Citizens' participation in healthcare services re-design. How Public Health Providers perceive their contribution.

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1. Introduction

Our society is marked by a permanent state of crisis, characterized by a high level of uncertainty and the need for deep organizational and political changes (OECD, 1995, 2000; Pollitt and Bouckaert, 2003; Kotler and Caslione, 2009). Consequently, the pace of public sector reform is globally accelerated; thus, several governments aim to make the services they provide more efficient and productive than ever, adopting flexible policies and involving citizens in service design and provisioning. Over the past decades, institutions and public organizations have been involved in a lively debate about the real meaning of "governance", the role of public and private organization, and even about the real influence of citizens on public services definition (Bourgon, 2008). In some countries, this debate has led to important reforms mainly oriented to functions and services' privatisation, government decentralisation, or even to deregulation process. In public sector, the increasing participation of citizens in public policies and service provisioning reflects governments' aims to make their offering as responsive and accountable as possible. Consequently, institutions are somewhat obliged to involve civil society in every different stage of public services' life cycle, such as public decision-making, service design and provisioning (Matei and Matei, 2011). Therefore, public services seem to be strictly related to value co-creation model that involves users, partners and, in our case, citizens in value creation and of course in service co-production (Freire and Sangiorgi, 2010). Furthermore, the emergence of such process is mainly related to the shift from "Value-chain" to "Value-Constellation Model" (Norman and Ramirez, 1994). In fact, according to the first model value creation is a progressive process open to the participation of different suppliers; on the other hand, in the constellation model value creation is based on co-production logic, involving different actors in "a non-linear set of activities and interactions" (Freire and Sangiorgi, 2010, p.1). In recent times, user's role has radically changed passing from *being* considered a "destroyer of value, to source of value, and finally to co-creator of value" (Ramirez and Mannervik, 2008, p.36). This evolution has been also observed in healthcare, where citizens' participation is increasingly common; thus, healthcare services have been often based on a Value-Constellation Model (Normann and Ramirez, 1994), according to which value creation is a more distributed process, open to citizens' participation that makes them co-creators of their own wellbeing. Civic participation in public services' design and provisioning is also influenced by those emergent technologies that are changing the traditional economic and social paradigms. These technologies (e.g., ICT, social media, mobile tools etc.) let organizations have a better understanding of users' characteristics, needs, and demands (Ghulam et al., 2006). Going over, in healthcare these emergent technologies can positively affect the achievement of better clinical outcome (Kern and Jaron, 2002) and patients' direct involvement in every stage of service development (Freire and Sangiorgi, 2010). This study aims to investigate citizens' participation not only in healthcare service design and provisioning, but also in their re-design, a process that point

not only to services' rethinking o renovation, but also to redefine the relationship between health providers and patients (Capunzo et al, 2013; Carrubbo et al, 2013). To achieve this goal has been also investigate the role that emergent technologies (e.g., ICT, the Web 2.0, social media etc.) can play in patient involvement and participation in healthcare processes. In particular, these media can facilitate communication and interaction between the two parts, representing the shared territory on which cooperate, develop, and share new ideas and services. In fact, patient involvement in service re-design seems to be related to two specific steps, such as service definition and provisioning, offering them a direct feedback in order to minimize possible errors and make services as performing as possible to users' needs. Moreover, the influence of co-production logic on healthcare service re-design and innovation has been analysed according to Service Dominant logic (S-D logic) paradigm, based on "a customer-oriented, relational view in which innovation development focuses on a specific customer need, and the value proposition embraces the customer's co-creation of value" (Michel et al., 2008, p.58). The paper is divided in two sections, the first one dedicated to the review of main academic contributions in terms of co-production, co-creation, ICTs' influence on healthcare service re-design; on the other hand, the second one has been dedicated to the analysis of four different Italian Public Healthcare Providers and their approach to citizens' participation in redesigning healthcare services.

2. Clarifying the concept of service: from Service Theory to Service Dominant Logic

Over the last decades we have assisted to an increasing participation and commitment of citizens in governments and public organizations activities (Irvin and Stansbury, 2004; Emerson and Baines, 2011). In fact, citizens are increasingly involved in services design, re-design, and even provisioning, a phenomenon that can be read according to co-production logic.

In literature, according to one of the most accepted definition, a service is considered a specific form of product that consists of activities, benefits or satisfactions, offered for sale that are essentially intangible and do not result in the ownership of anything (Kotler and Armstrong, 2006). Going over, the main service's characteristics are the intangibility (cannot be seen, tasted, felt or smelled before purchasing), the inseparability (consumed when it is provided and cannot be separated from the provider), the variability (quality depends on who provides), and the perishability (cannot be stored or resold) (Parasuraman et al., 1985). Therefore, a service can be also considered as the application of resources for the benefit of another (Vargo and Lusch, 2006) or as the provisioning of assistance and expertise based on a provider–client interaction, which make possible value creation and capturing in business, education, government, and personal endeavours. Concluding, a service can be also defined as the "interaction between entities in a reticular system to improve value co-creation outcomes under a win–win logic inside interrelated processes" (Granovetter, 1985).

