The excellence of patient-centered healthcare

Investigating the links between empowerment, co-creation and satisfaction

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Abstract

Purpose – Nowadays, international healthcare agendas are focused on patient centeredness. Policies are aimed at improving patient’s satisfaction by enhancing patient empowerment and value co-creation. However, a comprehensive model addressing the relationships between these constructs has not so far been developed. The purpose of this paper is to develop and test a model which explains the effects of patient empowerment and value co-creation on patients’ satisfaction with the quality of the services they experience.

Design/methodology/approach – The links between patient satisfaction, empowerment and value co-creation are theoretically outlined via an in-depth literature review. The resulting model is tested through a survey administered to 186 chronically ill patients. The results are analyzed through covariance-based structural equation modeling.

Findings – The results show that patient empowerment positively influences value co-creation which, in turn, is positively related to patient satisfaction. In addition, the analysis reveals that patient empowerment has no direct effects on satisfaction.

Research limitations/implications – Although the cross-sectional design made it possible to clearly estimate the relationships among variables, it overlooked the longitudinal dimensions of co-creation processes.

Practical implications – The study provides practitioners with suggestions to design patient-centered healthcare services by leveraging on patient knowledge, participation, responsibility in care and involvement in the value-creation process.

Originality/value – Over the last decade, healthcare management literature has shifted its focus from healthcare organizations to patients. The number of contributions about patient satisfaction, empowerment and value co-creation exponentially increased. However, these dimensions are often studied separately. This work advances available knowledge by clarifying and testing the relationships between these three constructs.

Keywords Service quality, Value co-creation, Patient satisfaction, Healthcare quality, Patient empowerment

Paper type Research paper

1. Introduction

Patient centeredness has become a priority for healthcare organizations that are adopting specific policies to achieve this aim. Behind these policies there are social motivations such as improving the health and well-being of citizens as well as economic goals such as cost reduction, a more efficient use of resources and better performances of healthcare organizations.

This change of perspective in healthcare management reflects the development of new logics in marketing and management disciplines, based on the transformation of the customer role from a destructor (or “consumer”) of the value created by the enterprise to a co-creator of value which derives from the exchange of knowledge, skills and resources with the providers. These perspectives were introduced by the service-dominant (S-D) logic (Vargo and Lusch, 2004, 2006) which defines value co-creation as the joint, collaborative,
concurrent, peer-like process of producing new value, both materially and symbolically. Another theory that contributed to the spread of the value co-creation concept in healthcare management is service science (Maglio and Spohrer, 2008) which claims that it is possible to create smarter healthcare services through technology platforms and the latest ICT solutions that are able to facilitate value-creation processes by improving the interaction and information sharing between the actors.

Patient participation, responsibility and education – usually identified with the concept of “patient empowerment” – are issues that are gaining more and more importance in the healthcare sector. The World Health Organization set the achievement of patient empowerment as their primary goal in the “2020 health program,” recognizing it as a key element in improving health outcomes, increasing user satisfaction, improving communication between healthcare professionals and patients, improving compliance with therapeutic plans and optimizing the use of resources and the cost of healthcare.

Recognizing the patient as a co-creator of the “health value” and considering his/her empowerment as an important element for improving results means that the patient plays an active role in enhancing healthcare quality, which is generally measured in terms of patient satisfaction. Therefore, none of these aspects should be ignored in the strategies of healthcare organizations and policy makers. However, up to now, the links between patient empowerment, value co-creation and patient satisfaction have not been comprehensively examined.

The purpose of this paper is to investigate the relationship between these variables, thus supporting the identification of effective pathways to reach the excellence in patient-centered healthcare services provision.

The remainder of this paper is articulated as follows; after a literature review about value co-creation in healthcare, patient empowerment and patient satisfaction, a model explaining the relationships among these dimensions is developed and empirically tested. Based on the results of the analysis, conclusions and practical implications are presented.

