemaking, there are mediating artifacts contributing to shaping meanings, such as individual differences (e.g., skills, diversity, and authority) and environmental factors (e.g., physical proximity, communication, and culture) (Langan-Fox, Anglim, and Wilson 2004; Kleinsmann and Valkenburg 2008; Vangen 2017). As a result, future studies that investigate the effects of these mediating artifacts will be likely to have significant contributions.

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Appendices

UNIVERSITAT ROVIRA I VIRGILI
COLLABORATIVE HEALTHCARE: UNDERSTANDING ITS MEANINGS FROM DIFFERENT AGENTS
Tahereh Maghsoudi

Appendix

sustainability

MDPI

Concept Paper

The Role of Collaborative Healthcare in Improving Social Sustainability: A Conceptual Framework

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Abstract: Healthcare systems around the world face both increasing demands and inequality in service distribution. The current trend is for collaboration among healthcare actors, named as collaborative healthcare, in order to address challenges such as these to improve the social sustainability of the system. That is to provide accessible and equitable healthcare services to meet people's health and well-being needs. Based on an integrative literature review, this study aims at crafting a conceptual framework to explore how collaborative healthcare networks contribute to social sustainability and the specific actors involved in these collaborations. It identifies relationships between different collaborative healthcare networks and social sustainability. Interprofessional networks have been the most studied in relation to social sustainability. Communication and sharing information or knowledge have been identified as used collaborative healthcare practices. This study contributes theoretically by considering a new model of the healthcare organization in which collaborative networks play a central role in improving social sustainability. In terms of practical implications, the study provides managers and policy makers with investment insights on a range of collaborative networks and practices.

Keywords: collaboration; collaborative healthcare; sustainability; social sustainability

1. Introduction

Globally, healthcare systems aim to provide services to promote, restore, and improve the health indicators of the population [1–3]. However, they do so in the context of facing multiple social challenges such as an unfair distribution of resources and increasing healthcare demands [4]. In this regard, social sustainability is seen as a key indicator of quality [5]. The growing body of research on the development of effective healthcare systems has placed greater emphasis on relevant policies and ethical implications and less on social sustainability issues [6]. There is little research on the organizational factors contributing to the development of social sustainability-oriented healthcare systems and it is crucial to explore more appropriate healthcare models embedding such principles.

Healthcare systems are identified by multiple players or stakeholders, including professionals (clinicians and non-clinical professions), managers, patients, providers of healthcare products, scientists, and governments/policy makers. The multi-stakeholder nature of healthcare systems highlights the need for a collaboration model. Shared interests among stakeholders need to be developed in defining different policies, strategies, and objectives. Social sustainability improvement represents an opportunity for aligning such interests. For multi-stakeholder institutions, collaboration implies greater credibility, commitment, accountability, support, and legitimacy of stakeholders. However, the healthcare literature shows that the culture of healthcare organizations suffers from low trust and limited collaboration at both professionals and organizational levels [7]. Collaborative healthcare has been introduced to address such challenges and improve the quality of care [8].

In particular, collaborative healthcare models contributes to sustainability development [9]. Sustainability has been acknowledged as a magnet [10] to pull healthcare stakeholders' interests together and commit them to the common goal of sustainability development. Although sustainability encompasses economic, social, and environmental (or ecological) dimensions [11], named as the triple bottom line, existing research in this highly relevant area has mainly been limited to the economic dimension [11], such as the impact of collaborative healthcare models on the financial performance. Although social sustainability is essential to the healthcare system, research on this dimension is relatively sparse and emerging [12]. Hence, this study aims to broaden this incipient research line by introducing collaborative healthcare as an alternative model for social sustainability improvement. To do so, we developed a conceptual framework based on a literature review of collaborative healthcare and social sustainability. In doing so, we explicitly focus on the social dimension of sustainability.

The paper is organized by first describing how the integrative literature review was conducted to construct the conceptual framework. Second, the conceptual framework is developed by reviewing the concept of collaborative healthcare and then proposing the relationship between different collaborative healthcare networks and social sustainability. We finally discuss the potential of this conceptual framework for developing further research in the area.

