E-health enabled integrated care teams, what makes them effective? – Interdisciplinary collaboration

Summary thesis Health Sciences

17th of August 2016

Lisanne Penterman

UNIVERSITY OF TWENTE.

Supervisors University of Twente

Prof. dr. C.P.M. Wilderom (Business Administration)

Prof. dr. A.P.W.P. van Montfort (Health Sciences)

Preface

This thesis is a combined MSc-thesis for both Business Administration and Health Sciences. In the Introduction two topics will be introduced, interdisciplinary collaboration and medical leadership. The latter topic is mostly related to the field of Business Administration, while interdisciplinary collaboration is the focus of the thesis part that was written in order to conclude my Health Sciences study program.

1. Introduction

The worldwide population is aging, meaning that the prevalence of patients living with chronic diseases and comorbidity will increase (Gillespie, Mörlin, Hammarlund-Udenaes, & Hedström, 2012). Chronic conditions do not exist in isolation but occur alongside other chronic conditions. The prevalence and severity of comorbidities increase in an aging population (Piccirillo et al., 2008). Elderly place a burden on healthcare and long-term care, because high costs are associated with the health of older people (Bloom et al., 2015). These problems exert pressure on healthcare systems throughout Europe (Currie & Seddon, 2014). Expenditure on healthcare by European governments is growing, both absolutely and relative, and it is expected to increase over the next decades (Przywara, 2010). This challenge requires innovative solutions: to transcend access problems and to reduce costs for the providers and the patients (Bujnowska-Fedak & Pirogowicz, 2014). Information and communication technologies (ICT) are promising to be beneficial for these issues. Those information and communication technologies are shown to be even essential for a modern, cost-effective way of delivering healthcare services (Murray, May, & Mair, 2010).

ICT in healthcare aiming to improve quality of care, widen access and increase efficiency of services are called e-health or telemedicine (Mair et al., 2012). E-health has the potential to improve the health of individuals and performance of healthcare providers, by improving quality, creating cost savings and increasing engagement of patients in their own care (Blumenthal, 2010). Furthermore, e-health also can be used to achieve the “Triple Aim” (Sheikh, Sood, & Bates, 2015), originally developed to improve the United States’ healthcare system. The Triple Aim consists of the following three individual goals: 1. improving the experience of care from an individual perspective, 2. improving the health of the population and 3. reducing the cost of care per capita (Berwick, Nolan, & Whittington, 2008). The attention for the overarching aims needs to be balanced, otherwise quality might be increased, but also the costs. Alternatively, costs might be decreased as well as the quality (McCarthy, Klein, & Fund, 2010). E-health can be used to achieve the Triple Aim, what states the importance of e-health implementation.

For sustainable e-health implementation, an assessment to identify potential challenges is an essential step during the start-up phase (Jennett et al., 2003). The Model for Assessment of Telemedicine (MAST) serves as an assessment model for this purpose. MAST can be used for decision-making on use of telemedicine applications. MAST is a structured framework for assessing the contribution to quality of care and effectiveness of telemedicine applications, based on users and stakeholders' needs. MAST was developed through a developmental process with workshops consisting of users and stakeholders and was based on a systematic literature review (Kidholm et al., 2012). This assessment tool was developed based on research on seven predefined domains. One of the seven domains of the multidisciplinary assessment are 'organizational aspects' (Kidholm et al., 2012), this domain will be extended in this thesis.

E-health is often referred to as a 'disruptive innovation', what means that e-health has the potential to change the vision of people, related to the way they look at future care (Weinstein et al., 2014). The literature, current experiences and recent studies indicate that the 'organizational aspects' domain is a challenging domain during implementation of e-health innovations. A domain consisting of major facilitators and barriers; both on the micro and meso level and on the macro level (Mair et al., 2007). E-health creates the opportunity for actors in the (health)care chain to co-manage a patient while being geographically dispersed (Chen, Murphy, & Yee Jr, 2013). This requires (health)care professionals to (partially) collaborate in a virtual setting, something which requires attention on individual, institutional and even (inter)national level.

Sustainable implementation of e-health in chronic care teams requires a complex method of changes and interventions with the aim to redesign and recombine different pathways. These pathways are existing of healthcare, social care, informal care and self-care (UrosevIûa & MitIûb, 2014). Before widespread emerge of e-health solutions, professionals were operating uniprofessional, in so called silos (Kwankam, 2012). The dynamics that entail a transition of integrating such old 'silos' require changes in interdisciplinary collaboration and specific (medical) leadership (Jansen, 2008). Interdisciplinary collaboration and (medical) leadership will both be future subdomains of the MAST domain 'organizational aspects'. Preliminarily data from a Pan-European pilot study and earlier documented reports indicate that engagement of healthcare professionals, especially physicians, is a major challenge for teams during e-health implementation (ACT, 2015; Busetto, Luijkx, Ellissen & Vrijhoef 2016). Thus, earlier research emphasizes the importance of interdisciplinary collaboration and medical leadership. Furthermore, in achieving the goals of Triple Aim by e-health, a recent research also implied the importance of family physicians providing leadership to improve health information

technology and better serve patients (Phillips, Bazemore, DeVoe, Weida, Krist, Dulin, & Biagioli, 2015).