2. Conceptual background
2.1 Value co-creation in healthcare
Contributions about value co-creation in healthcare have been developed since 2006 and they are mainly based on the theoretical frameworks of S-D logic and service science. According to Zanetti and Taylor (2016), value co-creation represents an opportunity to improve the service for patients while reducing costs. However, Nordgren (2009) points out that healthcare service productivity should not be assessed only in terms of costs and efficiency but should also consider the value for the patient such as health, quality of life, accessibility, trust, communication and avoidable suffering. The patient thus becomes an active part of value creation and it is suggested to replace the term “patient,” more suited to a passivity condition, with the term “client” which is more suited to an active participation image (Nordgren, 2008). Nowadays, patients have developed a new knowledge and social consciousness, gaining awareness and actively and personally participating in the information action (McColl-Kennedy et al., 2009, 2012). Many authors emphasize the importance of platforms and online communities that represent an important source of information for patients and a new form of interaction that makes the service available in a continuous manner, enabling forms of value co-creation that would not be available in a traditional healthcare system based on sporadic meetings between operators and patients (Loane and Webster, 2014; Rantala and Karjaluoto, 2016; Van Oerle et al., 2016; Buranarach et al., 2011). Hence, patients play an important role as they own relevant resources such as information to create value (Zainuddin et al., 2013), but many authors also point out the strategic role of providers who have the responsibility to effectively educate and manage patients, gather and analyze the necessary information they have, capture and interpret their judgments, feedback and complaints (Gill et al., 2011; Elg et al., 2012; Olsson, 2016). Other works even extend co-creation processes beyond
patient-provider interactions to include the process of co-creation within the whole supply chain of healthcare organizations (Chakraborty and Dobrzykowski, 2013, 2014).

Contributions based on service science, instead, analyze the fundamental role of the new technologies that, by facilitating the value co-creation process, can create a smarter, more connected healthcare system able to provide better assistance with fewer errors, anticipate and prevent illness and allow people to make better and more responsible choices (Maglio and Spohrer, 2008; Carrubbo et al., 2015; Gkoulalas-Divanis et al., 2014).

2.2 Patient empowerment as a multidimensional construct

The extant literature provides several definitions of patient empowerment which can be summarized as follows: patient empowerment is a communicative process developed between healthcare professionals and patients (Aujoulat et al., 2007; Small et al., 2013) through a model of partnership (Rodwell, 1996; Boudioni et al., 2012), collaboration (Shearer et al., 2007; Wentzer and Bygholm, 2013) and patient-centered care (Jeroek, 2013) based on a relationship that should be egalitarian and equitable (McWilliam, 2009). This relational process should be guided by the exchange of information and consists of sharing knowledge and skills (Fotoukian et al., 2014; Aujoulat et al., 2007) and action strategies (Bulsara et al., 2006) including motivational elements (Bann et al., 2010; Fumagalli et al., 2015).

For some authors, the result of the empowerment process is the occurrence of transformations in patient conditions (Aujoulat et al., 2007; Shearer et al., 2007); for others, the ultimate goal is achieving self-management (Bann et al., 2010; Shearer et al., 2007), self-efficacy (McAllister et al., 2012; Small et al., 2013), self-care (Fotoukian et al., 2014), control over the health status (Anderson and Funnell, 2010; Aslani, 2013; McWilliam, 2009), participation at the decision-making process (Anderson and Funnell, 2010; Rodwell, 1996; Wentzer and Bygholm, 2013) and a power position in the relationship with the operators (Fumagalli et al., 2015).

All authors describe empowerment as a multidimensional construct and each one identifies different dimensions that can be grouped into the four dimensions of patient empowerment recognized by the European Community within the SUSTAINS project (Ünver and Atzori, 2013):

1. health literacy: it can be defined as a person’s capacity to obtain, process and understand basic health information and to use such information in ways that enhance health (Ouschan et al., 2000; Aujoulat et al., 2008; Small et al., 2013);

2. shared decision making: it is a collaborative process that allows patients and their providers to make healthcare decisions together (Small et al., 2013; Fotoukian et al., 2014; Salmon and Hall, 2004);

3. patients’ control over their treatment: it indicates a patient’s ability to control and manage his/her health conditions (Oh and Lee, 2012; Salmon and Hall, 2004; Aghili et al., 2013); and

4. communication with healthcare professionals: it is the reciprocal, interactive communication process involving patient and professionals (Aujoulat et al., 2007; Small et al., 2013; Fotoukian et al., 2014).

2.3 Patient satisfaction as a quality indicator

Patient satisfaction is a function of the magnitude and direction of the difference between perceived service and expected service (Grönroos, 1984). If the disconfirmation is positive (i.e. the perceived service is greater than the expected one), satisfaction is generated and conversely negative disconfirmation generates dissatisfaction (Oliver, 1981).