2. Integrative Literature Review

Our aim here was to contribute a final conceptual framework that related collaborative networks and social sustainability, thus making it appropriate to conduct an integrative literature review. The main purpose therein was to "revise, criticize, and synthesize the representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated" [13] (p. 357). Integrative literature reviews are mainly articulated for dynamic, mature, and new emerging topics with rapid growth [14], features that appear in the research line of social sustainability in healthcare systems [15].

Unlike the systematic literature review, the integrative literature review does not function on the basis of a prescribed methodology or standardized format for review [13,16]. In our case, we used Scopus and Web of Science databases for conducting the review. We also formulated our review around three key relevant bodies of literature in the context of healthcare, including social sustainability, social performance, and collaboration/participation practices.

In the same vein, we articulated our review around the relevant keywords exiting in the title, abstract, or keywords of publications. The following terms were used in the search: sustainability, social sustainability, social performance, corporate social responsibility (CSR), healthcare, collaborative/participative healthcare, collaborative/participative healthcare, collaborative/participative care, medical collaboration, collaboration, and collaborative/participative practices (e.g., communication). To identify relevant articles in the databases, we matched specific keywords (e.g., the terms collaborative healthcare* and participative health* were matched with sustainability, social sustainab*, social performance, and CSR).

The initial search of the keywords in both titles and abstracts identified 9813 articles. We subsequently narrowed the search to include only the key relevant literature bodies for the present study, which are social sustainability, social performance, collaborative/participative healthcare practices. Adopting these restrictions produced a database of 546 articles.

We only included what we considered relevant articles based on the following criteria:

- They should address one or more collaborative practices, such as communication and knowledge sharing.
- They should consider researches conducted in healthcare, business, and management.
- They should be written in English language

Based on the above procedures, the final dataset was composed of 45 articles.

two stakeholders in defining the healthcare network. For instance, some research has focused on the role of patients in this network [17,28]. Another major stream of research refers to the collaboration between nurses and physicians [32,33]. Similarly, Buchanan [34] defined collaboration in this context as an interdependent association among different healthcare providers, including nurses, physicians, and other allied healthcare workers, who have a shared goal of providing quality patient care while having differing authorities and responsibilities. This view consequently excludes other actors such as scientists or policy makers.

These studies represent only a partial view of what collaborations and networks might be included in the healthcare sector. The collaboration among different actors results in the emergence of a wide range of possible healthcare networks, such as inter-professionals, professionals-patients, leadership, and research networks. Further clarification needs to be made in terms of what actors collaborate when referring to collaborative healthcare models. The consideration of a wider range of relevant actors, which might involve managers, clinical and non-clinical professionals, scientists, suppliers of healthcare products, political actors and patients will allow consideration of more and varied impacts of collaborative healthcare networks on social sustainability.

3.2. Social Sustainability

The ever-changing lifestyles and conditions have long constituted the importance of not only natural but also social sustainability because health and safety status of people are affected by both environmental and social factors and a community must prioritize the health and safety of its population to sustain itself [35]. Having the focus of majority of previous research on the role of unhealthy environmental factors in sustaining communities, human health also depends on social matters [35].

Due to the notion that it constitutes the forerunner for environmental sustainability, the concept of social sustainability has been under-theorized [36] in sustainability literature [37]. Recently, however, there have been a few attempts to introduce social sustainability as an independent component [36]. Three main approaches can be identified in social sustainability; (1) social sustainability as equal to environmental sustainability; (2) social sustainability as an environmental-oriented factor referring to a necessary precondition for meeting environmental sustainability; (3) social sustainability as a people-oriented dimension which emphasizes the wellbeing of individuals and the fair distribution of resources [38]. Given the characteristics of the healthcare context, in which the concept of social sustainability is explored, the third, people-oriented approach is judged as the most appropriate. In particular, because this context implies both the improvement of the wellbeing of patients and employees and the need for justice in the distribution of resources, so the people-oriented dimension of social sustainability becomes key in this context.

