The Importance of Health Informatics in Public Health during a Pandemic
J. Mantas et al. (Eds.)

doi:10.3233/SHTI200552

Transition Requirements from Problem List to an Overarching Care Plan for the Support of Person-Centered Care

Felix CILLESSEN [a,b,1] and Jacob HOFDIJK [c]
[a] *Department of Primary and Community Care, Radboud University Medical Center, Nijmegen, the Netherlands*
[b] *Hospital Rivierenland Tiel, the Netherlands*
[c] *Casemix-CQT Zorg en Gezondheid, Utrecht, The Netherlands*

Abstract. To keep healthcare effective, accessible and affordable to all we need a fundamental paradigm shift. Self-management for prevention and care with the help of healthcare professionals, having a shared view of the state of well-being, will play a significant role in this transition. The problem list is widely adopted as centerpiece of electronic health records and is although often patient oriented, but mostly limited to the institutional level. The requirements for this paradigm shift has been discussed in a series of workshops. Truly person-centered care requires to move towards a holistic problem list with an assessment and planning process resulting in an overarching care plan. The change process towards a real person-centered problem list, integrated in an overarching care plan, should be focused on the transition of health services delivery and requires a transition based on the "Quadruple Aim" principles.

Keywords. Electronic health records, problem oriented medical records, care continuity, integrated health care systems

1. Introduction

The World Health Organization's (WHO) global strategy on people-centered and integrated health services is a call for a fundamental paradigm shift in the way health services are delivered, managed and funded [1]. This requires shifting from paying for the volume of services delivered to the value created for patients where "value" is defined as the outcomes achieved relative to the costs [2]. Continuity of care is an important aspect of quality and safety in healthcare. Concepts that are needed to achieve continuity of care are defined by the NEN-EN-ISO 13940. Linking episodes of care within the health care network will support the person-centered approach and could have substantial effects on the performance of the overall healthcare system [3]. Providers problem lists, mostly limited to their domain of expertise, must be integrated to a holistic problem list. However, this is difficult to implement from a single domain due to ambiguities in language and technology, the lack of an integrated approach and

[1] Corresponding Author, Felix Cillessen, Radboud University Medical Center, PO Box 9101, Internal code 117, 6500 HB Nijmegen, The Netherlands; E-mail: Felix.Cillessen@radboudumc.nl.

divergent interests. An important question here is how to accomplish a truly person-centered (holistic) problem list across the healthcare network?

2. Methods

At the MIE 2012 in Pisa a track with several workshops was organized on the Caring Village of the Future, elaborating the results of the Exploratory Workshop sponsored by the European Science Foundation (ESF) on the challenges of integrating health and social care informatics at the persons level [4,5]. During this workshop the concept of the Blue Line was introduced; this involves defining the mandatory requirements to connect all health and social care providers around the person for coordinating all services in a person-centered care plan. In the Netherlands in 2018, during 6 workshops with 21 to 23 participants each, 132 in total, consisting of specialists and general practitioners, the requirements for integrated care were discussed. In Copenhagen 2019 at the 34th PCSI (Patient Classification Systems International) conference a special track was dedicated on how to stimulate the shift towards person-centered care.

To help identify the next steps, by combining strategic directions to promote person-centered care, a workshop proposal was submitted and accepted for the MIE 2020 in Geneva, which unfortunately was canceled due to the situation related to the coronavirus pandemic. The thorough preparation and discussions for the MIE2020 workshop, incorporating the recent social and scientific findings, have led to several insights that we think are useful to share in this vision for the future article.

3. Results

The conclusion of the ESF Exploratory Workshop was that each of the care providers is in charge of just one problem and no one takes responsibility for coordinating the (in)formal services aimed at improving the patient's health and wellness. The Blue Line approach focuses at two of the strategic directions of the WHO strategy: to support people-centered and integrated health services. The first three requirements of this approach focus on interoperability at systems level; the technical interoperability required to connect the systems, the semantic interoperability required to understand the data exchanged, and social interoperability, which puts the information in the holistic context of the person rather than of the care process of the institution. With the first three requirements in place the fourth requirement, the overarching care plan, can be implemented. This links, within the privacy arrangements, the different plans of care to support the coordination of the goals and interventions by professionals and control by the patient. The fifth requirement is a social incentive framework that requires that the aforementioned elements be embraced and that funding systems gives incentives for the transition to person-centered care. The most frequently mentioned requirement, from the 2018 workshops in the Netherlands, was interoperability of systems across the domains. From the 34th PCSI, identifying governance of integrated care, an overarching care plan, and innovative funding, were recognized as the key components for the transition to person-centered care.

This emphasizes that the transformation of the problem list, from an institutional level to a holistic list at the patient level across the network, is an essential component for person-centered care. Plans should be linked to problems to achieve the goals set in

the interaction of the patient and the care provider(s). The overarching care plan gives a dynamic insight in the significant health issues and their management. It should contribute to shared decision-making, taking into account the patient's preferences, knowledge, skills and confidence to manage his own health and wellbeing.