In public administration literature, a service has been considered a social entity, made up of structures and activities depending on public communities and relevant for public sphere (Chevallier, 2003), which is characterized by the same peculiar attributes of general services (Kotler and Armstrong 2006). Consequently, if a service firm has been defined as an organization that offers an intangible item, arousing form some sort of interaction between buyers and sellers, a public service organization is generally oriented to provide public value through service delivery excellence (Davies, 2006). However, "a public service organization is typically labor intensive and produces services such as education and health care services. Others provide public works and utilities services, combining technology, information, physical infrastructure and human resources to meet service users' needs, taking political and other objectives into account" (Valkama et al., 2013, p.4). Going over, services are also at the roots of the so-called Service Theory, mainly focused on value to the client, how service should satisfy clients and the pivotal role that client plays in value production (Ramirez, 1999). Consequently, modern Service Theory is based on value co-creation, a process according to which value emerges from cooperation between customers and service providers (Lovelock and Gummesson, 2004; Vargo and Lusch, 2004). Co-production is

not a recent concept; thus, it arose four decades ago in social sciences, when governments involved citizens in public policies as volunteers (Schultze and Bhappu, 2006) in order to solve those financial and social problems due to the crisis of the traditional welfare state and to resources' scarcity. The interest in service co-production has been somewhat due to governments' need for a better management of critical issues such as social security, public instruction, and health services (Needham, 2008).

Co-production has been also revised according to Value Constellation model (Normann and Ramirez, 1994), which is mainly focused on the idea that customers and supply chain partners cooperate and participate to the entire marketing process). This model "is at the same time a result and expression of company-specific competences: their creation as well as realization depend on product-overlapping competences" (Jüttner and Wehrli, 1994, p.64). Normann and Ramirez have defined Value Constellation as a system in which actors, belonging to supply network and customer network, "come together to coproduce value" (1994, p. 54). Concluding, the appliance of a value constellation strategy "need to co-ordinate multidimensional value creation both from a seller and a customer point of view" (Pattinson and Brown, 1996, p.17). Going over, Vargo and Lusch (2004) have pointed out some links between the work of Norman and Ramirez with SD Logic. In fact, the complexity of exchange and the intermediary role that this model has investigated seems to be very close to S-D logic's second foundational premise: "Indirect exchange masks the fundamental unit of exchange." (Vargo and Lusch, 2004). Moreover, "this 'between' and 'within' orientation and the movement of the level of analysis to 'value constellations'— cooperative networks of providers — (and 'customer communities'— cooperative networks of customers) seems to intimate, if not echo, the reciprocal service-for-service orientation of Vargo and Lusch" (Michel et al., 2008, p.XXX). According to a recent reinterpretation of Value Constellation model, it seems to "identify economic actors and link them together in new patterns which allow the creation of new business that did not exist previously, or […] change the way certain types of value are created. This is not about a simple reallocation of existing activities between a set of actors, but of constructing a new, coordinated set of activities resulting in a new kind of output" (Normann, 2001, p. 107). Consequently, nowadays service co-production and value creation cannot be red as linear and/ or sequential processes (Porter, 1985), being based on the direct participation (co-creation) of a constellation of actors (e.g. suppliers, business partners, customers, etc.).

In recent years, the marketing theory has moved from a product-centred view to a service-centred one, open to customers' involvement in specific activities such as service design, management, and provisioning. This shift has been based on the development and sharing of core competences that make company-stakeholders relationships stronger than ever (Vargo and Akaka, 2009). Furthermore, the traditional separation of "producer" and "customer" roles, at the roots of Goods-Dominant (G-D) Logic, has been overcame by the emerging Service Dominant (S-D) Logic (tab.1), according to which service represents the basic element of value creation, exchange, and the recent marketing trends (Vargo and Lusch, 2004, 2008). In fact, if G-D Logic looks at services as specific (e.g. intangible) goods, whose production and distribution processes "should be modified to deal with the differences between tangible goods and services" (Vargo and Lusch, 2008, p. 254), SD Logic "considers 'service' (singular) – a process of doing something for another party – in its own right, without reference to goods and identifies service as the primary focus of exchange activity" (Vargo and Lush, 2008, p.255). According to SD Logic, customers are deeply involved in service development and provisioning, acting as real co-producers (Vargo and Lusch, 2004) able to interact with others actors and encourage service development. This perspective looks to service production as a process based on key specialized skills, shared between different actors in order to achieve mutual benefits *(*Vargo and Lush, 2004). Moreover, these actors are considered value co-producers just for the role they play in the relational exchanges and in value creation. Thus, SD Logic has defined services as "the application of competence for the benefit of another" (Spohrer et al., 2008, p.5), involving at least two entities, the first one that applies its competence and the second one that integrate the applied competences with other resources and benefit. These

interacting entities contribute to the development of a so-called Service System, which is "a dynamic value co-creation configuration of resources, including people, organizations, shared information (language, laws, measures, methods), and technology, all connected internally and externally to other service systems by value propositions" (Spohrer et al., 2008, p.5). Many social systems can be reinterpreted as service systems, including people, corporations, foundations, ONGs, government agencies, cities, nations, and even families.

2.1 Service co-production and value co-creation *in the SD Logic*

Marketing theory has recently adopted SD Logic perspective on service activities, according to which customers are always, are co-producers of services and co-creators of value, being able to mobilize their knowledge and other resources in order to make service development and provisioning successful processes (Ordanini and Pasini, 2008). According to the previous statements, customers seem to paly a fundamental role in value creation processes; thus, SD Logic considers customers value co-creators, able to directly interact with suppliers through a direct and long-lasting dialogue. Moreover, co-production is related to customer direct participation in core offering development, while co-creation is strictly related to value creation and the following conception according to which value can only be created with and determined by users (Lush and Vargo, 2006). Even though these concepts look at the consumer as an endogenous actor of value creation process (Vargo and Lusch, 2008), value co-creation can occurs with or without co-production. In literature, co-production has been analysed according to a firm-centric view of customer involvement in service production, which is related to the traditional GD Logic. On the other hand, being co-creation directly related to SD Logic, it can be considered as the analysis of value creation in service transactions (Spohrer and Maglio, 2008*;* Lusch and Vargo, 2010).