In the sustainability literature, the terms social performance and social sustainability are sometimes applied interchangeably [39]. Given that there is not a singular definition for social sustainability in the literature [40], the concept can refer to key themes that embody social issues relevant to sustainability, such as access to basic needs [41], social justice [42], and equity [43]. In this regard, a system is sustainable when a wide range of human needs are addressed in a way that secures its nature and its regenerative abilities over time, considering committing to social justice, human dignity, and engagement [44]. Social sustainability emphasizes the human side of sustainability involving human rights, and health and safety [15,45]. Social sustainability relates to "something human beings value, strive for or hope to attain" [46] (p. 75).

Therefore, to address social sustainability in the healthcare context, a healthcare system must provide sufficient resources and activities to meet individual and public health needs [47]. Social sustainability in the healthcare context has been defined as a "process of creating an accessible, integrated and equitable community that successfully meets the needs of health and well-being of users" [48] (p. 16). Similarly, Awan et al. [39] indicated that social sustainability implies both the fair distribution of health and safety resources and providing equal opportunities to access these resources.

3. Theoretical Background

This section examines the literature related to collaborative healthcare and its practices, and the relationship between collaborative healthcare and social sustainability improvement. Also, a conceptual framework is explored to show how collaborative healthcare can contribute to social sustainability improvement.

3.1. Collaborative Healthcare

Change and revision of policies and approaches in healthcare systems to redesign traditional practices have been emphasized in order to improve the quality and effectiveness of healthcare [8,17,18]. For instance, enhancing knowledge exchange within a healthcare system [18], and ensuring its social sustainability [19] have been highlighted as cornerstones of new healthcare system models. Concepts such as teamwork, collaborative networks, and partnership have emerged [20].

Collaboration in healthcare refers to a coordinated team activity, in which members with various knowledge, skills, and capabilities work together to conduct a series of tasks for meeting the shared targets [21]. Wood and Gray [22](p. 146) indicated that collaboration "occurs when a group of autonomous stakeholders of a problem domain engages in an interactive process, using shared rules, norms and structures, to act or decide on issues related to that domain". The Institute of Medicine (IOM) offers a more comprehensive definition, when it mentions that collaborative healthcare is "designed to generate and apply the best evidence for the collaborative healthcare choices of each patient and provider; to drive the process of discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in healthcare" [23](p. 436).

More readily than traditional models of healthcare, collaborative healthcare can address the growing expectations of healthcare users [24] and current healthcare challenges, such as an increase in chronic diseases and population ageing, both of which require of greater collaboration among healthcare actors to be properly addressed [25].

The quality collaboration that brings together healthcare stakeholders to achieve common and improved objectives [26] is key for healthcare improvement. Collaboration may result in optimizing the development of resources, enhancing communication, coordination, and consequently a better healthcare performance [27]. Collaboration within different healthcare networks, such as professionals-patients, inter-professionals, leadership, and healthcare research, has been introduced as an innovative model to improve healthcare performance, considering different aspects such as social sustainability improvement [19] and comprehensive quality care [8,17,28].

Notwithstanding the common agreement on the positive effects of collaborative models in healthcare, there is less agreement on what exactly collaborative practices consist of [29]. Communication among team members [21], sharing information [30], sharing experience, power and responsibility, involvement in decision-making process, and sharing resources [31] have all been highlighted. Wald et al. [30] proposed the Mayo Clinic model as an innovative and scalable model that shows the importance of collaboration in the development of quality of care. In their model, clinical collaboration emerges in the form of sharing information via technology and involves eConsults, the AskMayoExpert (AME), eBoard conferences, and healthcare consulting. On the other hand, Bourgeault and Mulvale [31] indicated that collaborative healthcare involves interdependent teams sharing power and responsibility. These different views on what collaboration is and, in particular, on what is shared through collaboration, whether it be merely information or also includes decision-making, responsibility, or power to accomplish these responsibilities, show the need for common ground or understanding in order to make the results of different models comparable.