The existing MAST framework consists of seven relevant domains based on the EUnetHTA Core Model, MAST does not provide in-depth indicators. Also, related implementation interventions are not provided. Each domain within the MAST framework need further development (Kidholm et al., 2012). This research sets out to investigate (a) factors and (b) relevant interventions, influencing interdisciplinary collaboration and medical leadership during the sustainable implementation of e-health. Those factors and interventions will be useful for managing the change of integrating the old 'silos' into e-health enabled integrated care during the implementation. The importance of soft factors (the behavioral aspects of management (also called human factors) (Wilkinson, 1992)) is stated in a recent study, it is concluded that behavior change is one of the aspects that should be added to improve the MAST-model (Ekeland & Grøttland, 2015).

By collecting factors and interventions related to interdisciplinary collaboration and medical leadership, a contribution can be given towards sustainable e-health implementation. Besides the 'organizational' domain of MAST will be extended with (a) an additional, in depth set of indicators aiding (pre-)implementation assessment and monitoring and (b) interventions to overcome challenges within these aspects in the MAST-domain 'organizational aspects'.

1.1 Research question

To contribute to sustainable e-health implementation and to extend MAST the following research question is put forward;

Main question:

What affects effective interdisciplinary collaboration and what is the role of medical leadership during and after sustainable implementation of e-health enabled integrated care for European elderly?

1.2 Definition of key constructs

The main research questions are embedded in a complex context. In order for a right interpretation of these questions some constructs need more explanation, namely e-health, integrated care, effective collaboration, medical leadership and others. The key constructs, as used in this research, are defined in the following paragraphs.

Definition e-health:

E-health has been given a lot of definitions, to clarify the term, the definition of Eysenbach (2001) is used, because throughout the internet, this definition is most cited (Oh, Rizo, Enkin, & Jadad, 2005). Eysenbach defined e-health as follows; “E-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology” (Eysenbach, 2001). In this research, promoting embedded interdisciplinary collaboration by e-health is the aimed end result.

Definition integrated care:

“The management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system” (WHO, 2008). As integrated care takes place across different levels of the health system and over time, integrated care will partially take place in a virtual setting. This will be an important context of a part of this research. Besides, this definition requires for collaboration to be multidisciplinary. A true integrated chronic care approach demands tailored stakeholders, depended on the needs of the individual, meaning that each integrated care system is (somewhat) different around every individual patient (van der Eijk et al., 2013). In this research, only indicators and interventions of integrated care teams will be gathered.

Definition indicators/factors:

According to Patton (1987), an indicator in the management field is used to set goals and direction, but a direct cause-and-effect relationship is not necessary (Patton & Forest, 1987). Another definition of indicators is related to decision makers, namely; indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals and objectives (Brizius & Campbell, 1991). In this research indicators are seen as: factors, topics, influencers, as well negative as positive, (in)directly impacting collaboration.

Definition ‘intervention’:

An implementation strategy is a bundle of implementation interventions. Implementation interventions are methods and/or techniques designed to enhance adoption of a clinical intervention. Clinical interventions are: clinical practices, delivery systems, organizational

arrangements or health promotion activities (Curran, Bauer, Mittman, Pyne, & Stetler, 2012). In this research intervention is seen as: strategies, tactics and activities with the intention to improve collaboration between team members.

Definition integrated care team(members):

In this research, team members are defined as: professionals in the health care, allied healthcare professions, social care, informal care and self-care. Health care is what most people assume as general care (general practitioners, hospitals workers, medical specialists etc.). Social care is defined as: the relations and activities involved in meeting the emotional and physical requirements of elderly, and the social and normative frameworks within these requirements (Daly & Lewis, 2000). Informal care is the care where family, friends and neighbours take care of another person. Self-care is the patient caring for himself in general by for example taking medications or regular exercise (European Patients Forum, 2014). Unique of an e-health enabled integrated care team is the team composition, the patient and informal carer can communicate with (health)care professionals. Based on an already conducted literature study, team processes and team structure (which consists of structure and size) have an impact on interprofessional teamwork (Xyrichis & Lowton, 2008). Smaller sized teams are more effective than larger teams (Poulton & West, 1999) relating to the structure, teams with more occupational diversity are also more effective (Borrill, West, Shapiro, & Rees, 2000). In this research the team composition (members and structure) will be investigated in relationship to indicators and interventions impacting interdisciplinary collaboration.