In service literature, co-production is at the roots of customer active role in service offering; thus, in this context, production cannot be separated from consumption (Lovelock and Wirtz, 2004). Scholars have used these terms to better define not only customers involvement in corporate activities, but also an essential characteristic of a service firm (Lovelock and Young, 1979; Mills and Morris, 1986); thus, co-production arises when customers and firms cooperate at the same time to services' production and consumption. This process roots on service interactive nature "characterized by high customer participation (e.g., haircuts, medical consultations, education) customers are usually physically present to receive the service and are often called on to provide critical information that is necessary for the effective delivery of the service" (*Yen et* al., 2004, p.9). Service literature has also point out three main features of co-production (Lusch et al., 2007): 1) the firm as the centre of value creation; 2) firm and consumer reciprocity underestimation; 3) the lack of attention for firm and customer mutual dependence in service production. Nevertheless management theory and business practice have been centred for a long time on GD Logic, service co-production has been recently reviewed according to SD Logic approach (Vargo and Lusch, 2004, 2006) that offers a new perspective on service, considered the forefront of economic exchange systems and "an application of knowledge and competencies for the benefit of another entity, which makes it the basis of any economic or social exchange" (Ordanini and Pasini, 2008, p.290).

In recent times, co-production has been analysed according to a process-based view, involving not only customers, but also all corporate stakeholders. In this stream of research, others scholars have considered co-production based on different kind of interactions and on a mutual dialog between providers and customers, expressed by the suffix "Co" that means something like "togetherness" (Russo-Spena and Mele, 2012). Moreover, co-production can also be defined "a longitudinal, dynamic, interactive set of experiences and activities [...], within a context, using tools

and practices that are partly overt and deliberate, and partly based on routine and unconscious behaviour" (Payne et al., 2008, p. 85). In this context, SD Logic have highlighted that customers are a fundamental part of value creation, participating to each stage of the process (Chathoth et al., 2013). This assumption is summarized in co-creation concept, an interactive process that joins both customers and firms in value production. In value co-creation, reciprocity and mutuality are essential, because firms and consumers cooperate in a balanced, but independent way to value creation (Vargo et al., 2008; Polese et al., 2011). According to SD Logic, value co-creation necessarily needs for customer engagement in a dialogue with service providers (Vargo and Lusch, 2006, 2008). This dialogue has been considered a concrete learning process (Ballantyne, 2004) that benefits from customers' experience. Consequently, "the consumer is being empowered to co-construct a personalized experience around herself, with the firm's experience environment" (Prahalad and Ramaswamy, 2004, p. 12). However, SD Logic has conceptualized value co-creation as a process that engages providers and customers in an open dialogue focused on product design, production, delivery, and consumption (Yazdanparast et al., 2010). Consequently, this process seems to be deeply related to resources' integration and to a relational perspective, according to which customers contribute to a new offering design and delivering (Prahalad and Ramaswamy, 2004).

In healthcare, the development of innovative co-production system, based on a different power distribution (Morris and O'Neill, 2006), has contributed to make the relationship between institutions, healthcare providers, and citizens more visible and open than ever (Davies et al., 2006). Furthermore, the spread of this logic has enabled the integration of expertise and skills, which has been positively influenced by communication, interaction, and cooperation between providers, patients, and their families (Coleman et al., 2009). The appliance of co-production logic to health services seems to facilitate not only information sharing, but also the possibility to achieve decisions shared between service users (citizens and/or patients) and providers (Realpe and Wallace, 2010). The emergence of a new balance between health services' users and providers is also due to patients' potential, which make them competent, knowledgeable, somewhat expert, and even able to offer a critical contribution at all levels and in all areas of healthcare system (Bovaird, 2008; Cosimato et al, 2014). Consequently, we are now assisting to the rise of a new relationship based on the interaction of different knowledge, the clinicians' one related to diagnosis, treatment options and preferences, aetiology and prognosis, and the patients' one, related to illness' experience, social circumstances, risk attitudes, values and personal preferences (Coulter, 2011). The core of this relationship is communication between health service providers and patients, which make consultation relationship-centred and focused on informative, receptive, facilitative, and participatory aims (Wright et al., 2012; Schiavo, 2013; Mele et al, 2012). Scholars have also approached social care co-production as a phenomenon with a deep influence on the whole public service sector (Needham and Carr, 2009). Thus according to some analysts and politicians we are moving from "a service that does things to and for its patients to one which is patient-led, where the service works with patients to support them with their health needs" (Department of Health, 2005, p.5).

3. Healthcare reforming and service co-creation

Nowadays, healthcare organizations, as any other public service operator, are called for a general reform in order "to remain competitive, cost efficient and up-to-date" (Wang and Chen, 2010, p.312). Thus, we have witnessed the changing of health providers and citizens relationship in terms of openness and public participation, which has led to citizens' involvement in healthcare "doing with, rather than doing to and doing for, at all levels and in all areas of health system functioning" (Dunston, 2009, p. 41). This situation has deeply changed the whole sector, shifting the attention from the traditional health professional knowledge and expertise "over and above citizen/health consumer knowledge and expertise" (Dunston, 2009, p.41). This general tendency has also influenced the Italian National Health Service (NHS); thus, if it has a positive worldwide

reputation since being ranked second in an international classification published by the World Health Organization (WHO, 2003), conversely it has been scored quite badly in the Health Consumer Powerhouse Report and Consumer Index (Björnberg et al., 2009). In fact, citizens still claims for better healthcare services, even if between the 1990s and early 2000s specific reforms have been enacted, in order to make NHS accountable, efficient, and coast effective.

