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*Published in:*  
InfraHealth 2017: Proceedings of the 6th International Workshop on Infrastructures for Healthcare

*DOI:*  
[10.18420/ihc2017\\_006](https://doi.org/10.18420/ihc2017_006)

Publicerad: 01/01/2017

[Link to publication](#)

*Please cite the original version:*

Riikka, V., Päivi, M-B., & Karsten, E. (2017). Care coordination with a patient centred plan. In *InfraHealth 2017: Proceedings of the 6th International Workshop on Infrastructures for Healthcare* (pp. 1–6). European Society for Socially Embedded Technologies (EUSSET). [https://doi.org/10.18420/ihc2017\\_006](https://doi.org/10.18420/ihc2017_006)

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# Care coordination with a patient centred plan

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**Abstract.** In Finland, a standardized data structure for continuous health and care planning is implemented as a Health and Care Plan (HCP) module in all electronic health record systems (EHR). The structure was initially published in 2011 and gradually implemented in the various EHR systems. In this study, the focus is on comparing the specifications of the data structure and the responses to a spring 2016 survey. We analyse the HCP as a representation that is interpreted in different contexts and for different purposes by those involved. The interactionist theory by Strauss (1993) is used as the lens to discern dualistic dimensions of interpretations. We found these dimensions: consensus vs. dissent, old vs. new, single vs. multiple, clearly imagined vs. unclear, and unchanging vs. changing. The implications of these for HCP use and development are discussed.

## Background

In Finland, a standardized data structure for continuous health and care planning is implemented as a Health and Care Plan (HCP) module in all electronic health record systems (EHR). The standardized data format as the basis for the HCP provides a platform for uniform documenting, and primary and secondary use of patient information. The data structure for HCP was developed at the national level and it is part of the national e-health information services (Figure 1). A first version of HCP specification was published in 2011, after which several hospital districts have been using the HCP and developing documenting practices related to the continuous care planning. Its use became mandatory 1.1.2017. From the start, HCP aimed to facilitate better care planning and coordination for patients with chronic

disorders and those with multiple problems or risks. HCP provides also means for regional and inter-organizational data exchange as its content is stored in the national central archive for patient information (Kanta), accessible for all care providers. HCP ties together information generated together with the patient and the health care professionals. As such, HCP means a break from previous documenting practices where only health care professionals produce and manage patient information. In this paper, we inspect diverse interpretations and implications of HCP.

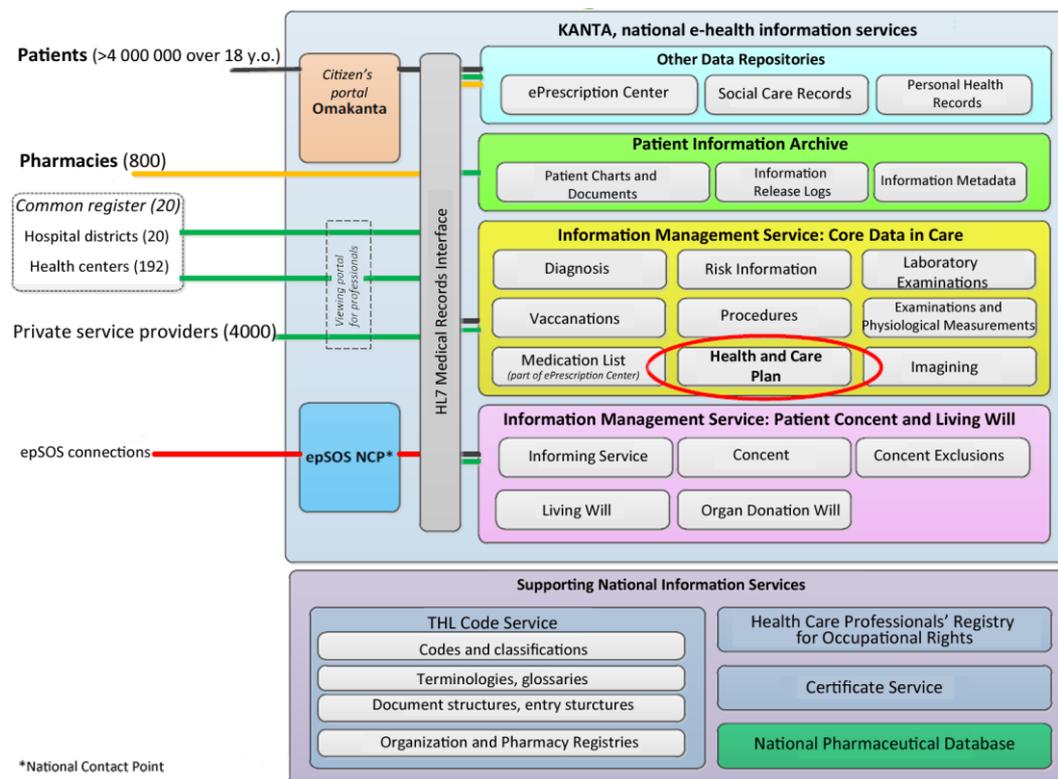


Figure 1. Health and Care Plan (HCP) as part of the national e-health infrastructure.