Patient satisfaction is an important and commonly used indicator for measuring quality in healthcare (Prakash, 2010; Reichheld, 2003). The measurement of satisfaction is a strategic tool
for the quality improvement process (Barton, 2003; Quinn et al., 2004) because satisfied patients are more likely to receive healthcare and comply with prescribed treatment regimens (Weisman and Koch, 1989). Second, by identifying the source of dissatisfaction, healthcare administrators are able to identify the weaknesses of the system, thus improving their services (Dansky and Miles, 1997). Third, satisfied patients are more likely to develop a deeper and lasting relationship with their healthcare providers which results in continuity of care and better health outcomes (Larsen and Rootman, 1976; Pascoe, 1983; Stelfox et al., 2005). Conversely, low patient satisfaction is associated with less confidence in practitioners, greater chances for medical change and lower continuity of care (Keating et al., 2002). In addition, several researchers have shown that patient satisfaction (or dissatisfaction) can be useful as a predictor of other customer behaviors such as the choice of professionals or programs, exclusion or use of services, complaints and negligence (Ware, 1987). Therefore, obtaining high patient satisfaction should be a strategic goal for all healthcare organizations (Stavins, 2004).

3. Model and research hypotheses
After having reviewed the most important studies about each of the three constructs, in this section, we examine the relationships between them and we set out research hypothesis. For all the hypotheses of the study, below hypotheses tests were used:

- \( H_0: \beta = 0 \) null hypothesis.
- \( H_A: \beta > 0 \) alternative hypothesis.

The model summary is depicted in Figure 1.

3.1 Patient empowerment and value co-creation
The analysis of healthcare relationships through the adoption of a service-based logic (S-D logic), described in the previous paragraph, reflects the complex role of the patient and the importance of his/her participation as an “operating” resource in the value-creation process. According to the definition of value co-creation provided by S-D logic as the integration of resources and application of competences during the interactions between providers and customers (Vargo et al., 2008), it seems clear that patients, in order to co-create value with healthcare professionals, must have resources to integrate and competences to apply in the interaction. The greater the resources and the competences that a patient possesses, the greater will be the contribution of the patient to the co-creation of value.

Drawing on the definition of patient empowerment as “the process of people obtaining the knowledge and skills to make it possible for them to become active partners, with professionals, in making informed decisions and choices about their own treatment and care” (Boudioni et al., 2012, p. 247), it is clear that empowerment provides patients with the resources and competences needed to successfully co-create value with the operators. Therefore, patient empowerment is an enabler of value co-creation and therefore we suggest the following hypotheses:

- \( H_{1A} \). Patient empowerment has positive effects (\( \beta > 0 \)) on value co-creation.
- \( H_{10} \). Patient empowerment has no effects (\( \beta = 0 \)) on value co-creation.

![Figure 1. The research model](image-url)
3.2 Value co-creation and patient satisfaction
The value co-creation process arouses customers’ feelings of pride due to their direct participation in the creation of a value (Franke and Schreier, 2010). Franke et al. (2010, p. 125) define this concept as the “I designed it myself” effect, referring to the value enhancement that customers attribute to a self-designed product/service derived solely by the fact that they feel like the creator of such a product/service. This is consistent with the concept of decision satisfaction (Heitmann et al., 2007) which postulates that clients experience satisfaction or dissatisfaction not only with the service purchased but also with the purchasing decision process in itself. Satisfaction with the decision is associated with the service development process and, therefore, includes and goes beyond satisfaction with the output.

When the service is co-created and consistent with customer needs, the efforts put in to the co-creation process are perceived as a rewarding experience that goes beyond the self-evaluation of the service value (Franke and Schreier, 2010). Therefore, customers evaluate the process of co-creation based on the degree to which they are satisfied with the service quality experienced during co-creation, as well as satisfaction for participation in the provision of services (Bendapudi and Leone, 2003). Therefore, we suggest the following hypotheses:

H2A. Patients’ experience with value co-creation processes has positive effects ($\beta > 0$) on patient satisfaction.

H20. Patients’ experience with value co-creation processes has no effects ($\beta = 0$) on patient satisfaction.