Definition ‘effective (interdisciplinary) collaboration’:

Eikey (2015) defined collaboration as follows: “Planned or spontaneous engagements that take place between individuals or teams of individuals, whether in-person or mediated by technology, where information is exchanged in some way (either explicitly, i.e., verbally or written, or implicitly, i.e., through shared understanding of gestures, emotions, etc.), and often occur across different roles (i.e., physician and nurse) to deliver patient care. At its core, collaboration involves the development and testing of rules of engagement and shared understanding that facilitates how people work together in shared spaces.” The definition of effective collaboration is aiming to be successful in achieving the intended result, here collaboration between professional disciplines, informal carers and patients by means of e-health. In this research an overview will be made on indicators and interventions impacting effective interdisciplinary collaboration, which is the aimed end-result.

Definition medical leadership:

In successful implementation, physician champions and leaders play an important role. As key players, physician champions need to recognize the qualities of a leader and they have to cultivate them (McGrath, 2005). Therefore, medical leadership is an important part of this study. Medical leadership is defined as: “the active and positive contribution of doctors within their normal working roles to maintaining and enhancing the performance of the organization which itself recognizes this commitment in supporting and encouraging high quality care” (Spurgeon, Barwell, & Mazelan, 2008, p. 214) In this research, the role of the doctor will be investigated in an e-health enabled integrated care field during an implementation phase.

1.3 Sub-questions

To answer the research question, the following sub-questions were formulated:

RQ 1: *What are key aspects of effective interdisciplinary collaboration during sustainable implementation of e-health enabled integrated care?*

RQ 2: *What interventions would facilitate effective interdisciplinary collaboration during sustainable implementation of e-health enabled integrated care?*

RQ 3: *What is the role of doctors/medical leadership in e-health enabled interdisciplinary care?*

1.4 Context

This master research will be performed within a European multi-centered research project. On this moment services are tested in several development sites within three projects throughout Europe. The aimed end result is to realize care integration across boundaries of healthcare and social care. This synergies project is founded to identify common indicators and interventions between the different projects and development sites. Furthermore, it was aimed to promote collaboration between the three individual projects and have publications together. These three projects are seen as a major opportunity to study in depth the ways in which various European pilots actually realized integration healthcare and social care.

These pilot projects are all focusing on offering integrated care, which takes the patient’s wishes and needs into account, but these pilots are not totally patient-centered. 2500 years ago, Hippocrates defined a good physician, his definition of a good physician is: I put the patient first and I will respect the patient’s opinion/view. I will not hurt the patient. I will listen to and inform the patient well (Peerdeman, 2016). This definition indicates delivering care and taking the patients’ wishes into account, but is not totally based on patient-centered care.

Recent definitions of patient-centered care are: “providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions” (van der Eijk et al., 2015, p.16) and “care that is respectful of and responsive to individual patient preferences, needs and values (Greene, Tuzzio, & Cherkin, 2016). Based on a recent publication, patient-centered care based on the individual person can be defined as: “care in which individuals’ values and preferences are elicited and, once expressed, guide all aspects of their health care, supporting their realistic health and life goals.” (Westphal, Alkema, Seidel, & Chernof, 2016, p.20). In this research, the focus will be more on the ‘supply’ side of care, namely integrated care taking the wishes of patients into account, but it is not totally based on the individual persons’ wishes and consequently not totally patient-centered.

2. Theoretical framework

2.1 Interdisciplinary collaboration / team dynamics

Teamwork literature is important, because e-health enabled interdisciplinary care teams are one of the main foci of this research. Mitchell et al. (2012) developed principles of team based healthcare. These principles are: shared goals, clear roles, mutual trust, effective communication and measurable processes and outcomes. Mitchell et al (2012) are not the only authors focussing on teamwork literature or related constructs. Some other studies are mainly focussing on interdisciplinary collaboration. One example of such a model, concentrating on (interdisciplinary) collaboration in healthcare, is an effectiveness model for integrated care. This model is shown in figure 1 (Lemieux-Charles & McGuire, 2006). This model can give insights into broad constructs relevant for team effectiveness.

