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TOWARD THE FUTURE COMMUNITY CARE: A MULTI-STEP EXPLORATORY STUDY FROM A SERVICE & SYSTEMS PERSPECTIVE FOCUSED ON THE KEY ROLE OF TECHNOLOGY

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ABSTRACT

In our fast-changing world, management and marketing acquire a strategic relevance. They become an important reference and support when it comes to making healthcare more effective, efficient, and sustainable. A key contribution in achieving these goals is played by a systems governance and management of healthcare (Pollard, 2016); hence, by the adoption of a systems approach (Golinelli, 2000, 2010; Barile 2000, 2009).

Due to an ageing population and the growing number of patients with comorbidity, the number of patients with chronical illnesses (for which there may not be a cure) is growing.

This situation highlights the need to define governance policies capable of ensuring the sustainable development of the economic and social system through appropriate forms of organization.

In this problematic context, a need to understand and interpret the complexity of service systems and social phenomena using general schemes of interpretation, arises. Essentially, the complex goal is to balance the effectiveness, efficiency and sustainability of service in the governance of the healthcare system (Saviano, Bassano, & Calabrese, 2010). Accordingly, this study aims to investigate the evolutionary trend of change that the Italian Healthcare System is facing now in order to make healthcare service more effective, efficient and sustainable using the lens of systems thinking as a valid interpretative support of complex phenomena.

On the basis of this premise and considering the widely agreed need of increasing community care, especially experienced during the COVID-19 pandemic, more specifically, this work aims to investigate the conditions of the effectiveness, efficiency, sustainability, and also safety, of healthcare services while shifting from the hospital setting to community and home care.

This shift is rich of implications and, although hospital care is in actual fact the highest level of assistance in both structural and organizational terms, it may result much more complex to effectively, efficiently and sustainably organize care at a community and home care, given the need of integrating many diverse systems components.

The work starts with an introductory overview on the state of the art of the INHS and a focus on community and home care. In the first chapter, the aim is therefore to gain a better understanding of the phenomenon, comparing the two models, the hospital and the community care, in the light of the lessons learnt from the COVID-19 pandemics and the subsequent rethinking of healthcare, which is affirmed and strategically framed in the National Recovery and Resilience Plan (PNRR).

In the second chapter, the multistep general interpretative methodology adopted for the study is illustrated. The aim of this chapter is to illustrate the overall interpretative framework developed by benefitting from well-established theoretical streams appropriate for framing the study of a systems and service problematic context both at theorical and empirical level. In chapter II, the lenses are derived from an integration of the main reference principles and general schemes of the Viable Systems Approach (*VSA*), Service Science (SS) and Service-Dominant logic (S-D logic). In the chapter III, these lenses are used for outlining the first interpretative hypothesis as preliminary conceptual findings. In the chapter IV, these preliminary findings will illuminate the deepening of the literature state of the art conducted by using a software tool to further develop the interpretative hypotheses. In the final chapter V an empirical exploration of the main conceptual ad theoretical findings is conducted based on a case study.

More specifically, in the third chapter, the first interpretative hypotheses are developed, starting from the comparison of the two provision models of healthcare (hospital care and community/home care) in the light of the *VSA* structure/system paradigm. The complexity of reconciling the effectiveness, efficiency, sustainability, and safety of healthcare is analyzed in a systems perspective. As first conceptual findings, a revised system's view of the LEAs framework is discussed, on the basis of which a general understanding of the possible problems of the shift from hospitals to community and home care is elucidated. Subsequently, the more specific conceptual understanding of the phenomenon under focus is guided by the use of the Bolton et al. Cube as a reference model to understand how the different dimensions of healthcare services change when the investigated shift is put in place. What emerges, at this stage of the study, is that the evolution toward community and home care can and probably should imply a higher digital density of the service, bringing out the specific problem: the critical role of technology in the path toward an effective, efficient and sustainable community and home care.

In the fourth chapter, the literature state of the art is studied by mapping knowledge about the critical role of technology acceptance in the path toward a higher digital density of the healthcare services. The methodology of the bibliometric literature review through the VOSviewer software is illustrated, and a three levels of analysis designed to provide: 1) an overview on teleassistance as an evolutive trend of healthcare; 2) a focus on telerehabilitation as a community-based service, and 3) a review of technology acceptance theory in healthcare as the key specific problem to address. The main theoretical findings of the chapter highlight

the need to investigate the technology acceptance problem in the imposed innovation of future community and home care in Italy.

In the fifth and final chapter, an explorative case study-based is conducted, with the aim is to find preliminary evidence about the technology acceptance problem from the analysis of a real problem. The interpretative hypothesis previously derived from the state of the art and theoretical study inform the study of the real case guiding the discussion of the key elements to design an effective, efficient, safe and sustainable transition toward the future community and proximity-based healthcare.

The empirical exploration aims to understand which a possible path is to pursue a shift toward remote assistance through digital technologies. In the light of current and possible teleassistance models, we analyse the Nuova CTA case, focusing on the possible development of telerehabilitation based on the introduction of a new technology (Khymeia Group system), to understand the acceptance of technology and envision possible effective paths for new technologies implementation aimed at innovating community and home care services, identifying the possible blockers and enabling factors. The empirical exploration is made of three steps: 1) focus groups with experts before the implementation of the technology, during which a shared overview of the problem is reached identifying the main possible contracts of technology acceptance; 2) analysis of the first acceptance of the technology during the training days; 3) in-depth interviews based on a qualitative questionnaire to assess the effectiveness post-implementation and in use acceptance of the new technology. The three stages analysis led to the identification of possible blockers and enabling factors to pursue the necessary transition toward a higher digital density of the service.

As emerged from the case study, although on the micro level of the case analysis some promising and enabling conditions to implement teleassistance programs emerge, at a macro level many possible blockers can be envisioned, of which bureaucracy, the non-yet implemented digital health record system, and the general unpreparedness appear as the most important.

Thus, we may conclude that in theory the INHS is ready to implement service innovation addressed to the necessary transition toward the future healthcare based on community care and proximity. In practice, the time for that hasn’t come yet and previous evolution of the system, functional to the one shaped in the PNRR, are necessary, both at the structural and at the systemic levels.

Further research that involves all the actors of the overall local healthcare ecosystem, starting from the institutional one that defines the context of constraints and rules to comply

which, such as the Local Health Authority will be necessary to progress the study in a non-explorative way and in order to assess the higher complexity generated by the further community care as ambitiously planned by the PNRR.

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