3.3 Patient empowerment and patient satisfaction
Previous work (Polese et al., 2016) shows that patient empowerment is related to healthcare quality in many ways. By analyzing the four main dimensions of patient empowerments described above, it emerges that each of them has positive effects on the quality of the healthcare results and, consequently, on patient satisfaction as its indicator.

For example, health literacy allows the achievement of results in terms of more appropriate and effective use of healthcare resources, lower use of drugs, less treatment errors and an increased use of preventive services, thus improving experienced quality. Moreover, patients with greater health literacy have less unrealistic expectations on the outcomes of the treatment and this could have a positive influence on their satisfaction. Hence, patients who are empowered to make decisions about their health should experience greater satisfaction because the chosen treatment or screening option better reflects their personal preferences, needs and values.

Additionally, patients able to have control over their treatment are less dependent on the doctors and health services in their disease management with significant benefits on their well-being and quality of life. Therefore, we state the following hypotheses:

H3A. Patient empowerment has positive effects ($\beta > 0$) on patient satisfaction.

H30. Patient empowerment has no effects ($\beta = 0$) on patient satisfaction.

4. Methods
A cross-sectional research design was applied to test the suggested model. Data were collected through a questionnaire-based survey from a sample of 186 chronically ill patients in Italy. In detail, the empirical analysis started with the design of the questionnaire. To operationalize the three constructs of this research, items were carefully selected from previous studies. As shown in Table I, patient empowerment, value co-creation and patient satisfaction were operationalized as second-order constructs.
In detail, for the operationalization of patient empowerment, a series of models were carefully chosen from the literature (Ishikawa et al., 2008; Hibbard et al., 2004; Small et al., 2013; Faulkner, 2001; Kim et al., 2001) and the items representing the four dimensions of patient empowerment (Ünver and Atzori, 2013) were selected from each one. For the measurement of value co-creation, the “Customer value co-creation behavior scale” (Yi and Gong, 2013) was selected and adapted to the healthcare context. The measures for patient satisfaction was created by selecting the items related to satisfaction with interaction with professionals and satisfaction with healthcare service from several scales (Ware et al., 1983; Marshall et al., 1993; Greenfield and Attkisson, 1989). All items were measured on five-point Likert scales where 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree, 4 = Agree and 5 = Strongly agree.

Four experts (two physicians and two researchers with experience performing psychological studies on patients) examined the content validity of the questionnaire and a pre-test was carried out in which ten people living with chronic illnesses evaluated the items clarity and readability.

The questionnaire was administered to 186 chronically ill patients directly by their physicians, pharmacists or nurses in the local health units of the Province of Caserta and Frosinone in 2017. Table II sets out the profile of participants. Covariance-based structural equation modeling (Hair et al., 2011) was then used to analyze the collected data.

The sample size of this study (n = 186) is slightly smaller than the level of 200 cases suggested to apply structural equation modeling (Kline, 2011). However, it is higher than the recommended cutoff of 150 observations which is needed to obtain parameter estimates that have standard errors small enough to be of practical use (Anderson and Gerbing, 1988). In addition, when the observed variables are normally distributed and have no missing data, sample size requirements for structural equation modeling are significantly less stringent and a sample of 150 cases is sufficient (Muthén and Muthén, 2002). Therefore, as the conditions of normality and absence of missing data are met in our study, the sample size is adequate for the analysis.

5. Results
A confirmatory factor analysis was used to evaluate the measurement model (Table III). The overall goodness of fit was satisfactory (Bagozzi and Yi, 2012) with $\chi^2 = 806.43$, df = 479 ($p < 0.01$), $\chi^2$/df = 1.68; CFI = 0.93; RMSEA = 0.06; SRMR = 0.05. All standardized factor loadings for both first-order and second-order factors were higher than 0.70 except for one loading which was equal to 0.62. In addition, for each first-order and second-order construct, the average variance extracted (AVE) was higher than 0.50 and the composite reliability.
was beyond 0.70. Thus, both reliability and convergent validity were met (Fornell and Larcker, 1981). Finally, the AVE for each latent construct was higher than the construct’s highest squared correlation with any other construct. Thus, discriminant validity was also assessed (Fornell and Larcker, 1981).