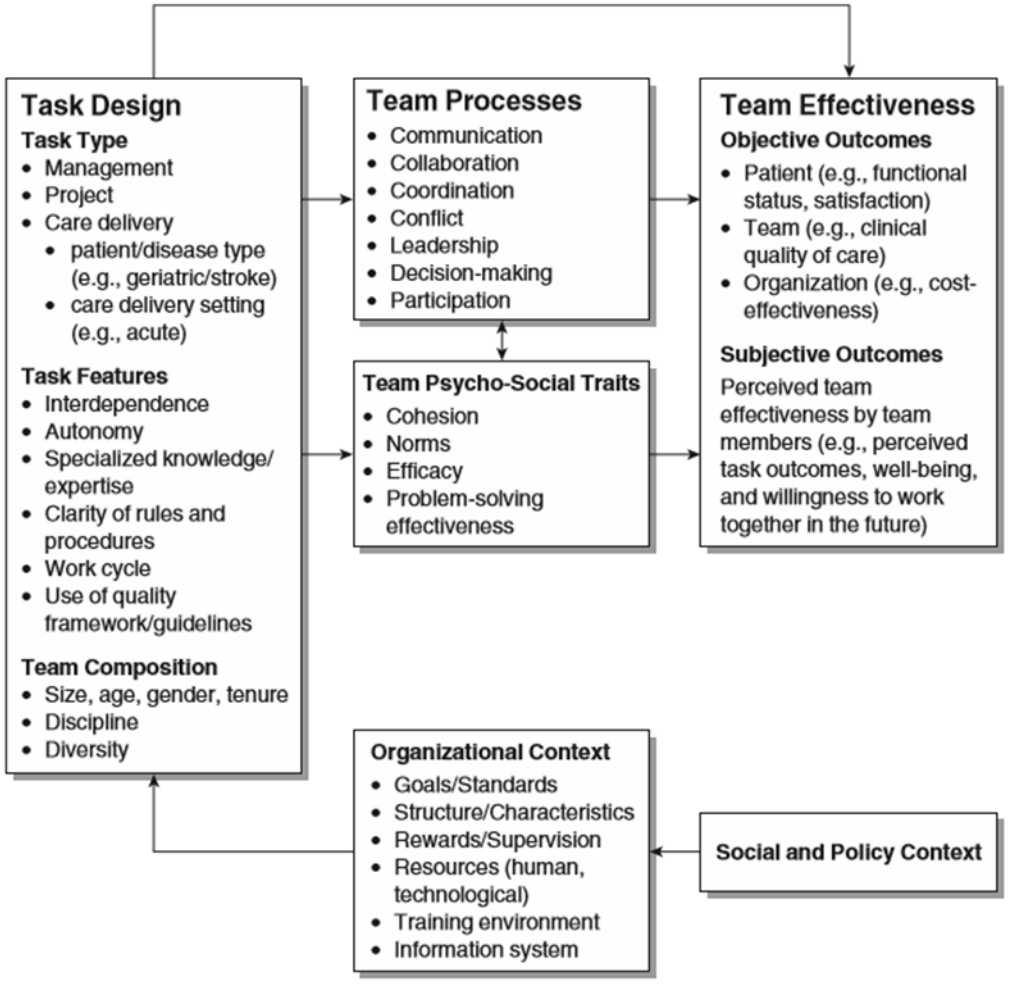

Figure 1: Integrated (Health Care) Team Effectiveness Model (ITEM) (Lemieux-Charles & McGuire, 2006)

2.2 Integrated care

In 2003 a model for interdisciplinary collaboration is developed based on a review of theoretical literature and social work practice literature. Five components of interdisciplinary collaboration were identified; interdependence, new created professional activities, flexibility, collective ownership of goals and reflection of process. These components are placed into a context by defining influences on interdisciplinary collaboration, the following influences were described by the researchers: professional role, structural characteristics, personal characteristic and history of collaboration. Initially, this model was intended to serve as a map for a culture change into a culture of collaboration (Bronstein, 2003).

Later, more in-depth models on integrated care are developed. One of them is related to mental models. Mental models of integrated care (MMIC), consist of different parts, namely shared knowledge-based models of integrated care and shared integration belief mental models. Whereby shared knowledge-based models consist of two parts, integration-task mental models and integration system-role mental models. Going more into detail, shared

system role mental models could be directly related this research, it consists of: knowledge, skills and abilities, role clarity, role interdependence, role contribution and interaction patterns. The integration-task mental models consist of the following aspects: services, external customers, goals, long-term vision, processes and knowledge of a change. (Wistow, Dickinson, Evans, & Ross Baker, 2012). One of the co-authors of this MMIC framework, developed also a context for integrated care framework, what is shown in figure 2 (Evans, A. Baker, R. Wodchis, W., 2013)