Another relevant issue relates to who collaborates. Previous studies have identified different stakeholders involved in the healthcare system such as professionals (including clinicians such as nurses, medical doctors, physiotherapists, psychologists), and non-clinical professionals (such as accountants and administrative staff among others), managers, and patients, suppliers of healthcare products, healthcare scientists, and policy makers. The available studies have focused only on one or

These objectives of social sustainability in healthcare systems may secure the survival of a healthcare system as they address the expectations of stakeholders.

Social sustainability can result in a chain of interconnected positive outcomes. For instance, it may enhance individuals' satisfaction [49] and satisfied individuals would feel more commitment and be more willing to share their knowledge in an organization [50], which in turn can develop sustainable performance [51]. In a similar way, social sustainability may shape the perceived organizational support (POS) among individuals in healthcare system as its key concern, like POS [52], is valuing individuals through fair distribution of care facilities and promotion of well-being [39,48]. When employees perceive organization care about them, their organizational identification might increase and this can develop their collaboration, task performance, and extra-role helping behavior, namely organizational citizenship behaviors (OCB) [53]. Quality of performance and OCB are the key in healthcare systems that are people-oriented and play a significant role in providing and securing health and safety of communities.

Given the sparsity of theoretical and empirical studies concerning social sustainability in the healthcare context [15], existing studies have introduced different indicators to evaluate it (Table 1). For instance, Capolongo et al. [48] identified safe and security, wellbeing, health promotion, accessibility, and fair distribution, and quality of relationships as the main indicators of social sustainability in healthcare.

Table 1. Social sustainability indicators in healthcare context.

Indicators	Relevant Studies
Professionals' wellbeing, safety, security, satisfaction	Capolongo et al. [48], Chiu [38]
Professionals' comfort (daylighting, social thermal comfort, acoustic, and indoor air quality)	Capolongo et al. [48]
Patients' accessibility to healthcare and fair distribution	Awan et al. [39], Capolongo et al. [48], Chiu [38], Capolongo et al. [54]
Patients' satisfaction	Faezipour and Ferreira [55]

Accordingly, Malby et al. [8] claimed that a high-performance collaborative healthcare system needs to involve the concept of social sustainability in its practices and approaches. Hence, social sustainability is also a shared concern of healthcare actors, which promotes collaboration among them [9,10,30,56–59]. It has been considered as a collaboration magnet among different actors, enhancing their collaborative spirit and behaviors [10]. Similarly, Khayatzadeh-Mahani et al. [9] pointed out that multi-actors collaboration is a crucial contributor to equity and quality of health at the social level, and this, in turn, shows that social sustainability plays the role of a magnet for collaboration among the different actors of the health system. Similarly, Wald et al. [30] proposed a collaborative healthcare model, namely the Mayo Clinic model. Their model proved that working collaboratively with a network of physicians can result in social sustainability development. From a different approach, Browning et al. [57] indicated that the collaborative leadership style can contribute to sustainability development. This leadership style implies a collective activity rather than an individual activity, where all members of a network share the leadership responsibility to fulfil the mission. They introduced it as a powerful means of attaining social sustainability since it contributes to reducing resistance and exploring new directions, opportunities, and alternatives which finally exert a positive impact on the healthcare system, in terms of quality. Along the same lines, Okpala [58] investigated collaborative leadership as a means of enhancing the quality of care. He found that the patient-centered and inter-organizational collaboration strategies promoted by collaborative leadership are cost-effective without having a negative effect on the quality of care. His results substantiated the thesis that collaborative leadership in healthcare can improve social sustainability, finding that health services become more affordable and consequently more accessible to patients.

3.3. Collaborative Healthcare and Social Sustainability

Collaboration contributes to expanding more sustainable behaviors or approaches, long-term survival, and providing adequate skills and resources for improving social sustainability performance [60]. Social sustainability and collaborative healthcare are concepts that interact [9]. To some extent, they follow common grounds in terms of improving the health level of individuals, accessibility of healthcare services, and share the same objective which is continuing or improving health benefits or outcomes for healthcare system users [5,6,61,62]. For instance, the Institute of Medicine (IOM) [23] indicated that ensuring the quality, safety and value in healthcare are the aims of collaborative healthcare, and these objectives are in line with social sustainability objectives, in terms of wellbeing. Indeed, the concept of collaboration seems key in developing the "accessible, integrated, and equitable community" where people benefit from both current and future emotional-physical inclusion [54]. This also confirms addressing social sustainability objectives through collaboration aims. Similarly, Capolongo et al. [48] indicated collaboration is one of the means to obtain social sustainability objectives.