The Italian NHS, created in 1978 alongside British National Health service (France et al., 2005), mainly roots on income tax revenue and aims to ensure essential healthcare services (LEAs) for all Italian citizens and foreign legal residents (De Nicola et al., 2014). This system has had several reforms, pointing to increase its autonomy and competitiveness also introducing competition in healthcare services provisioning. In 2001, Italian NHS has been deeply reformed; thus, according to a specific constitutional reform based on main principle of fiscal devolution, powers have been redistributed to counties. Consequently, some taxes, traditionally administered by central government, are now assigned to regional administrations, even if the central one retains a critical role in ensuring an equal access to healthcare services (Ferrario and Zanardi, 2011). Furthermore, "given the stark territorial differences between Northern and Southern regions, in particular in terms of level of economic development, regional governments tax bases are unevenly distributed across jurisdictions" (Ferrario and Zanardi, 2011, p.72). This situation has influenced the emergence of a severe control over "regions' health spending after a few incurred considerable deficits (mainly in the central and southern parts of the country)" (Ferrè et al., 2014, p.xix). However, the general reform of Italian NHS seems to be lacking of cultural influence on physicians and managers practice and skills, which are still tied to a traditional and hierarchal healthcare model, closed to public commitment. In fact, in this context, public participation occurs when citizens contribute to resources allocation, treatments' choice, or general services provisioning in order to make healthcare polices not only more accountable, but also cost-effective (Checkoway, 2013). Healthcare managers cannot ignore public's influence on services production; thus, citizens and in our case patients can be considered health organizations' partners, who contribute to give a better response to public needs and to the emergent request for a better exercise of public authority. This new partnership is at the roots of a more productive and sustainable health system, which aims to be more responsive to public needs and open to citizens' contribution (Dunst and Trivette, 2009). Public involvement in healthcare can be also red according to a co-creation logic, which considers citizens, health consumers, and local communities as health professionals' partners, deeply involved in all processes related to health system development and functioning (Davies et al., 2006). However, patients are often considered a potential source of value that are able to develop "self-generated activities (e.g., by accessing their own personal knowledge and skill sets and through their cerebral processes) that contribute to and ultimately become part of this co-creation" (McColl-Kennedy et al., 2012, p. 6).

In literature, few scholars have investigated the appliance of co-creation logic to healthcare settings, even if it is one of the key drivers of service exchanges, enabling a real engagement and cooperation between the different actors that take part in value creation process (Lusch and Vargo, 2007; Mele and Polese, 2011). In this context, service providers and their stakeholders should share resources in order to co-create value, co-product, co-design, or re-design services also improving their general quality (Payne and Holt, 1999; Polese and Capunzo, 2013). In particular, health service co-creation, being based on customers' participation in corporate processes, seems to positively affect their general efficiency and effectiveness (McColl-Kennedy et al., 2009). Moreover, at the roots of this collaborative approach to healthcare services there is the growing influence of patient in processes such as needs' identification, solutions' proposition, testing, and implementation (Prahalad and Ramaswamy, 2004). It is evident that service co-creation cannot be considered just a formal consultation, but a creative and interactive process aiming to combine different expertise (e.g., professional, local, personal etc.), also thanks to an effective communication, a reciprocal understanding, and a strong commitment. In healthcare, new organizational models have been defined, the so-called "communities of co-creation" that offer a

collaborative approach and an open source approach to service creation (Cottam and Leadbeater, 2004). In this specific sector, service co-creation can have a positive influence also on patients' adherence to treatment, which also led to better clinical outcomes and lower costs.

Nowadays, healthcare system is characterized by an emerging inclusive orientation focused on citizens-providers relationship models, according to which the reform of the whole industry should be focused on "well developed and well supported dialogic and co-productive partnerships developed between health systems/health professionals and citizens/health consumers" (Dunston et al., 2009, p.41). This reforming process can be described as the shift from centralized sequential models to distributed and open paradigms (tab.1), based on citizens direct involvement in their own wellbeing (Freire and Sangiorgi, 2010).

Table 1: The evolution of healthcare models.

Model	Main Features	Appliance to Italian context
Mass-production: a Fordist model of healthcare delivery	The current model has been developed as an answer to the needs of a post-war world that had to deal with acute diseases and infections. The focuses were on the application of expert knowledge to treat illnesses and on service efficiency.	NHS, created in in 1978 alongside British National Health service.
Mass-customisation: a personalised model of healthcare delivery	According to this model, organisations started to adapt services to citizens' needs. In healthcare, they are considered 'clients' started with the advent of the 'internal market'.	1992 NHS Reform (managerial reform).
Mass-collaboration: toward a participatory model of healthcare	This new model focuses on co-production and patients' engagement. It is also co-exist in the NHS as an answer to different needs and as a transformation process moving from treatment-centred and centralised models of care toward more health-centred, community based and co-produced service models.	2001 NHS Reform (fiscal devolution); Balduzzi Law, 2012.

Source: adapted from Freire and Sangiorgi, 2010.

In healthcare, the shifting from simple information sharing processes to knowledge sharing and co-creation processes (Polese, 2013) is generally considered context dependent and emergent[1]. Going over, in these cooperative process, each actor have to participate (aggregation), be connected to others (structure), engaged (motivation), and able to activate the process (interaction). According to the previous statements, value co-creation and service co-production should offer a synergic outcome, based on each single actor's contribution to the achievement of the desired outcome, even if participation and communication are necessary but not sufficient conditions of these processes.