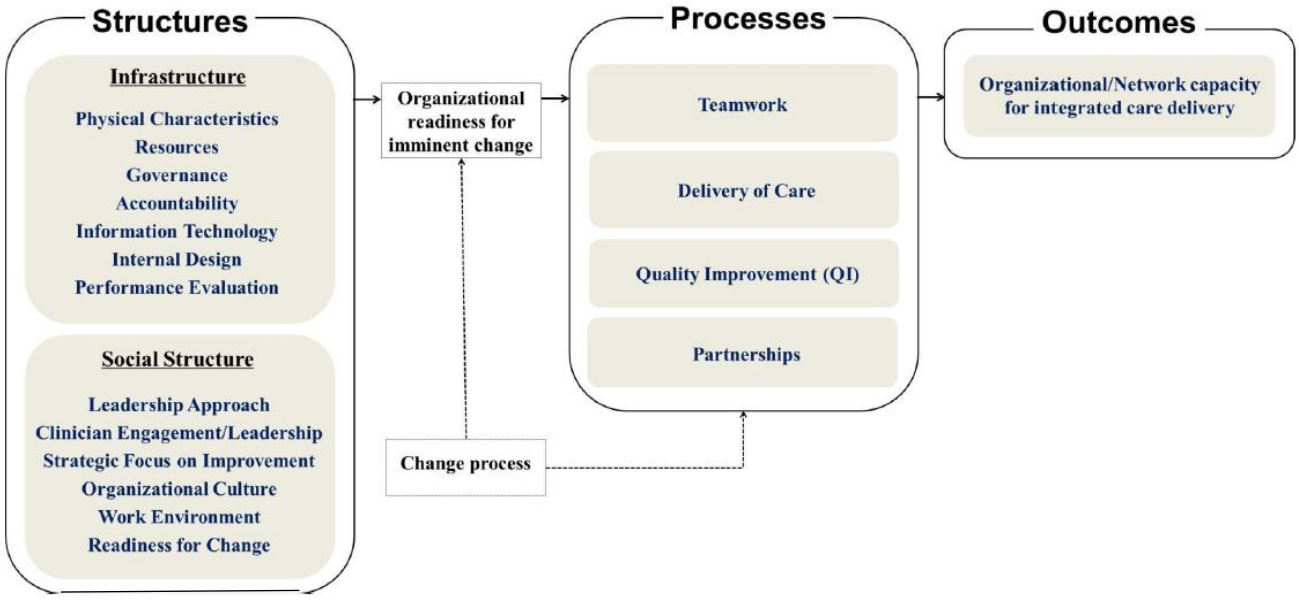

Figure 2: Context of Integrated Care (CIC) framework

The importance of a complex-adaptive system perspective on integrated care is identified in another research. True integration is challenged by a complex system, consisting of weak ties, poor alignment among healthcare professionals and organizations, lack of funding incentives to support collaboration and bureaucratic environment, managers handle based on a command and control approach. In this research it is stated that considering the ongoing challenges to achieve integrated care, existing frameworks and approaches should be questioned and this complex-adaptive system theory provides and alternative, potentially useful mental model for health system integration (Tsasis, Evans, & Owen, 2012). Evans, the author of the CIC framework, is agreeing with Tsasis et al. (2012) on the statement that integration should be seen as a phenomenon that is non-linear, emergent, self-organizing and coevolving (Evans, Baker, Berta, & Barnsley, 2013). Recently, the importance of integrated care is anew stated by Hoerbst (2015), according to Hoerbst it is necessary to rethink existing definitions and concept to realign them with the ideas of integrated care.

3. Method

A mix of methods (combination of qualitative and quantitative research methods) is used to perform this research. Data is collected by means of different sources. The results of each of these sources will be shown in the different upcoming paragraphs:

- Systematic literature review
    - Indicators and interventions for effective interdisciplinary collaboration
- Dutch semi-structured scoping interviews
- Earlier documented reports
- Site visits: pre-visit questionnaire, focus groups, in depth interviews