With the Health and Care Plan, patient interventions and plans for procedures are made visible to all service providers in the multidisciplinary care team. This in turn was expected to decrease the number of patient visits and overlapping examinations and, in this way, overall care costs. Even the initial phases of HCP in use have given evidence of these goals being achieved, especially when care needs of the patient are assessed during triage. The main aim of HCP is to bind the patient to the long-term care goals that have been tailored together with the patient and care giver to achieve a level of wellbeing that is realistic in relation to the patient's everyday functioning and commitment to care. Development of the structure for HCP facilitated new forms of care planning, following the current trend of involving patients in their own care (Agarwal et al, 2010; Klecun 2016). Another main aim of HCP was to decrease redundant work, such as copying text from one

care document to another or jumping from patient chart view to a separate laboratory order application that might require separate logging in, work that consumes any health care professional's time (MacMillan et al, 2016).

The HCP consists of seven data modules: 1) patient demographics, 2) triage, 3) care goals, 4) realization of goals, 5) follow-up and assessment, 6) care team, and 7) additional information such as diagnosis or medication. Only nationally approved codes and classifications are used in these modules.

## Representations and misinterpretations

Our data consists of the specification documents for HCP and results of a survey conducted in spring 2016. The questionnaire received 168 answers of which 77 % are by health care professionals and the rest by other stakeholders such as hospital administrators, technical personnel, representatives of system providers, and service providers in social care or in the third sector.

Our analysis of the data is enriched by Strauss's (1993) interactionist theory of action. We utilize concepts that are related to representation; its interpretations and intentional or unintentional misinterpretations. We analyse the HCP as a representation that is interpreted in different contexts and for different purposes. According to Strauss (1993), interpretation is dependent on the multiple capacities or roles of a person: the same person can act as a health care professional, a patient, or a patient's family member or as an expert participating in an HCP implementation project. In each of the roles, the person can use different strategies based on the interpretation of the valid action or representation at that point. In case of HCP, differing interpretations contribute to unconsolidated use of the structured format of the plan. Strauss considers that interpreting a representation is more temporal than just a performance at a specific time (cf. Goffman, 1959). Representation "has a past and present and, often is aimed at the future" (Strauss 1993, p. 173). Thus representations change over time as they are interpreted anew with different roles or capacities. This is apparent especially in lengthy development and implementation projects.

## Findings

At the time of our data gathering, some had already been using HCP for three to five years and some were just starting its implementation. Our data illustrates how the HCP and its goals were interpreted differently by professional user groups. Strauss (1993) describes how goals change within dualistic dimensions. We found several such dimensions: consensus vs. dissent, old vs. new, single vs. multiple, clearly imagined vs. unclear, and unchanging vs. changing. This means that there can be parallel, differing interpretations and, as a consequence, original goals are

likely to change. Next, we give examples of different interpretations and their implications for HCP use.

Our first example illustrates **consensus vs. dissent** on patient commitment and empowerment with HCP: *“HCP supports visibility of patient information regardless of the service provider, e.g. as well in specialized care and in home care.”* However, the goal was not to increase information visibility only for professionals giving care but to support also that patients can access their own information. For example, for a physician it might be self-evident why a patient’s liver tests should give results within normal range when treating a heavily drinking patient. However, for the patient commitment to care would not be realized as series of tests planned in HCP but as a goal to drink less.

In HCP, planned series of tests or other clinical examinations would be part of support provided by health care provider when the patients set their own wellbeing goals. This is closely linked to **new vs. old**; as in the patient’s role and capacity to contribute to care planning. An end user conclusion that *“HCP supports multi-professional team work practices”* is good and valid but set in the old documenting practices where care planning is done only by care professionals. The new practices should include the patient. It may be not sufficient only to set realistic goals for care, but also to select appropriate interventions and to offer a selection of support functions available to the patient. HCP can cover self-care guidelines and other support for the patient to manage the situation. Often, the HCP is printed for the patient to support continuous commitment to the set goals of care. The HCP is also accessible in the national citizen portal, Omakanta. For example, if the patient suffers from chronic persistent hepatitis, their HCP could include references to the planned vaccination schedule and reasoning why vaccine administrations would be crucial in their long term wellbeing. However, if HCP and its documenting guidelines are misinterpreted in a sense that the practices cover only clinical information needs, it is likely that the planned benefits of HCP are not met.