3.1 Patients' involvement and ICT influence on healthcare services re-design

In our society, emerging technologies are changing the traditional economic and social paradigms, offering a new approach to business and in particular to product/service development. The success of such technologies roots on a better understanding of users' needs in terms of activities, daily working environment, functional limitation, and skills (Ghulam et al., 2006). Nevertheless, in a critical industry such as healthcare they contribute not only to the increasing of services' delivering costs, but also to the achieving of better clinical outcome (Kern and Jaron, 2002) and to patients direct involvement in every stage of service development (e.g. design, production, provisioning etc.) (Freire and Sangiorgi, 2010).

[1] In healthcare, the spread of co-creation logic is considered context dependent , because the same actors of the network can contribute to value co-creation in different contexts, and emergent, because it 'co' implies process dynamics that enable the development of the system and its outcome (Barile et al., 2013; Barile and Saviano, 2014).

The Internet and the more recent Web 2.0 have facilitated a "shift in the role of the customer – from isolated to connected, from unaware to informed, from passive to active" (Prahalad and Ramaswamy, 2004, p. 2). In healthcare system, information, virtual and network technologies make health providers able to tap also into patients and citizens knowledge (Nambisan, 2002, 2009). Thus, these tools contribute to a real extension of knowledge about "similar kinds of patients with same disease patterns, share their experiences and many more by the introduction of a one step ahead social media tool for health care" (Amrita, 2013, p.2). Going over, these technologies seem to have a direct influence on co-creation practice, making partnership between patients, professionals, and community (e.g., citizens, others institutions, governments etc.) stronger than ever (Sanders and Stappers, 2008). This deep interaction encourages patients to act simultaneously both as content creators and users, being somewhat influenced by the online agency and democracy phenomena (Kamel Boulos and Wheeler, 2007). Consequently, patients and clinicians can create, access, and share information across several institutions and places, in order to promote a better cooperation between each actor of healthcare system and achieve better results in terms of clinical outcomes and cost reduction. Emergent technologies can have a direct effect on the emergence of new forms of healthcare organizations, opening new channels of access both to traditional and innovative services, which can be directly redesigned according to patients' involvement possible through specific peer-to-peer platforms (Cottam and Leadbeater, 2004).

In the era of digital communication, social media have contributed to the emergence of several networks that link people and machines (Wellman and Haythornthwaite, 2008); thus, these media have created a collaborative virtual environment dedicated to user-generated content sharing (Amrita, 2013), where people can interact to achieve business or even leisure results.

In healthcare, social media have dramatically changed the focus of activities, which has shifted from costly high-tech healthcare services to non-traditional ones, provided also via social media and involving a growing number of actors such as doctors, patients, nurses, pharmacists and who are interested in health care. These media seem to have a deep influence also on co-production process, even when they concern service design and development. Thus, design has been defined as "a critical process that facilitates the combination of knowledge and expertise that will underpin the new co-created services" (Cottam and Leadbeater, 2004, p. 28) that can be facilitated by the ability of emergent technologies in break down the traditional institutional boundaries and hierarchies. It is clear that co-production logic applied to service design depends on strategic processes based on new, open, and collaborative interfaces that facilitate a better resources and knowledge distribution between users and professionals (Cottam and Leadbeater, 2004). In particular, service design has been defined as an activity that involves designers in order to "visualise, formulate, and choreograph solutions to problems that do not necessarily exist today; they observe and interpret requirements and behavioral patterns and transform them into possible future services. According to some scholars, service design is evolving into a participative process, oriented to support both organizations and communities social development and change. This process applies explorative, generative, and evaluative design approaches, and the restructuring of existing services is as much a challenge in service design as the development of innovative new services" (Mager, 2008, p. 355). In healthcare, the emergence of Social Network Service (SNS) has contributed to make the whole sector open to social participation in information acquiring about treatment options or disease management; even if in healthcare joining social network services is much more complex than in other domains. Health services are "often complex, relying on interactions among multiple stakeholders" (Bowen et al., 2013, p.230); consequently, the achieving of performing and suitable services roots on an excellent design and on the direct support of patients, families, and communities they belong. In our days, a great support to health service design comes also from virtual communities that are able to achieve radical innovation mainly through the development of information services based on users' collaboration.

The combination of social networking approaches and technologies with healthcare service design can contribute to the development of co-design processes that cover and extend the

significance of more traditional concepts like participation and engagement. In fact, these concepts covers both principle of "community design" and "participatory design", considering users' involvement the focus of public service design; thus, engagement simply "involve getting people thinking and talking about a service or policy, co-design implies something more fundamental: it requires involvement in the design and delivery of the service itself" (Bradwell and Marr, 2008, p. 18). On the other hand, co-design combines views, inputs and skills of different social actors in order to offer the best solution as possible to a specific problem (Bradwell and Marr, 2008). In particular, this process can help public organizations to better adapt their activities to surrounding environment, offering more efficient and performing services. Co-design methods are evolving to re-design methods, which point to a public services general rethinking mainly based on users' direct participation.

In healthcare, co-design and re-design processes are even more focused on the inter-relationship between users, workers, professionals and services (Cottam and Leadbeater, 2004). In particular, re-design aims to a deep transformation of services, in order to better respond to users' needs and solve the wicked problems often typical of service design (Bowen et al., 2010). Moreover, healthcare services' redesign has been defined as "thinking through from scratch the best process to achieve speedy and effective care from a patient perspective, identifying where delays, unnecessary steps or potential for error are built into the process, and then redesigning the process to remove them and dramatically improve the quality of care" (Locock, 2003, p. 53). This process roots on numerous quality improvement theories, aiming to combine past and sometimes different experience in order to make them as respondent as possible to healthcare actual demands. The central idea of service re-design seems to be the fundamental role that users play, acting as co-producers of both organizational culture and organizational performance.