4. Results

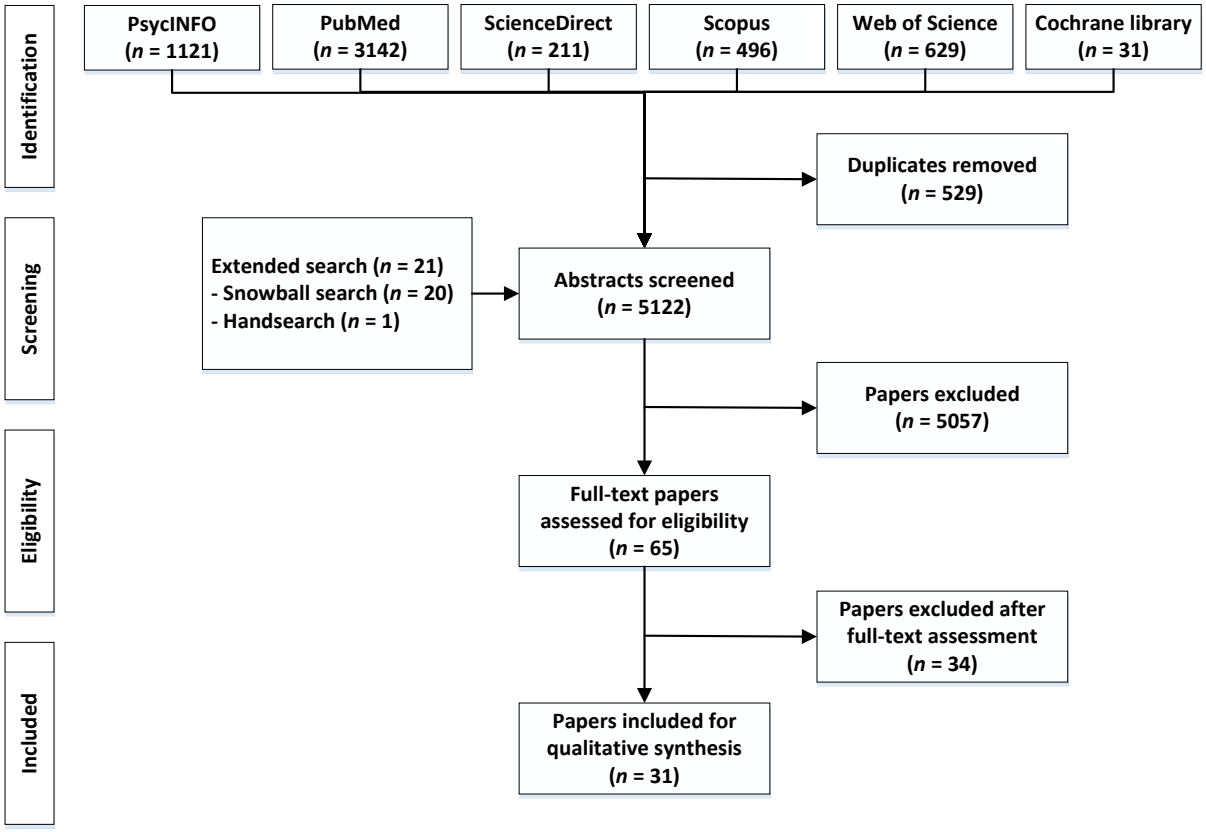

Figure 3: Flowchart of systematic review on indicators and interventions

In figure 3 an flowchart of the systematic review is shown. Based on this review and the other research methods a list of indicators impacting interdisicplinary collaboration is developed. It was not deemed sufficient to enlist only soft indicators, because soft factors are often direclty influenced by hard factors. Based on this systematic review, it was showed that communication and relationships between team members is of major importance. Tasks and responsibilities of team members can change due to implementation of workign with e-health,

which influences communication patterns and relationships. Besides changes in relationships, some new ype of team ‘members’ emerged from this research: someone to coordinate the process and the (changing role of the) patient. Policy makers and implementation experts need to implement the coordinating role. The person performing this role should be someone internal. Furthermore, the changing role of the patient will also require attention of policy makers and implementation experts.

In the Dutch semi-structured scoping inteviews (n=13) with project managers and researchers, one new theme emerged in comparison with the literature review, namely hierarchy. However, due to the different backgrounds of professionals, it was hard to generalize the results. In comparison with the semi structured interviews, these participants often mentioned harder factors as influence on workflow and the influence of regulatoins on collaboration. In line with the harder factors, finance issues were often reported as a major problem. Despite the fact that it was clearly stated in the beginning that the only interest of this research are soft-factors, often harder factors were mentioned. Which could suggest that harder factors as regulations direclty influence the soft-factors. Furthermore, this could suggest that researchers and project-managers are focusing more on the hard factors than on the soft-factors.

Earlier reported documents (names are confidential) also gathered indicators related to the soft side, even when was not one of the main focusi of those projects. So identification of general barriers and facilitators by other projects resulted in a contribution to the lists of indicators and interventions related to the ‘soft’/’human’-side. Important indicators mentioned in the reports refer for example to: leadership, tasks and responsibilities, patient empowerment, culture and another new team member, namely a call centre operator.

The survey results (n = 159) showed that communication and relationships are perceived the highest in Eastern Europe and the lowest in Western Europe. Probably this can be explained by people in Western Europe being more conscious on these topics or people in Eastern Europe being less critical. However, these results are bason on ten sites (three in Eastern Europe, four in Southern Europe and three in Western Europe), which is too low to generalize the results. An unique context of one site direclty influence the overall scores within a geographical area. So, this research only estimates the scores of communication and relationships. However, in general, it can be stated that the scores within disciplines are perceived higher than among disciplines.

In the 81 interviews througout Europe, with a total of 157 respondents (46 one-on-one interviews and 35 small group interviews), five intervention themes were identified after an

open coding method. These themes are; knowledge, communication, relationships, shared understanding and attitude. These five themes are all related to soft-factors,other interventions are related to training, distribution of service and regulations. The top seven indicators identified in these interviews are often related to harder factors as tasks, regulations and the influence of management. The soft factors in the top seven are related to trust, having a shared understanding and communication. The list of indicators and interventions can be used by policy makers or implementation experts to gain a complete overview of (possible) problems during implementation of e-health enabled integrated care, however, indicators and interventions need most of the time be tailored to the local situation.

5. Conclusion/Discussion

Three indicators were in all research methods mentioned in the top seven. These are related to tasks and responsibilities, communication and relations and having a shared understanding between team members. However, the long list is important, because all indicators mentioned in the long list are influencing successful e-health enabled collaboration during sustainable implementation. The long list is confidential. The interventions in the literature are rarely described in detail. Further research is necessary to do gather detailed information on these types of interventions. Furthermore, in future research the context need to be taken into account in describing or analysing the interventions.