4. Discussion

Patients First requires insight in the health issues of the patient and its management. The concept of the problem list was first introduced as the key component of the Problem Oriented Medical Record (POMR) by Weed in the late 1960s [6]. Weed also suggested to use the SOAP (Subjective/Objective/Assessment/Plan) note format. The implementation of the problem list is still a subject of discussion and ever since the introduction of the POMR there have been esoteric discussions about the term 'problem'. Its implementation into primary care was supported by the adoption of the ICPC (International Classification of Primary Care), which incorporated the episode of care concept and its documentation. It helped to improve the quality of the medical record as it required interaction with the patient about the state of his/her health issues. The **A**ssessment based on the **S**ubjective and **O**bjective data resulted in **P**lans for the patient. The associated data, the assessment and the plan are part of the episode of care record of that patient. Ideally, the problem list is intended to serve as a dynamic “table of contents” of the patient’s chart [6]. It can serve as a multi-disciplinary index of the current and resolved health issues. Many problems often require coordination and continuous care over time. To interpret various problems and track progress, the concept of ‘problem’ has a wider scope than diagnosis within health and clinical management, can be used hierarchically, and can be used for all matters that need attention, as is the case for some medications, social status, and behavior [7]. This wider scope is also described by the HL7 International Patient Summary whereby a Health Concern is a health-related matter that is of interest, importance or concern to someone, who may be the patient, patient's family or patient's health care provider [8]. Important for the shift to person-centered care is the link between the problem and the plan via the assessment. Shared decision making can be seen as the assessment phase of the SOAP concept, resulting in the update of the plan, fitting in the overarching care plan.

More and more health care providers, each with their own isolated information systems, are involved in providing care to a growing number of citizens with multiple problems. The need to share information for coordination and collaboration across these silos is constantly increasing. Person-centered care requires coordination of the management of all their health and social issues and the longitudinal integral planning of the treatment by different providers. An overarching care plan aims to give a comprehensive overview of the different care plans, related to the problems of the patient, where each plan has a specific goal that fits the context of the patient and focuses on the desired outcome. Not only medical, but also nursing, social, educational, and patient safety issues should be aspects of the overarching care plan. In addition to the self-management potential of the patient.

The holistic problem list can be the base for the proactive advanced care planning of formal and informal care, and thus the key for person-centered care. But unfortunately the available information technology (IT) still hinders this vision [9], as the systems are not compliant to the Blue Line principles. Current IT systems are still

focused on the care process of the institution and are not primarily designed to support person-oriented care. A problem list that should serve multiple caregivers as well as the patient across multiple settings requires extensive functionality, especially in terms of management and views. The establishment of an overarching care plan requires connectivity, and semantic and social interoperability, at least at the level of the problem list and the care plans. Only then the vested interests of the current health care providers can be aligned with the objectives of person-centered care. Key elements in this transformation towards patient-centered care will include new structures for integrating and coordinating services, a strong focus on patient engagement, new payment models and an implementation based on the quadruple aim principles [10].

5. Conclusions

To implement the global WHO strategy to apply person-centered care, the overarching care plan helps to coordinate the health and social care issues of the patient and takes the patient's environment as a starting point, regardless of age. The decentralized institutional patient problem list will have to shift to a central person-oriented problem list. To integrate the POMR and SOAP concept into a proactive overarching care plan for the patient and providers in the network of care, interoperability requirements will have to be mandatory for the participants throughout the healthcare spectrum. A 'burning platform' is necessary for a paradigm shift. The recent corona crisis can be seen as such stressing the importance of coordinating the care and sharing information at the patient level across the health and social care network. So the coronavirus pandemic could boost the WHO's global strategy for integrated people-centered health services.

References

[1] WHO global strategy on people-centred and integrated health services, Available at: http://www.who.int/servicedeliverysafety/areas/people-centred-care/global-strategy/en/, Accessed May 18, 2020.
[2] Porter ME, What is value in health care?, N Engl J Med 363 (2010), 2477–2481.
[3] Hornbrook MC, Hurtado AV, Johnson RE, Health care episodes: definition, measurement and use. Med Care Rev 42 (1985), 163–218.
[4] Rigby M, Hill P, Koch S, Keeling D, Social care informatics as an essential part of holistic health care: a call for action, Int J Med Inf 80 (2011), 544–554.
[5] Rigby M et. al., Developing a New Understanding of Enabling Health and Wellbeing in Europe: Harmonising Health and Social Care Delivery and Informatics Support to Ensure Holistic Care. European Science Foundation: Standing Committee of the Social Sciences; 2013.
[6] Weed LL, Medical records that guide and teach, N Engl J Med 278 (1968), 593-600.
[7] Cillessen FH, et. al, Modeling problem-oriented clinical notes, Methods Inf Med 51 (2012), 507-515.
[8] HL7 International Patient Summary, Available at: http://international-patient-summary.net/mediawiki/index.php, Accessed May 18, 2020.
[9] Dykes PC, Samal L, Donahue M, Greenberg JO, Hurley AC, Hasan O, O'Malley TA, Venkatesh AK, Volk LA, Bates DW, A patient-centered longitudinal care plan: vision versus reality, J Am Med Inform Assoc 21 (2014), 1082–1090.
[10] Hester JA, Stange PV, Seeff LC, Davis JB, Craft CA, Toward sustainable improvements in population health: Overview of community integration structures and emerging innovations in financing. Emerging Innovations in Financing. CDC Health Policy Series, No. 2. Atlanta, GA: CDC; 2015.