4. Methodology

This paper is mainly based on a case study method that point not only to exploratory and descriptive goals, but also to explanatory purposes (Yin, 2003). This qualitative approach to research facilitates the investigation of a specific phenomenon within its context, collecting data from several and sometimes different sources. The present study has been based on a multiple case study methodology (Yin, 2003), according to which it is finally possible to define a number of co-production recurring characteristics related to patient participation in healthcare service redesign. Thus, this methodology makes researchers able to explore and point out differences between and within cases. In particular, the study reports on the emergent trends in co-production practices and on the influence of emerging technologies on citizens' participation in public health services re-design. To support the results achieved through a systematic literature review on co-production, co-creation, and health services design and re-design, some semi- structured interviews have been conducted in order to collect evidences of citizens participation in public healthcare activities and information about internal staff perception of their participation and cooperation in service re-design. This specific kind of interview is particularly useful when just one chance to interview someone is sufficient and when several interviewers are sent out to collect data. Furthermore, this method offers not only a clear set of instructions, but also reliable and comparable qualitative data; thus, it often includes open-ended questions and a training of interviewers that point to find out those relevant topics that may stray from the interview guide (Cohen and Crabtree, 2006).

The study was performed in four primary health care centers set in South Italy and in particular in Campania. All of them are located in urban areas, corresponding to the following cities Avellino (55 205 inhabitants), Benevento (60.385), Caserta (76.781), and Salerno (133 199)2. In particular, four managers of four medium-sized Campanian public healthcare providers (Ospedale Moscati, Avellino; Ospedale Civile di Caserta; S. Giovanni di Dio Ruggi e D'Aragona; Salerno; Ospedale

[2] Data retrieved from "Dati ISTAT - Bilancio demografico anno 2014", http://www.demo.istat.it/bilmens2014gen/query.php?lingua=ita&Rip=S4&Reg=R15&Pro=165&Com=116 accessed 2th May 2015.

Rummo, Benevento) have been interviewed, in order to better understand a complex issue, such as healthcare services' redesign, made up of a wide range of phenomena, such as citizens and patients' participation in public health care services' re-design. This method has been used in order to allow new viewpoints to emerge freely. The interview schedule has been designed on the basis of key themes identified from literature review (e.g., civic participation, healthcare services' design and re-design, ICT influence). All the interviews have been based on the same questions ten questions, while its duration varied between 15 and 30 minute, and they were tape recorded and transcribed verbatim. Analysis the interviews resembled a general conversation between two professionals, trying not to take any leading position. Then, they have listened to all the audio recordings and verified the precision of transcription. Finally, the interviewed managers were coded using numbers.

This analysis is settled in a specific context such as Italian public healthcare providers. In particular, it has been studied public participation and emerging technologies influence on healthcare services re-design policies and strategies enacted by four of the main public healthcare providers situated in following south Italian cities: Avellino, Benevento, Caserta and Salerno.

5. Discussion

In Italy, healthcare services are mainly managed and offered by public providers, which are not so open to patient direct involvement in service development. In fact, these processes are often defined according to an inside-out perspective (Bitner and Brown, 2008), focused on technical quality rather than functional one. In our days, healthcare as several public sectors needs to be reformed in order to better respond to the emergent social needs; thus, one of the central issues is how these organizations can make patients' participation to services design or re-design as simple as possible (Witell et al., 2011). Moreover, the present study offers interesting insights on co-production initiatives and in particular on patients' participation in health services' re-design. According to Bovaird's participative methodology (2008), the selected case studies offer some evidence about the positive influence of patients' communities on co-production and /or re-design processes, being open to share their expertise with providers, work alongside them, and participate to most aspects of the service design and planning.

Over the time, Italian National Healthcare System (NHS) has changed its traditional asset with the implementation of two main Legislative Decrees, the no. 502/1992 and no. 517/1993, according to which "regions are granted greater responsibility and autonomy, and the Local Health Units and Hospitals were transformed into Agencies" (Barile et al., 2014, p.209). Going over, the decentralization of health governance, including a hot issue such as expenditures' control, has been regulated through Legislative Decrees no. 112/1998 and no. 229/1999. Finally, in 2001 a general constitutional reform has interested the whole Italian NHS, which has been oriented to the main principle of fiscal devolution. Going over, the so-called "Balduzzi law" (no. 189/2012) has recently introduced several changes in terms of health protection and healthcare resources rationing, according to the main principle at the roots of Spending Review regulation (135/2012). It is clear that the most recent legislation dedicated to NHS has directly influenced the rise and spread of managerial culture, promoting the diffusion of a business-like configuration in the whole system (Saviano et al., 2010). As stated before, NHS reform has interested different spheres of national healthcare, contributing to the radical redesign of the provided services. This trend has interested a great number of developed countries, which have implemented new and sometimes advanced reforms, aiming to a more efficient, sustainable, and open to public demand NHS. In particular, the

