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INNOVATION MANAGEMENT FROM A HOLISTIC PERSPECTIVE: A CASE STUDY IN HOME HEALTHCARE

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Abstract:

There is a widespread belief that incorporating ICT into home care businesses would lead to greater productivity and higher quality of service delivery for patients. Many studies have been conducted in recent years to mimic current procedures and develop useful technical instruments. This study claims that the incorporation of ICT devices into home care requires a comprehensive and global approach to innovation management. After elaborating on the nature of home care, we briefly introduce the industrial need that prompted our investigation. We also share some thoughts on the impact of ICT on home care companies and the value of health care innovation. Next, we argue for a systemic and holistic perspective on innovation, its design, and management, grounding our work in many theories of systemic approach to organizations and change. We round up our theoretical idea with findings from a pilot research on how people understand the advantages of innovation. In order to examine this aspect of innovation (Lansisalami, 2006) among various actors of the home care organization under study, we developed a questionnaire based on field observations and interviews. Thirty people from six different profiles have provided us with data thus far. Patients tend to vary the most from other profiles in their views on the relative importance of various benefits associated with the introduction of new technology.

Management, Systems Thinking, Home Care Innovation, Information and Communication Technology, and Change

I. introduction:

Beginning in the 1950s, home care in France was spurred on by two factors: a shortage of hospital beds and the sudden availability of medical technology that could be used outside of traditional healthcare settings. Since then, home care has been a legally recognized and financially preferable alternative to traditional hospitalization. This is crucial at a time when an aging population is one of the most pressing problems we face today. This explains the increasing prevalence of national policies geared toward the advancement of home care, as seen by the proliferation of national research programs and national institutions aimed at bolstering the growth of home care infrastructure.

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An intriguing example of a different approach to health care delivery is seen in home care settings, where the patient plays a central role in care coordination, and where the exchange of medical data is of highest significance. We believe that home health care is an example of healthcare system innovation. Home care, despite its potential benefits, has its own set of difficulties. Patient care procedures are typically poorly coordinated due to the wide variety of people, locations, and technologies involved, which may lead to miscommunication and mistakes in record-keeping. The use of ICT technology for mobile health actors and in patients' homes seems to be a significant step toward enhancing current procedures and modes of operation. Predicting how the healthcare industry will adapt to the rise of mobile services is challenging. Just though new technologies are generally well-received doesn't mean they'll be widely used by a wide range of stakeholders and patients. The focus should be on implementing a transition between two distinct organizational models, taking into account all relevant factors, such as partnerships with other healthcare institutions.

II. literature survey:

1. Home Health Care Logistics Management: Framework and Research Perspectives:

The field of home health care (HHC) is one of the fastest expanding in the medical services industry. Patients are hospitalized in their own homes, and health care professionals are responsible for providing them with comprehensive, coordinated medical treatment as part of a delivery network. When compared to conventional healthcare providers, the added complexity of logistical considerations is a direct result of including patients' and doctors' residences as part of the delivery network. In this study, we provide a paradigm for HHC logistics management as a starting point for a discussion of future research directions. Using this structure, we provide a concise assessment of the literature on models and approaches that aid in logistics decision making and pinpoint areas where further study is needed. In particular, we stress the need of developing and implementing more integrated techniques to aid in tactical and strategic planning choices, taking into account crucial elements from actual systems.

2. CareCoor: Augmenting the coordination of cooperative home care work:

The current research intends to strengthen the home care system for the elderly. We examine the dynamics of family and home care worker collaboration around the elderly, introduce the CareCoor system designed to facilitate this kind of work, and provide our findings from two pilot evaluations. MethodsWe used ethnographic fieldwork methods and participatory design workshops to shed light on the nature of cooperative home care work and to elicit implications for the design of an IT system that would support the work of family members and home care workers around elderly persons. The design implications prompted the creation of a web- and tablet-based prototype named CareCoor. Two preliminary testing of CareCoor followed. In the first, three seniors, their next of kin, and relevant home care employees participated for a week, whereas in the second, five

seniors, their next of kin, and relevant home care workers participated for six weeks. Findings show that (1) home care work is highly cooperative in nature and involves substantial coordinative efforts on the part of the actors involved, (2) the network of care around the elderly can be augmented with new technology that allows all members of the network to follow, influence, and be a part of the cooperative care of the elderly, and (3) the prototype introduced in this study, CareCoor, shows promise as it was well receive by participants. Aging populations in Europe, the United States, and much of Asia have increased the need for home care workers. Caregiving in the home is essentially a team effort including family members and paid caregivers; modern information technology, such as CareCoor, may enable and enhance this collaboration. After showing promise in the pilot round of testing, CareCoor will go on to a more comprehensive evaluation.