Overall, it can be concluded that working in an integrated mode is a dynamic process, with a lot of stakeholders involved. It is impossible to only focus on the soft-side, because other factors directly influence such collaboration. If team members are enthusiastic about working together, but because of legislation it is not allowed as a social worker to see healthcare data, soft-factors are not important. This research is a beginning of the mapping of this dynamic process of creating e-health enabled collaboration, a field that will further change in the upcoming years. Moreover, patients become more empowered. This could directly influence the noted changes in tasks and responsibilities between professionals even more. This will lead in more changes in communication and relationships.

This results of this research point to the needed adjustments to existing theoretical models. In general, it can be stated that existing models are not dynamic enough. They do not take patient empowerment into account. Furthermore, virtual communication and changes between professionals are rarely mentioned in existing models. This study shows that this omission would need to be rectified in future healthcare theorizing as well as new, e-type interventions.

Bibliography

ACT. (2015). What does it take to make integrated care work? Retrieved July 6, 2016 from https://www.act-programme.eu/sites/all/themes/act/files/ACT_Cookbook_final.pdf

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health Affairs, 27*(3), 759-769.

Bloom, D. E., Chatterji, S., Kowal, P., Lloyd-Sherlock, P., McKee, M., Rechel, B., Smith, J. P. (2015). Macroeconomic implications of population ageing and selected policy responses. *The Lancet, 385*(9968), 649-657.

Blumenthal, D. (2010). Launching HIteCH. *New England Journal of Medicine, 362*(5), 382-385.

Brizius, J. A., & Campbell, M. D. (1991). *Getting Results: A Guide for Government Accountabiblity*: Council of Governors Policy Adivisors.

Bronstein, L. R. (2003). A model for interdisciplinary collaboration. *Social work, 48*(3), 297-306.

Bujnowska-Fedak, M. M., & Pirogowicz, I. (2014). Support for e-health services among elderly primary care patients. *Telemedicine and e-Health, 20*(8), 696-704.

Busetto, L., Luijkx, K.G., Huizing, A., & Vrijhoef H.J.M. (2016). Implementation of integrated care for diabetes mellitus type 2: a case study. *BioMed Central Health Services Research*, *16*(18), 1-14.

Curran, G. M., Bauer, M., Mittman, B., Pyne, J. M., & Stetler, C. (2012). Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care, 50*(3), 217-23\.

Currie, W. L., & Seddon, J. J. (2014). A cross-national analysis of eHealth in the European Union: Some policy and research directions. *Information & Management, 51*(6), 783-797.

Daly, M., & Lewis, J. (2000). The concept of social care and the analysis of contemporary welfare states. *The British Journal of Sociology, 51*(2), 281-298.

Eikey, E. V., Reddy, M. C., & Kuziemsky, C. E. (2015). Examining the role of collaboration in studies of health information technologies in biomedical informatics: A systematic review of 25 years of research. *Journal of Biomedical Informatics, 57*(1), 263-277.

Ekeland, A. G., & Grøttland, A. (2015). Assessment of MAST in European patient-centered pilots. *International Journal of Technology Assessment in Health care*, *31*(5), 304-311.

European Patients Forum (2014). SmartCare: What is the project about? Retrieved October 20, 2015 from: http://www.eu-patient.eu/whatwedo/Projects/SmartCare/

Evans, j. G., A. Baker, R. Wodchis, W. (2013). Organizational factors in Integrated Healthcare Delivery Models: A review of Measurement Tools. Retrieved December 30, 2015 from http://www.hsprn.ca/uploads/files/Poster%20Final%20Jenna%20Evans.pdf

Evans, J. M., Baker, G. R., Berta, W. B., & Barnsley, J. (2013). The evolution of integrated healthcare strategies. *Advances in Health Care Management,* 15(1), 125-162

Eysenbach, G. (2001). What is e-health? *Journal of Medical Internet Research, 3*(2),1-2.

Gillespie, U., Mörlin, C., Hammarlund-Udenaes, M., & Hedström, M. (2012). Perceived value of ward-based pharmacists from the perspective of physicians and nurses. *International Journal of Clinical Pharmacy, 34*(1), 127-135.

Greene, S. M., Tuzzio, L., & Cherkin, D. (2016). A framework for making patient-centered care front and center. *The Permanente Journal,* 16(3), 49-53.

Hoerbst, A., & Schweitzer, M. (2015). A systematic investigation on barriers and critical success factors for Clinical Information Systems in integrated care settings. *Yearbook of Medical Informatics,* 10(1), 79-89

Jansen, L. (2008). Collaborative and interdisciplinary health care teams: ready or not? *Journal of Professional Nursing, 24*(4), 218-227.

Jennett, P., Jackson, A., Healy, T., Ho, K., Kazanjian, A., Woollard, R. Bates, J. (2003). A study of a rural community's readiness for telehealth. *Journal of Telemedicine and Telecare, 9*(5), 259-263.