**Single vs. multiple** interpretations are illustrated most clearly in the respondents’ understanding of “plan” and “continuous plan.” 25 different types of plans were called HCP plans even though 57 % of the respondents had the standardized HCP template already implemented in their EHR system. If health care professionals continue to use whole variety of documenting templates available in their EHR systems, this will result in unreliable HCP data in the national central archive. It also means that care guidelines or best practices might not be utilized as included in the original HCP development goals. If local documenting templates and storages are allowed, patient information will become less easy to search and review. In our study, 43 % of the respondents used the nationally standardized HCP data format, 23 % documented HCP content using free text notes and 30 % used alternative local data structures. When asked to evaluate documenting in the HCP, a respondent’s interpretation that *“HCP is a patient centred plan for continuous care planning and coordinating”* would be

more guiding than *“HCP structure must be flexible enough so that we can document individual plans; the structure must answer to different, individual needs.”* In this context, flexibility of HCP does not mean that the template should be used for different types of plans but that it allows flexible documenting of patient specific care and support needs as not all modules or data fields would be required entries at every encounter. However, HCP is not intended to replace planning of specific encounters or interventions. That a variety of plans interpreted to be the same as the HCP indicates that the HCP concept of continuous care planning still needs more clarification and its structured documenting practices more training.

Intended goals for care coordination were realized partially with HCP at the time of our study: when using HCP, roughly two thirds of care professionals document triage, care goals and planned treatments or services. Follow-up and care outcome assessment is used by less than half of the professionals. Care guidelines or best practices were not necessarily linked to HCP as intended, due to missing decision support. Documenting needs expressed were **clearly imagined vs. unclear**. For example, a respondent detailed quite clearly what kind of system support they would require: *“System functions should support the user documenting a HCP so that the system provides, for example, default values or medication information with automated functions instead of cut and paste by an end user.”* The structured content in a HCP allows for re-use of patient information instead of copying or entering same information into several places. Ultimately, the EHR system provider interprets the data structures intended use. This, in turn, influences the usability and use practices of the actual HCP. Some of the responses included vague wishes instead of detailed requirements, for example: *“The HCP should be a simple, clear document; not too much text to read.”* This would still leave room for individual interpretations during requirements analysis and system implementation.

It is evident that different user groups interpret HCP in divergent ways. Each group seems to come up with different ideas for future improvements of the care plan as interpretations of the HCP are **unchanging vs. changing**. In line with the original HCP implementation goals, respondents had partly unchanging interpretations: *“Patient centred HCP has a communication focus; both patient and all staff know what is happening and when. This enhances care, makes it right care at the right time – resulting in better care quality and better resourcing of care.”* Consequently, some of the respondents were already a step ahead and had further development goals for content they would want to access in the HCP: *“This should include a care summary by different professional groups as a HCP should provide a place to entry notes specific to one professional group.”* This example cannot be a valid development goal, as care summaries are already available. The purpose of using HCP is not only to provide an inter-professional communication tool. The data in a HCP could provide a way to evaluate impact of various care approaches and best practices with a longer time frame for evidence building. In the long run, there is clinical interest for evidence based care; as the HCP provides new

possibilities to gather data about health care outcomes: “HCP data could be used for benchmarking, in quality registers and as basis for evidence based care.” In this regard, one challenge would be developing a more structured assessment and follow-up module for the HCP to support reliable and efficient data gathering.

## Concluding thoughts

Intended goals of care coordination are currently partially realized with the HCP although feedback from the users is positive. The use practices of HCP are not yet established and would require further work to achieve more uniform interpretations of the HCP as a concept and as a tool. One voice has been largely lacking in the HCP development and that is patients. Various health monitoring applications and sensors produce much data that can be collected, for example, in personal health records. If the patients then would feed this data into the HCP, it could be one way to make personal health data visible for service providers. This would further change roles and responsibilities of patients and health care professionals; who produces what data and who interprets it.

## Acknowledgements

We thank Finnish National Institute for Health and Welfare (THL) for the possibility to conduct the survey.

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