Collaboration within the healthcare network may address all social sustainability indicators through its practices; it involves communication [21], sharing resources and information [63], shared responsibility, cooperation, and trust [64]. These characteristics of collaboration improve health and safety indicators, and the availability of different types of resources. Quality communication, as a form of collaboration, can facilitate the process of sharing information, knowledge, experience, and resources among stakeholders and then this can improve the quality of care and the accessibility of care services for patients. For instance, Vuong et al. [35] showed that quality communication provides patients with more medical information, both in quality and quantity, and this results in enhanced user wellbeing. Furthermore, if user needs were explored, the healthcare system would be better able to fulfill them. Collaboration among stakeholders is fundamental in ensuring that their disparate needs are identified and addressed [48]. In a similar way, hospitals can communicate to share their resources and facilitate the referral process of patients to avoid negative consequences caused by delay treatment such as double transfer, and extra burden [65]. Consequently, collaboration is an essential characteristic of the improvement of social performance (social sustainability) of the healthcare system.

Patient satisfaction is identified as the key indicator for social sustainability, as it involves the well-being of the patient, quality of services, efficiency of staff, and the availability of resources [55]. However, previous research seems to have been more focused on exploring legislative issues or legal and political rights when addressing social sustainability [66]. As Hussain et al. [15] has already identified, there is a need to explore what makes a healthcare system more socially sustainable, particularly from the patients' perspective as they are the main customers of the healthcare system. Involvement of patients in collaborative models will result in higher service quality and greater satisfaction of both patients and professionals [17,28]. Along similar lines, Greenfield et al. [67] found that collaboration among patients and professionals through communication, shared information, and joint decision making enhances wellbeing, satisfaction, and knowledge, particularly in the case of chronic care [68]. They indicated that professionals and patients may collaborate in all steps of the decision-making process, from sharing treatment preferences to reaching agreement on a common treatment. Such involvement of patients in healthcare can increase their engagement with the treatment process and, as a result, their satisfaction. In addition, sharing information between patients and professionals can add value, for not only for the patients, but also for the professionals [69]. Professionals are provided with complementary information allowing them to identify more effective treatments and expand their knowledge and experience. Therefore, the following proposition emerges:

Proposition 1. *Collaborative healthcare model, through the collaborative network between patients and professionals, can contribute to social sustainability improvement in healthcare.*

Collaboration among other stakeholders contributes to the development of social sustainability. For example, inter-professional collaboration enhances social sustainability. This type of collaboration adds value not only for professionals, but also for patients as a quality collaboration among professionals improves the quality of caring services and consequently the satisfaction of both patients and professionals [70,71]. Inter-professional collaboration allows these professionals to "work cooperatively, share responsibility for problem solving, address conflict management, perform joint decision-making and use open communication" [72] (p. 1) as well as share their knowledge and experience [30]. In the same vein, inter-professional collaboration results in more efficient access to specialist services and sources of new knowledge and experience [73], which, in turn, expand the experience, knowledge, and specialties of professionals and contribute to their satisfaction. So, collaborative practices may improve the social performance of healthcare; firstly for patients [71] who may receive services that have been improved by professional collaborations. Secondly, for professionals as healthcare employees, who will feel more engagement and satisfaction from their consequent professional growth. In this regard, we advance the following proposition:

Proposition 2. *Collaborative healthcare model, through the collaborative network among professionals, can contribute to social sustainability improvement in healthcare.*