After having checked the validity of the measurement model, the structural model was estimated. The results (Table IV and Figure 2) revealed a good model fit. In detail, $\chi^2$ was 806.43 with df = 479. The value of $\chi^2$/df was 1.68 and below the threshold of 3 (Kline, 2011). CFI was 0.93, respectively, and above the cutoff of 0.92 (Bagozzi and Yi, 2012). Furthermore, the RMSEA was 0.06 and SRMR was 0.05 and thus below the threshold of 0.07 (Bagozzi and Yi, 2012).

In detail, results provide support for H1 stating that patient empowerment has positive effects on value co-creation ($\beta = 0.826$, $p < 0.01$). In addition, the analysis also supports H2, showing that value co-creation has positive effects on patient satisfaction ($\beta = 0.349$, $p < 0.05$). However, results fail to provide support for H3 at the 0.05 significance level. Hence, patient empowerment has no direct, positive effects on patient satisfaction. To further investigate this finding, we performed a $\chi^2$ difference test between the models with and without the direct effect linking patient empowerment and patient satisfaction. The results showed that adding the direct effect did not significantly improve the model fit ($\Delta\chi^2(1) = 2.29$, $p > 0.10$).

6. Conclusions and practical implications
Health systems have often been organized around the needs of clinicians instead of focusing on the delivery of care to patients. According to this approach, healthcare professionals are at the center of the healthcare system and have exclusive access to knowledge while patients are expected to comply with the instructions they are given.

Recent challenges, such as the rise of complex multiple diseases in the population and the economic crisis with the consequent cutoff mechanism of public funding, have stimulated changes to the traditional approach. The provision of healthcare services is increasingly

<table>
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<th>Variable</th>
<th>$n$ (%)</th>
</tr>
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<tbody>
<tr>
<td>Age</td>
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<tr>
<td>18-30</td>
<td>29 (15.6)</td>
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<tr>
<td>31-50</td>
<td>66 (35.5)</td>
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<tr>
<td>51-70</td>
<td>71 (38.2)</td>
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<tr>
<td>&gt;70</td>
<td>20 (10.7)</td>
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<tr>
<td>Levels of education</td>
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<tr>
<td>Lower secondary education</td>
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<tr>
<td>Upper secondary education</td>
<td>52 (28.0)</td>
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<tr>
<td>First stage of tertiary education</td>
<td>65 (34.9)</td>
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<tr>
<td>Second stage of tertiary education</td>
<td>31 (16.7)</td>
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<tr>
<td>Chronic diseases</td>
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<tr>
<td>Hypertension</td>
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<tr>
<td>Cardiac decompensation/cardiovascular diseases</td>
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<tr>
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<td>Arthritis</td>
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<tr>
<td>Muscle-degenerative diseases</td>
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<tr>
<td>Chronic respiratory diseases/COPD</td>
<td>10 (5.3)</td>
</tr>
<tr>
<td>Others</td>
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Table II. Profile of participants
conceived as a process of co-creation in which professionals and patients cooperate to solve health-related problems. In particular, healthcare organizations have been exploring new strategies to improve their efficiency and effectiveness, which draw on “patient-centered” healthcare but without a clear understanding of its underlying mechanisms. In health programs, several objectives are set such as the enhancement of empowerment, the increase in patient satisfaction and the improvement of value co-creation. The results of this study show that these three aspects are strictly interrelated. In fact, empowering patients enables

<table>
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<th>Item</th>
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<td>Patient empowerment</td>
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<td>Patient participation (PP)</td>
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<td>Patient control (PC)</td>
<td>8.71</td>
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<td>Communication with healthcare professionals (CHP)</td>
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<tr>
<td><strong>Value co-creation</strong></td>
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<td></td>
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<tr>
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<td>Patient citizenship behavior (PCB)</td>
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<tr>
<td><strong>Patient satisfaction</strong></td>
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<td></td>
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<tr>
<td></td>
<td>Satisfaction with interactions with professionals (SIP)</td>
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<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Satisfaction with healthcare service (SHS)</td>
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</tr>
<tr>
<td><strong>First-order constructs</strong></td>
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<td>Health literacy (HL)</td>
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<td>HL2</td>
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<td>HL3</td>
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<td></td>
<td>PPB3</td>
<td>19.70</td>
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<td></td>
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<td>Patient citizenship behavior (PCB)</td>
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<td>11.07</td>
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<td>Satisfaction with interactions with professionals (SIP)</td>
<td>SIP1</td>
<td>12.63</td>
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<td></td>
<td>SHS4</td>
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Table III. The measurement model
them to take an active role in value co-creation processes and to experience higher satisfaction. In addition, our study highlights that focusing only on patient empowerment is not enough to achieve increased patient satisfaction. This paper shows that patient participation in the co-creation of “health” value through the empowerment of his/her resources and competences has a positive impact on the improvement of the healthcare service co-creation experience and, in turn, on quality as measured by patient satisfaction.