Kidholm, K., Ekeland, A. G., Jensen, L. K., Rasmussen, J., Pedersen, C. D., Bowes, A., Bech, M. (2012). A model for assessment of telemedicine applications: mast. *International Journal of Technology Assessment in Health Care, 28*(1), 44-51.

Kwankam, S. Y. (2012). Successful partnerships for international collaboration in e-health: the need for organized national infrastructures. *Bulletin of the World Health Organization, 90*(5), 395-397.

Lemieux-Charles, L., & McGuire, W. L. (2006). What do we know about health care team effectiveness? A review of the literature. *Medical Care Research and Review, 63*(3), 263-300.

Mair, F. S., May, C., O'Donnell, C., Finch, T., Sullivan, F., & Murray, E. (2012). Factors that promote or inhibit the implementation of e-health systems: an explanatory systematic review. *Bulletin of the World Health Organization, 90*(5), 357-364.

McCarthy, D., Klein, S., & Fund, C. (2010). The triple aim journey: Improving population health and patients' experience of care, while reducing costs. Retrieved March 18, 2016 from http://bhintegration.org/media/9722/triple_aim_journey.pdf

McGrath, D. (2005). How to motivate physicians and develop a physician champion. *The Journal of Medical Practice Management: MPM*, 13-16.

Mitchell, P., Wynia, M., Golden, R., McNellis, B., Okun, S., Webb, C. E., &Von Kohorn, I. (2012). Core principles & values of effective team-based health care. *Washington, DC: Institute of Medicine.*

Murray, E., May, C., & Mair, F. (2010). Development and formative evaluation of the e-Health Implementation Toolkit (e-HIT). *BioMed Central Medical Informatics and Decision Making, 10*(1), 61-69.

Oh, H., Rizo, C., Enkin, M., & Jadad, A. (2005). What is eHealth (3): a systematic review of published definitions. *Journal of Medical Internet Research, 7*(1), 1-12.

Patton, D. R., & Forest, R. M. (1987). Is the use of “management indicator species" feasible? *Western Journal of Applied Forestry, 2*(1), 33-34.

Peerdeman, S. (2016). Niet de bestemming, maar de reis. Retrieved April 2, 2016 from http://dare.ubvu.vu.nl/handle/1871/53963

Phillips, R. L., Bazemore, A. W., DeVoe, J. E., Weida, T. J., Krist, A. H., Dulin, M. F., & Biagioli, F. (2015). A family medicine health technology strategy for achieving the Triple Aim for US health care. *Family Medicine Journal, 47*(8), 628-635.

Piccirillo, J. F., Vlahiotis, A., Barrett, L. B., Flood, K. L., Spitznagel, E. L., & Steyerberg, E. W. (2008). The changing prevalence of comorbidity across the age spectrum. *Critical Reviews in Oncology/Hematology, 67*(2), 124-132.

Przywara, B. (2010). *Projecting future health care expenditure at European level: drivers, methodology and main results*. Retrieved May 11, 2016 from: http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp417_en.pdf

Sheikh, A., Sood, H. S., & Bates, D. W. (2015). Leveraging health information technology to achieve the “triple aim” of healthcare reform. *Journal of the American Medical Informatics Association, 22*(4), 849-856.

Spurgeon, P., Barwell, F., & Mazelan, P. (2008). Developing a medical engagement scale (MES). *International Journal of Clinical Leadership, 16*(4), 213-223.

Tsasis, P., Evans, J. M., & Owen, S. (2012). Reframing the challenges to integrated care: a complex-adaptive systems perspective. Int J Integr Care, 12(5), 1-11.

UrosevIûa, V., & Mitlûb, M. (2014). *From Generic Pathways to ICT-supported Horizontally Integrated Care: he SmartCare Approach and Convergence with Future Internet Assembly.* Paper presented at the Cross-Border Challenges in Informatics with a Focus on Disease Surveillance and Utilising Big Data: Proceedings of the EFMI Special Topic Conference, 27-29 April 2014, Budapest, Hungary.

van der Eijk, M., Faber, M., Aarts, J., Kremer, J., Munneke, M., & Bloem, B. (2015). Improvement of patient-centered care using online health communities. *Patient-Centered Care*, 151, 1-268.

Westphal, E. C., Alkema, G., Seidel, R., & Chernof, B. (2016). How to get better care with lower costs? See the person, not the patient. *Journal of the American Geriatrics Society, 64*(1), 19-21.

Wilkinson, A. (1992). The other side of quality:'soft'issues and the human resource dimension. *Total Quality Management, 3*(3), 323-330.

Wistow, G., Dickinson, H., Evans, J. M., & Ross Baker, G. (2012). Shared mental models of integrated care: aligning multiple stakeholder perspectives. *Journal of Health Organization and Management, 26*(6), 713-736.