Similarly, collaboration among scientists working jointly to see the issues from different angles may contribute to social sustainability improvement in healthcare. They may share their knowledge and then different scientific techniques, and views can be combined to address the issues more effectively [74]. Previous studies find that collaboration in clinically-oriented research has contributed to resolving health-related challenges and finding diagnostic criteria, improved treatment, care and preventive alternatives, and enhancement of standards and policies in healthcare [74,75]. For instance, Gu et al. [75] emphasized the need for collaboration among researchers to explore the prevalence of diagnosed and undiagnosed diabetes. Their findings contribute to health enhancement as the presence of diabetes increases the risk of other chronic diseases, such as vascular complications, and consequently, results in a considerable economic burden. In addition, collaboration among researchers may result in not only the improvement of current treatment methods or drugs but also the development of new ones which, in turn, improves not only the quality of services but also the accessibility and availability of healthcare resources. Thus, collaboration among scientists results in improvements in the social sustainability of healthcare, namely wellbeing, availability of resources, and satisfaction. In this regard, we propose:

Proposition 3. *Collaborative healthcare model, through the collaborative network among scientists, can contribute to social sustainability improvement in healthcare.*

Together with multidisciplinary collaboration (namely inter-professional collaboration and collaboration among scientists), transdisciplinary collaboration seems to be key for the development of social sustainability. The involvement of authorities, including policy-makers, managers, and professionals [76], in collaborative healthcare models results in the delivery of higher quality care services [77] as they can verify the possibility and applicability of the views proposed by professionals or scientists to the real world. In the same vein, Dabelko [78] (p. 1) indicated that "if the field is to have the kind of effects on the real world that it has always sought, it must move toward a more serious engagement with policy-makers." In addition, since they have the main responsibility and authority for this objective, policy makers and managers can set rules to ensure and even facilitate the implementation of the proposed views [79].

Furthermore, policy makers and managers can collaborate to establish a supportive environment contributing to the productivity and effectiveness of healthcare professionals. Al-Dweik et al. [80] pointed out that collaboration among policy makers and managers is key in the development of an empowering environment that contributes to enhancing a nurse´s productivity. Similarly, policy

makers and managers can work to facilitate the implementation of collaborative practices among other stakeholders. For instance, managers and policy makers can facilitate communication between professionals through the application of structural tools for communication [81]. A network of authorities, including policy makers, managers, and professionals [76] can contribute to social sustainability development, thus suggesting the next proposition:

Proposition 4. *Collaborative healthcare model, through the collaborative network among managers, policy makers, and healthcare professionals, can contribute to social sustainability improvement in healthcare.*

Inter-organizational collaboration also constitutes a type of collaboration that contributes to developing social sustainability in healthcare. It contributes to the availability of medical resources through sharing resources [82] and knowledge between professionals [58]. This type of collaboration contributes to social sustainability improvement by enhancing the availability of resources and maintaining the quality of care [58]. Inter-hospital collaboration, which may include patient sharing, provides patients with higher quality care [82]. Patients benefit from this opportunity to transfer from lower to higher quality hospitals with better resources. In this regard, inter-organizational collaboration is highly recommended to increase social sustainability in health systems as suggested in the next proposition:

Proposition 5. *Collaborative healthcare model, through the collaborative network among healthcare organizations, can contribute to social sustainability improvement in healthcare.*

A multi-disciplinary collaborative network of healthcare scientists, suppliers of healthcare products, and healthcare professionals may result in increased satisfaction for both professionals and patients. The stakeholders can collaborate to see the health-related issues from different views in order to explore/uncover more efficient alternatives in the form of technology or theory. This, in turn, enhances the quality of treatment methods as well as the availability of healthcare services, reduces harmful practices, and consequently results in social sustainability improvements. The specialties of professionals may also expand because of their sharing different views, which results in increased job satisfaction. For example, it has been found that the involvement of suppliers of products and services in a collaborative model can result in higher social sustainability performance as they share knowledge, and work jointly to create value and improve social performance [83–85]. Therefore, the next proposition can be advanced:

Proposition 6. *Collaborative healthcare model, though the collaborative network among healthcare professionals, scientists and suppliers of healthcare products, can contribute to social sustainability improvement in healthcare.*

Table 2 shows the summary of the collaborative networks and the collaborative practices which might be used in each network to develop social sustainability. In addition, it refers to some relevant studies whose results directly support, or which can be regarded as supporting evidence for, our propositions. Figure 1 also illustrates the propositions of study in a conceptual framework.