3. A distributed coordination platform for home care: analysis, framework and prototype:

Health care (HC) professionals, patients, and families must work together effectively during homecare, according to studies and assessments from throughout the world. To address the challenge of enhancing such collaboration using existing resources and methods, we embarked on a French national initiative called coordination for the quality of care (COQUAS). We postulated that, like in other fields, the utility of the collaborative tool would increase with improved integration of usage and users in informatics systems. The cognitive analysis of the homecare process is discussed in the first section of this article, along with the criteria that should be satisfied as a result of this study. We detail the characteristics of asynchronous collaboration and the

challenges of HC worker communication. We then describe the homecare process analysis in depth, including the approach used, the processes described, the cognitive activity analyses performed, and the resulting needs. The paper's second section makes a framework proposal and then details a prototype modular system that takes into consideration these needs, such as collaboration and interoperability. It follows the current trend in distributed architecture by using XML exchange of messages, managing complicated coordination with a workflow, and enabling mobile work; it generates a meta-description of activities and information based on a cognitive research.

4. Implementing information systems in health care organizations: myths and challenges:

Health care businesses may find it challenging to integrate patient care information systems (PCIS). Following an analysis of the problematic nature of lists of "critical success- or failure factors" and a discussion of the meaning of "success" and "failure," this article addresses three fallacies that often impede implementation procedures. New perspectives are offered, and they're backed up by instances. To begin with, the organization and the technology undergo transformations of their own throughout the installation of a PCIS. PCIS deployments may be planned more deliberately to aid in the company's transformation if this is anticipated. Second, approval from top brass and enthusiasm from potential customers are prerequisites for success. In order to integrate user feedback into a cohesive steering force and provide a strong foundation for organizational change, a top-down structure for the implementation is required. Last but not least, managing IS implementation procedures requires striking a

delicate balance between launching an organization-wide shift and using IS as a catalyst for that shift, without trying to micromanage the transition in advance. Perhaps the most difficult thing to acquire is how to embrace and even benefit from this constant state of flux. All rights reserved 2001 Elsevier Science Ireland Ltd.

5. Rationalizing Medical Work. Decision-Support Techniques and Medical Practices:

At first sight and based on the book's title alone, it seems that the book is about expert systems and decision assistance. Although medicine remains a stronghold, this field of information systems study has seen a precipitous decline from its peak in the mid-1980s. Decision-support systems, in and of themselves, have a somewhat narrow function in our field today, with only minor repercussions. However, it would be a grave error to classify the work solely as a contribution in this narrow field. The book's true value lies in the insights it provides into the actual applications of computerized data storage and retrieval systems. The emphasis on such tools as decision support systems is, however, mostly pragmatic. The book's most interesting and original feature is Berg's analysis of how appropriation alters both the tools and the work at the same time. Berg places his research within the larger backdrop of fundamental shifts in the healthcare system. In chapters 1 and 2, he argues that efforts to implement decision-support systems should be seen as an expression of a larger, historical aspiration to make medicine and medical practice more logical and streamlined, or to convert it from "art" to "science." Thus, the emphasis on decision-support systems provides a useful window into the larger institutional and political re-structuring of medical activity.

III. PRESENTATION OF THE CASE STUDY:

Home care provider informational presentation Our research collaborator is a French home care agency that has been around since 1968 and provides hospital-level care delivered directly to the patient's home, as well as skilled nursing care. The first option, "hospital at home," is an alternative to traditional inpatient care that keeps patients at home with their families despite the severity of their illness. Patients need constant monitoring and intensive care, both of which are performed mostly by nurses. Nursing at home, the second option, entails simpler duties that are often carried out by assistant nurses. Patients in this field are often the elderly or handicapped who need assistance with routine tasks including personal hygiene, grooming, and mobility. Nurses, assistant nurses, coordinating nurses and senior nurses or coordinating doctors, social workers, psychologists, physiotherapists, and a dietician are only some of the medical and paramedical actors employed by the structure to assure the global charge of patients from both services. Secretaries, logisticians, human resources and quality managers, and lastly accountants and financial officers are just a few examples of the many administrative profiles out there. Finally, the staff is divided into six groups, one for each geographic area, to accommodate the dispersed nature of the patients. They must work together in teams to ensure a comprehensive view of patient care, since they are not responsible for any one individual nor any one particular activity (hospital at home or nursing at home). About 500 people are cared for on a daily basis, with about 20% receiving home hospitalization and 80% receiving home nursing services. The intricacy of home health care When we talk about "home care," we mean the