These findings imply, for example, that the questionnaires currently used by healthcare organizations’ administrators to measure patient satisfaction are often not complete because they ignore some antecedent variables related to patients’ experiences that affect their perceptions of quality. Quality, in fact, does not only depend uniquely on the tangible and intangible aspects of the service (facilities, equipment, waiting times, staff, etc.) but also on a range of health competences and resources that a patient has and applies when participating with operators to service co-creation. It is therefore important to give patients the opportunity to develop the skills, confidence and knowledge
needed to move from being passive recipients of care to becoming active partners who cooperate with healthcare providers to create the best possible health services, given the resources at hand.

From the managerial perspective, this implies that health organizations and governments should adopt policies aimed at encouraging the active participation of citizens to the co-creation of health services through specific programs able to empower them, such as:

- Providing patients with the information required to enhance their health literacy: effective educational programs should be designed to make information easily available and understandable by patients. People with low health literacy skills have limited ability to read and understand the instructions contained on prescriptions or drug packages, informed consent documents and educational materials. This leads to an increased need for disease management, higher medical service utilization and less efficient use of services. Hence, by improving health literacy, it would be possible to reduce the use of medical services, improve service co-creation with professionals and increase the efficiency of the healthcare system.

- Educating patients to have control over their treatment and manage it more independently: there is the need for educational programs to make patients able to gain control over their treatments, thus making them less dependent from health professionals and health services in their disease management. As a result, patients would experience higher independence and awareness together with an increase in their quality of life. For the healthcare system, this implies both increasing service effectiveness and reducing the overall healthcare system expenditure.

- Stimulating patients’ active participation in the diagnostic, preventive and treating phases through shared decision making: the principle behind this intervention is to enable patients to be the primary decision makers in managing their health conditions. This draws on the established awareness that patients are more motivated to initiate and sustain behavioral changes of their choice than changes prescribed by others (Tang et al., 2010). This approach requires a collaborative relationship between the patient and the healthcare provider, who contribute to the value co-creation process by supporting the patient in making informed decisions by providing the necessary resources. Shared decision-making processes allow patients and physicians to increase their levels of understanding and focus their interactions on the critical aspects rather than on the simple description of treatment alternatives. This leads to improved health service (including lower anxiety, quicker recovery, higher adherence to treatment) and lower demand for healthcare resources.

- Adopting a communication oriented to dialogue, mutual listening and understanding: health professionals need to be effective communicators and listeners. A good communication between patients and healthcare professionals is a very important component of service co-creation because it may facilitate the identification of the correct diagnosis in a shorter time, it reduces the risk of medical errors, prevents treatment failures, reduces the patients’ anxiety and improves mutual trust. In sum, effective communication is pivotal to make patients contributing their knowledge and resources to the co-creation process, thus improving service effectiveness.

The interactions between suppliers and patients are therefore crucial moments during which both actors are jointly responsible for the success of the service experience and the creation of value. Creating value with patients means that healthcare professionals need to understand patients’ needs and goals and adopt a holistic approach to create positive experiences and boost patient confidence, although this requires economic as well as
cultural efforts to re-train both healthcare professionals and patients to embrace the new perspective based on access to information, participation and resources sharing. This task involves the joint action of stakeholders from the public sector, civil society organizations, professional groups and academia to support advocacy, resource generation, exchange of experiences and to encourage participation. It is thus a multidimensional social process that needs to take place simultaneously both at the macro (governmental and social systems) and the individual levels.

Finally, some limitations of this study should be mentioned. While the cross-sectional design made it possible to clearly estimate the relationships among variables, it overlooked the longitudinal dimensions of co-creation processes. Moreover, even if data were carefully collected based on accurate protocols, the sample size is quite limited and further research would be valuable to corroborate our findings.

References


Further reading


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