appliance of a managerial approach to healthcare services needs a general rethinking of organizational and managerial model on which the system roots (Morris and O'Neill, 2006). This changing process can be based on specific communication technologies, new managerial practices, and the direct interaction with people (e.g. patients, families, social organizations, institutions etc.). Thus, healthcare system re-design is mainly focused on a collaborative idea of wellness and public health, open to patients' contribution and to an evidence based care path. The key features of healthcare services redesign are: a wide participation of patients; the shift from "push" to "pull" processes; improving the cooperation and communication between different actors (providers, clinicians, patients, families, patient organizations, citizens etc.); a growing attention to service efficiency and effectiveness. Healthcare services redesign is a specific practice aiming to renovate the current policies and services thanks to patients' contribution. According to main issues emerging from literature review, the semi-structured interviews have been oriented to investigate some key themes such as: patient participation, satisfaction, and information on treatments. Consequently, it has been defined four main categories influencing patients' participation in service redesign: 1) Involvement policies; 2) Information on treatments; 3) Patients satisfaction; 4) Participative process. Furthermore, also in this sector, co-production puts its emphasis on the emerging partnership between health consumers and providers (Dunston et al., 2009). Thus, this partnership plays a pivotal role also in NHS general reform, contributing to the affirmance of a "human-centered design approaches to innovation" (Freire and Sangiorgi, 2010, p.10), based on new skills, competence and sensitivity. Participatory design or redesign practices require the involvement of "the right set of actors in the right moment" (Freire and Sangiorgi, 2010, p.10), necessary to make participants able to generate lasting, transformative, and participatory projects. This means that in healthcare co-production logic is now at the roots of a growing number of activities, also thanks to the spread of network technologies (e.g., social media, blogs, wiki etc.), which represent a concrete and participatory space.

This study has been based on the analysis of four main public healthcare providers, settled in south of Italy, in order to deeply investigate local approach to public and patient participation in healthcare services' re-design. The selected providers are of comparable dimension, served population, and demographic structure, nevertheless the organization located in Salerno offers its services to a broad county. All these public providers serve a wide area, made up of urban and suburban districts, offering different and sometimes specialized services. However, two of them (Ospedale Civile di Caserta; S. Giovanni di Dio Ruggi e D'Aragona; Salerno) serve wider and somewhat complex areas, corresponding to Salerno and Caserta counties. In particular, S. Giovanni di Dio Ruggi e D'Aragona is a university hospital that operates in partnership with the Faculty of Medicine at University of Salerno. Consequently, it is deeply involved not only in the provisioning of current standard medical services, but also in advanced research activities.

The interviewed managers stated that patients' involvement is fundamental in their organizations, because they believe that they can contribute to offer much more performing and competitive services. In fact, patients and their families are even more informed and competent not only about disease, but also about the related therapy path; consequently healthcare providers are increasingly *interested to their* opinion in order to be able to offer renewed and performing services. Interviews' results show that patient involvement is fundamental to better respond to social needs, offer much more performing and satisfying services, and gain higher level of informed consent.

> *"Patient involvement can positively affect their satisfaction, also thanks to the development of program and offering as performing as possible to social needs" Manager 2.*

> "*Patient involvement and communication has been based on different channels such as URP, marketing department, and also social channels*" Manager 3.

"Patient involvement is promoted through the URP, corporate web site, and front office" Manager 4

Going over, managers look to informed consent as the cornerstone of patient commitment, because it is considered the best way to obtain information about patients' commitment, contribution, and treatments acceptance. Consequently, providers seem to be not so aware about the potential of other forms of interactions (e.g. social media, web site, blogs tec.) in terms of information sharing, direct cooperation, and communication. Thus, patients participate to healthcare service redesign in many different but still traditional ways; in fact, they are asked to participate to focus groups or specific opinion polls and to interact with front office structures.

"The Informed consent and the direct interaction with physician make patients able to participate to treatment choice" Manager 2.

Patients involvement in research and/or care protocol is considered not so important and critic in care and research protocol definition. This means that providers still consider their contribution limited to service design and evaluation, in order to make them long-lasting, innovative, and customer oriented; thus, according to healthcare operators' general opinion, patients lack of those skills and competence necessary to give a contribution to critic activities such as healthcare protocol definition.

"*We don't believe that patients or any associations have to participate to care and research protocol definition*" Manager 1

In terms of information on treatments, according to responding managers, complete and accessible information is fundamental to make patients aware of their diseases and the related treatments. Going over, they consider patients' involvement fundamental not only to make their services more performing and competitive, but also to better satisfy their customers. Therefore, providers aim to better respond to patients and social needs interacting and communicating with them. In particular, these providers use a wide range of communication channel, such as: URP (Ufficio Relazioni con il Pubblico), Information points, web sites, and the Services Charter.

"*Healthcare information is generally given by Operative Units' staff, while organizational ones are by the front office staff (URP, CUP-Ticket, and Information Point), corporate web site, and services charter*". Manager 1

Among healthcare providers online communication is still limited to traditional corporate web sites; thus, online tools and network platforms are considered not so influent in terms of patient-providers cooperation and communication, also in terms of service design or re-design. This also means that providers are not so aware about the real potential of these technologies also in terms of co-production. According to managers' responses, they seem to be not so open to patients' involvement in specific or innovative projects.

"*We have developed an online communication based on corporate web site and the online services charter*" Manager 1.

"Patient involvement is also promoted through a specific social communication strategy" Manager 3.

"On line communication is developed via corporate web site" Manager 4

To satisfy their customers, healthcare providers try to re-design services according to their needs, which are periodically tested through specific surveys, interviews or discussion with internal

medical or operative staff. Consequently, patients are often demanded for information about their own experiences in terms of therapies, services, and any inefficiency, in order to make public providers able to overcome and solve these problems.

> "*Patients are asked about their satisfaction through periodic surveys, while inefficiencies can be directly reported to internal URP*" Manager 1.

> *"Patient satisfaction is generally tested through periodic surveys"* Manager 3.

In terms of civic participation, Public healthcare providers often promote the development of specific projects aiming to services redesign or to make healthcare offering as wide as possible, opening it also to other sectors and activities.