Table 2. Collaborative networks and practices contributing to social sustainability in healthcare context.

Collaborative Networks	Collaborative Practices	Relevant Studies
Patients-professionals	communication, sharing information, shared decision making	Ahgren and Axelsson [28], Doyle et al. [17], Greenfield et al. [67], Joosten et al. [69]
Inter-professionals	shared responsibility, joint decision making, communication, shared knowledge and experience, cooperative work, conflict management and shared problem solving	Bartunek [70], Fisher et al. [71], Nair et al. [56], Wald et al. [30], Berendsen et al. [73]
Scientists- scientists	Sharing knowledge and view	Raza [74], Gu et al. [75]
Managers-policy makers-professionals	sharing knowledge, view, power and responsibility, and joint decision making	Boswell et al. [77] Dabelko [62] Al-Dweik et al. [80], Wang et al. [81]
Inter-organizational	sharing resources and sharing knowledge	Lomi et al. [82], Okpala [58]
Professionals-scientists-supplier of healthcare products	sharing knowledge, communication, cooperative work	Awan [84], Awan et al. [85], Sancha et al. [83]

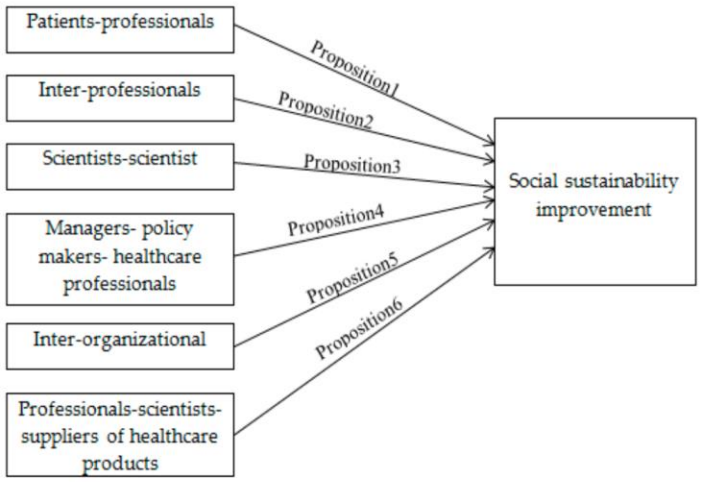

Figure 1. Conceptual framework of the study.

4. Discussion and Conclusions

This study has aimed at improving our understanding of the relationships between collaborative healthcare and social sustainability improvement. To do so, it has identified what collaborative networks exist in the healthcare context. On the other, however, it has explored what these networks share. In other words, it has explored what collaborative practices these networks can contribute to improving social sustainability (Table 2). Accordingly, we have developed six propositions relating to the collaborative networks that exist in the healthcare context and their potential contribution to social sustainability, as a starting point or a roadmap for developing further empirical research. This constitutes the major theoretical contribution of this conceptual paper. Future empirical research should test the validity of these propositions.

Although previous research has emphasized the importance of economic and environmental sustainability in the healthcare context, social sustainability has been less analyzed [15,39,48]. This scant attention to social sustainability may be due to considering social sustainability as the forerunner for other sustainability dimensions, namely environmental sustainability, and ignoring its independent

characteristics [37]. Despite the interrelationships among the three dimensions of sustainability in healthcare systems, since the system is people-based and people-oriented, social sustainability needs in consequence to be regarded independently. In this regard, this study has contributed to the scarce literature on the relationship between collaborative networks and social sustainability in healthcare by setting the basis for conducting further empirical research based on the proposed conceptual framework.