provision of various medical and paramedical services to patients in the comfort of their own homes. Home health care, hospitalization and nursing at home (both in France), assistance and treatment at home (both in Italy and Australia), and hospital in the house (both in the United States and the United Kingdom) are various names for the same concept (Chached, 08). The field of home care is often portrayed as one of great complexity. It takes place on a complex system that is divided into four main sectors, as explained by Bricon-Souf et al.: "COMMUNITY: politicians, patients, hospitals, board of directors; CONTROL: managers of hospitals, of home care organisations; CURE: acute hospitals, physicians, community of physicians; and CARE: nurses, other professionals, and a strong collaboration is needed between, but also within, each of these sectors" (Bricon-Souf, 2005). Every participant is paired not only with peers from their own field or industry, but also with representatives from other fields and industries. To guarantee the patient's well-being and a high standard of care, it is essential that all these parties work together effectively and share relevant information (see Figure 1 below).
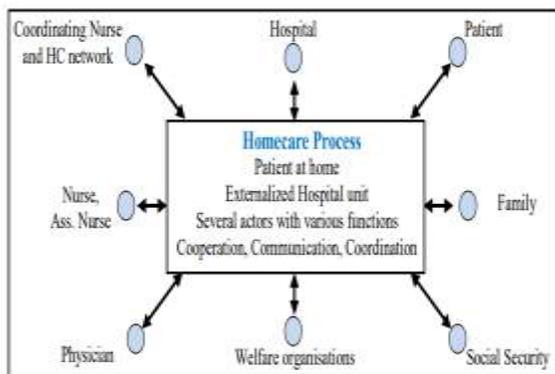
Second, home care is structured around the logistic process and the health care process, which are distinct from one another but highly reliant on one another (Bricon-Souf, 2002).The health care process includes not only the delivery of services to the patient outside of the house, but also the monitoring and management of the patient's health trajectory via the collection of crucial data. The admission of a patient into the facility and the subsequent coordination of all of the resources (human and otherwise) required for his care are integral parts of the logistical process.

Third, in home care, the patient is the primary participant. He is more than just a "customer"; he actively takes part in his treatment. He is free to choose the carers he prefers and to decline any care he deems unnecessary. Some of the caregiving responsibilities, such as arranging for the transportation of medications from the pharmacy to the house, may be handled by the patient (or his family). Finally, the patient and his family are usually the most reliable resources for learning about the progress of treatment. Thus, the patient and his family are at the center of home care and its complexity due to their key role and the wide variety of characters involved. The home care system relies on a number of technologies to facilitate effective communication, cooperation, and information sharing across its many components. There are a plethora of "tools" available today, whether they be physical (paper patient record kept at home) or ephemeral (mobile phones for communication between traveling nurses and doctors, home-care-oriented software for managing operations, etc.). The amount of time spent communicating in writing and verbally is substantial, and having a shared language is essential for productive work together (Minel, 2003). This wide variety of instruments, coupled with the persistence

of paper records, results in sluggish coordination and convoluted operations. Problems with data loss, deficiency, or mistake; and an excessive amount of time spent documenting and transmitting information are all things that we can see. Next, this has far-reaching effects on typical workplace procedures. The table below lists a few of them for your convenience.

The need for the introduction of technological devices:

New forms of workplace infrastructure that promote the automation of repetitive operations and the instantaneous exchange of medical and organizational data have the potential to remove or streamline many of the activities outlined above. This is why many home care agencies are investing heavily in both the computerization of patients' records at home and the provision of technology instruments to mobile health actors. A home care organization called our team of investigators to assist it assess the usability of a new gadget created by an IT firm and modify it to better suit its needs. It seemed like knowing how the health care system worked would be crucial to keep up with demand. First, we gathered information on the structure's various players' processes. We have watched numerous workers during their shifts in order to

discover information that is not included in the published rules and procedures. We have also had a number of discussions with policymakers to discuss their hopes and fears about the IC's rollout. Our grasp of current home care activities and the function of ICTs in enhancing service quality was greatly enhanced by this part of the research process. This research led to two main conclusions: (1) there are numerous barriers to introducing ICT tools in home care companies; and (2) assessing the quality of usage and collaborating on the interface aren't sufficient to meet the needs of these businesses.