> "*This organization promotes different projects open to patients, ONGs, and other social organization contribution, such as: Comitato Ospedale senza dolore; Comitato di redazione per il sito web aziendale; SATTE (Servizio di Assistenza Trapianti e REapiantati Epatici); AIL (Associazione Italiana contro le Leucemie)*". Manager 2.

Concluding, in Italy public healthcare providers seem to be still conservative especially in terms of online cooperation and patient involvement in specific activities such as medical research and medical protocol definition. This trend has led to miss some interesting opportunity both for healthcare management and patients, because civic participation is still limited to better understand patients' preference in order to tailor health services and treatment plans, even if a shared decision-making model is still to be achieved. This seems to be directly related to providers' attitude to protect the administration of critic activities such as protocol definition and experimental treatments. Consequently, it has to be noted that these emerging forms of civic participation often arise from spontaneous public or institutional initiatives; thus, Italian healthcare providers seem to be not so focused on co-production and in particular on redesign strategies definition and implementation.

6. Conclusion

In healthcare, as in many other strategic sectors, co-creation general logic poses new and sometimes complex challenges for both healthcare users and providers. In particular, among patients and their families there is an emerging attitude to directly participate in therapy paths and in services development and management (Elg et al., 2012). Furthermore, also in this sector, co-production puts its emphasis on the emerging partnership between health consumers and providers (Dunston et al., 2009). Thus, this partnership plays a pivotal role also in NHS general reform, contributing to the affirmance of a "human-centered design approaches to innovation" (Freire and Sangiorgi, 2010, p.10), based on new skills, competence and sensitivity. Participatory design or redesign practices require the involvement of "the right set of actors in the right moment" (Freire and Sangiorgi, 2010, p.10), necessary to make participants able to generate lasting, transformative, and participatory projects.

The study has contributed to better understand how and if emergent technologies can positively affect social contribution to healthcare system paradigmatic change. In particular, co-design and participatory redesign are deeply related to co-production and co-creation practice, being based on a customer-oriented and relational view, according to which innovation is strictly dependent from customers' need (Michel et al., 2008). According to literature review and public managers response to our interview, public managers considers patients' involvement fundamental not only to make their services more performing and competitive, but also to better satisfy their customers. Therefore, patients participate to healthcare service redesign in many different but still traditional ways; in fact, they are asked to participate to focus groups or specific opinion polls and to interact

with front office structures ("*Patients are asked about their satisfaction through periodic surveys, while inefficiencies can be directly reported to internal URP*"). Nevertheless, public healthcare providers still consider the informed consent the main way to achieve patients' opinion and/or judgment on their initiatives, services, and policies (*"The Informed consent and the direct interaction with physician make patients able to participate to treatment choice").* Consequently, online tools and social platforms are not considered interesting in terms of patient-providers cooperation ("*We have developed an online communication based on corporate web site and the online services charter*"). In fact, these tools are generally used to offers some corporate information to citizens and patients, even if just in a case social media are currently used to promote citizens participation in service design and re-design. Consequently, public healthcare providers seem to be not so aware about the real potential of emergent technologies and in particular of social media, in terms user participation to service design, re-design or even delivering. In fact, according to managers' responses, they are not so open to patients' involvement in specific or innovative projects. Thus, they are not interested in innovative tools such as collaborative platforms, social media, blogs, or any other technological systems. In terms of collaborative projects, it has been obtained discordant responses, because if two structures have developed specific projects open to civil participation, the other two still consider patients as passive receivers of their services and communication strategies. In some cases, their involvement in care and research protocol definition is considered unnecessary, because they are considered not able to support the development of specific and not common protocols ("*We don't believe that patients or any associations have to participate to care and research protocol definition"*). On the other hand, it has also emerged that one of the four health provider seems to be well disposed to patients involvement in specific and collaborative projects ("*This organization promote different projects open to patients, ONGs, and other social organization contribution, such as: Comitato Ospedale senza dolore; Comitato di redazione per il sito web aziendale; SATTE (Servizio di Assistenza Trapianti e REapiantati Epatici); AIL (Associazione Italiana contro le Leucemie)*". According to literature review and interviews results, Italian healthcare providers even if are persuaded of patient commitment importance, are still conservative especially in terms of online cooperation and patient involvement in specific and sectorial activities such as medical research and medical protocol definition.

Co-creation logic have directly influence also public involvement in healthcare, looking to citizens, health consumers, and local communities as health professionals' partners, deeply involved in all processes related to health system development and functioning (Davies et al., 2006). According to this perspective, patients can be considered a potential source of value thanks to "self-generated activities (e.g., by accessing their own personal knowledge and skill sets and through their cerebral processes) that contribute to and ultimately become part of this co-creation" (McColl-*Kennedy* et al., 2012, p. 6). Concluding, several studies have suggested that a direct patient involvement in healthcare processes could help providers to develop much more performing services (Prahalad and Ramaswamy, 2004, 2013; Sanders and Stappers, 2008; Engström, 2012). On the other hand, according to others scholars patients' insights and creativity seem to be very important in making healthcare processes much more competitive than ever (Engström and Langstrand, 2012), even if there are no concrete evidence about patients perception about their contribution to healthcare activities, such as healthcare services redesign and innovation. Moreover, the prevailing studies have failed to provide a better understanding of main elements influencing co-creation and re-design healthcare process. This paper is somewhat limited by the research context, being focused just on the analysis of four of main public healthcare providers (public hospitals) settled in the south of Italy and in particular some of the main Campanian cities: Avellino, Benevento, Caserta and Salerno.

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