Drawing on previous studies in the healthcare context, we have identified six collaborative networks (Figure 1) that can contribute to developing a social sustainable-oriented healthcare system. Of these, the collaborative network among healthcare professionals, especially among clinicians, is the one which holds more evidence in the literature to contribute to social sustainability improvement [86]. To support this, Reeves et al. [86] indicated that the importance of inter-professional collaboration stems from the complexity and multidimensional nature of patients´ health and care requirements. Therefore, inter-professional collaboration may play a key role in the provision of a social sustainable healthcare system, with an increased patients and professionals' long-term wellbeing. However, to the best of our knowledge, the majority of previous studies have been limited to the collaboration between physicians and nurses [33,87] while potential collaborations among other clinical professionals seem largely to be ignored. For instance, collaboration between cosmetic surgeons and psychologists can be explored for developing social sustainability through enhancement of the health, safety, and wellbeing of patients. Narcissistic and histrionic personality disorders and body dysmorphic disorder are the main motivation among patients seeking cosmetic surgery [88]. Such patient groups are more likely to repeat cosmetic surgery or become addicted to other cosmetic surgeries [89], and this can have a negative impact on their health [90]. Therefore, these possible collaborations among clinicians need to be explored in relation to patients' long-term wellbeing as a key indicator of social sustainability. Similarly, in our framework, collaboration networks between scientists, between scientists and policy makers, and even between scientists and patients are suggested to enhance social sustainability. For instance, scientists can collaborate together, they can communicate and share their knowledge to study the health-related challenges from different scientific views, and then combine them to propose potentially more effective alternatives to increase patients' wellbeing [74]. Moreover, a collaboration network including healthcare professionals and scientists can improve patients' wellbeing and satisfaction, through discovering more effective treatment methods or improving the accessibility of people to healthcare knowledge through offering a new model of healthcare system such as e-health. Furthermore, together with this multidisciplinary collaboration, collaboration between scientists and policy makers and managers (transdisciplinary) seems to be crucial in verifying the real world feasibility and applicability of any views proposed by scientists [78]. We therefore suggest further research to explore the potential role of other stakeholders in social sustainability development.

Since they appear in all collaborative networks (Table 2), communication and the sharing of information are suggested as the basic and primary collaborative practices. Communication constitutes the main precursor for other collaborative practices of sharing resources, information, and understanding [21].

In conclusion, with the proposed conceptual framework, this study has offered a roadmap for conducting future empirical research to test the propositions.

Furthermore, this study offers some practical considerations. First, hospital managers should appreciate and promote the crucial role of collaboration in developing patients' and professionals' long-term wellbeing. Despite differences on the meaning of collaboration and how might one collaborate, our conceptual study suggests that collaborative healthcare systems, as compared to traditional healthcare, are better at developing social sustainability. Communication, sharing information, and joint decision making, are the main collaborative practices identified. Quality communication develops transparency in relationships and is a key to successful collaboration; it is also a necessity for other collaborative practices such as shared decision making [69]. A collaborative network aims at seeing issues from different perspectives and finding the most efficient alternatives to tackle issues, so sharing

information is a basis for benefiting from collaborative networks. Therefore, development of the effectiveness of such practices through investment in their pre-requisites, such as trust and openness, is recommended.

Second, the collaboration among health professionals is crucial to the performance of the healthcare system [91] and especially for social sustainability objectives. Therefore, developing collaborative networks between them is recommended. Since the healthcare system is a multi-stakeholder system, we recommend the involvement of all stakeholders in collaborative networks to increase its social sustainability. The involvement of policy makers is also a notable instance. Since they have the authority and power to set or control the laws [76], they can work with other stakeholders, e.g., managers and professionals, to identify and set the alternatives to facilitate accessibility of rare healthcare services for anyone regardless of their geographical location or economic group.

This study is not without limitations. This study was conducted on the basis of an integrative literature review, which is not based on prescribed methodology or standardized format [13,16]. In this vein, due to the importance of this research line and its fast growth, further systematic literature reviews could complement and provide additional insights on the topic. This study is also a conceptual study which makes six propositions emerging from the literature review on which it is based. However, further empirical research should test the validity of these propositions, thus helping to determine the applicability of collaborative healthcare in improving social sustainability in the healthcare context. Furthermore, the propositions should be operationalized with appropriate indicators in further research.

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