IV. TOWARDS INNOVATION IN HOME CARE:

Introduction of ICT in home care:

Many studies have focused on the implementation of mobile ICT devices for home care, which is seen as a major step towards the solution of current difficulties in this field. For example, in Petrakou's (Petrakou, 2007) research, she examines how families and other care providers really utilize a paper binder to communicate with one another. Both Bricon-Souf et al. (2005), who conduct a cognitive study of work between various players, and Koch et al. (2004), who create a "virtual health record" for mobile access and documentation, suggest technology platforms to enhance communication. Latortue et al. investigate the effects of technological change on the spatial and temporal features of data and how this influences teamwork (Latortue, 2013b). Indeed, these investigations demonstrate an interest in assessing current procedures in preparation for the design of new equipment that would eventually replace conventional instruments. A key aspect of modern home care that they fail to address is the impact of

technology. "not enough to use modern IT-systems to support work in the way it is currently performed," write Johansson and Sandblad. "instead, it is more important to see the potential in how the new technology can contribute to a positive development of the work and the organization as a whole." Johansson (2005). In a similar vein, Hamek (2005) argues that the expansion of electronic exchanges between actors, families, and patients, as well as the development of new technologies, new tools, concepts, computer networks, are reorganizing care itself.

V. Results:

Five nurses (N), ten assistant nurses (AN), four coordinators and senior coordinators (CN), two coordinator doctors (CP), four medical secretaries (MS), and five patients (P) have contributed to this study thus far. Their ages ranged from 24 to 51 (MED=37.10). The standard deviation for each score is included in brackets after the average score for each statement and actor category in Table 2, which also includes the total average score for all actors (TOT ALL) and the total average score for all medical actors (TOT MED). The findings demonstrate that some of the anticipated advantages are valued more highly than others. Error and omission reduction seems to be of paramount importance regardless of actor type. It seems that the medical players place a high value on the potential for reducing the effort required to rewrite information between the patient's house and the doctor's office. Then, it appears that having access to one's colleagues' plans is vital, particularly for assistant nurses, even though one's own access to one's own planning is considered as highly significant. On the other hand, medical actors seem to be in agreement

regarding the significance of projected advantages relating to the availability of medical data for players outside of the patient's house, such as doctors, nurses, and pharmacists. Finally, it seems that patients and medical actors have divergent views on what constitutes a priority. Some would say that our questionnaire was missing patient-focused questions. However, as was previously said, we relied heavily on information given by the home care business, the beneficiaries of whose services should first and foremost be the medical actors. Our findings indicate that in general, healthcare players agree on the significance of the expected gains from the use of ICT technologies. We want to interview not just doctors and independent nurses, but also other staff members at some point in the future to broaden the scope of our research.

Conclusion:

In this article, we outline a current research initiative motivated by a need in industry. We propose that a home care organization's adoption of information and communication technologies (ICTs) should be seen

as a multi-faceted process aimed towards innovation, based on a systemic approach to change. We think this method will help us foresee possible issues, enhance the future system's design, and make its adoption and transition easier. Taking a systemic perspective on businesses helps to decipher the intricate web of interdependencies that exists inside them, which in turn may aid in the discovery of innovation-promoting variables. Our early research shows that the adoption of ICT would affect many players in diverse ways, each with their own perspective and set of demands. In a complex situation, it may be challenging to weigh the relative significance of the many demands and views of the various participants. Therefore, it is reasonable to assume that the ultimate answer will be a compromise between these many points of view, but further research is required to fully comprehend the ideas that behind these divergences. Patients and their loved ones should be given more priority in this setting. Management in the home care organization reviewed (Merlo, 2004) makes strategic choices based on its own assessment of patients' well-being, without patients' input. This type of command-and-control strategy doesn't seem conducive to the development of patient-centric value and care. Since implementing ICT is an iterative process, and since there are so many different stakeholders to account for, it may be difficult to foresee the "best" option at the outset of a project. Further, it would be interesting to discover these success elements by developing a more in-depth examination of the new processes as the industrial project develops. This raises the questions of how to evaluate progress toward a solution and at what point progress is deemed complete. We agree with Berg (2001) that the concept of implementation success is multidimensional, changes over time, and is dependent on the viewpoint, and we hope to continue our future research to better understand the adoption of innovations in new types of health care organizations.

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