

How unique is continuity of care? A review of continuity and related concepts

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Background. The concept of ‘continuity of care’ has changed over time and seems to be entangled with other care concepts, for example coordination and integration of care. These concepts may overlap, and differences between them often remain unclear.

Objective. In order to clarify the confusion of tongues and to identify core values of these patient-centred concepts, we provide a historical overview of continuity of care and four related concepts: coordination of care, integration of care, patient-centred care and case management.

Methods. We identified and reviewed articles including a definition of one of these concepts by performing an extensive literature search in PubMed. In addition, we checked the definition of these concepts in the Oxford English Dictionary.

Results. Definitions of continuity, coordination, integration, patient-centred care and case management vary over time. These concepts show both great entanglement and also demonstrate differences. Three major common themes could be identified within these concepts: personal relationship between patient and care provider, communication between providers and cooperation between providers. Most definitions of the concepts are formulated from the patient’s perspective.

Conclusions. The identified themes appear to be core elements of care to patients. Thus, it may be valuable to develop an instrument to measure these three common themes universally. In the patient-centred medical home, such an instrument might turn out to be an important quality measure, which will enable researchers and policy makers to compare care settings and practices and to evaluate new care interventions from the patient perspective.

Keywords. Case management, continuity of patient care, coordination of care, integration of care, patient-centred care.

Background

Continuity of care has been identified as an essential element of good primary care, along with other concepts such as coordination of care, patient-centred care and integration of care.^{1,2} There is evidence that a high performance on these concepts is associated with better quality of care, better health, greater equity and lower cost for people and populations.³

The definition of continuity of care has changed over time due to contextual factors such as the growing number of group practices and the rise of the consumer movement. Definitions of continuity of care have shown great overlap with relating concepts.⁴ The overlaps and differences between these concepts

are often unclear. This makes it difficult to analyse the value of the different concepts. Moreover, results of studies on different concepts are often not commensurable. The aim of this study is to provide a historical overview of the definitions of continuity of care and related concepts over time and to identify their main similarities and differences in order to identify the core values of these patient-centred concepts.

Methods

We identified related concepts by reading all titles of the 9479 articles found by searching for ‘Continuity of Patient Care [MESH]’ in PubMed (1948 to January

2009). Box 1 summarizes the concepts that seemed to be related to continuity of care. We decided to focus our further exploration on the continuity of care and on the four most frequently mentioned concepts, namely coordination of care, integration of care, patient-centred care and case management.

Subsequently, we performed a literature search in PubMed combining Search 1 and Search 2 (1948 to February 2009) (see Box 2). We searched for English or Dutch language articles. We made no restrictions regarding article type. We found that articles about e.g. integration dated back to the 1950s, while articles about e.g. continuity of care dated back to the 1970s. In order to find older articles about the five concepts, we exclusively used Search 1. We assessed the potential relevance of all titles and available abstracts from the electronic searches. We retrieved full-text copies of all articles judged to be potentially relevant, of which we assessed inclusion. Articles were relevant when including a definition of one of the five concepts.

We also screened the reference list of the included articles for relevant literature and analyzed known articles on these concepts not found in the literature search.

Two reviewers (AAU and HJS) independently screened titles, abstracts and reference lists of the articles retrieved by the literature search. The full-text articles were reviewed by the same two independent reviewers (AAU and HJS) for relevance. Disagreements were resolved by consensus by a third reviewer (WJHMvdB).

As articles in PubMed date back only to 1948, we also checked the definition of these concepts in the Oxford English Dictionary (OED) (www.oed.com), a historical dictionary describing the meaning and history of individual words. Thus providing a limited history of the concepts before 1948.

In the Discussion section, we discuss some contextual factors that may have influenced the changing of definitions.

Results

With the combined search, we found 653 articles, of which 58 met our inclusion criteria. Additionally, we included 18 older articles based on Search 1. Finally, we included 52 other articles/books extracted from the reference list of the included articles and 8 articles we already knew.

Overall, we included 34 discussion papers/opinion articles, 20 reviews, 20 original quantitative researches, 17 descriptive articles, 9 original qualitative researches, 8 reports, 6 editorials, 5 case studies, 5 articles describing the development and/or validation of a measurement instrument, 5 books, 4 historical articles, 1 comment, 1 lecture and 1 biography.

We did not refer to all included articles in this manuscript, as some articles did not add new information.

Continuity of care

The OED describes continuity as the state or quality of being uninterrupted in sequence or succession. Related terms are connectedness, coherence and unbrokenness. Quotations in which this term is used this way date back to 1603.

In the found literature, continuity of care first appeared in the 1950s. Initially, the concept focussed on having a personal care provider.^{5,6} In the 1970s, the focus shifted to the relatedness between past and present care⁷ and to a focus on care that was coordinated and uninterrupted.⁸

Later on, multidimensional models were introduced to define continuity of care.^{9,10} One of these models describes continuity as ‘the care provider following his

Box 1 *Related concepts of continuity of care*

Coordination (of care)/co-ordination (of care)/ Coordinated (care)/co-ordinated (care)/ Coordinating (care)/co-ordinating (care)	Follow up (care)/follow-up (care) Medical home Transfer (of care)
Integration (of care)/integrated (care)/ Integrating (care)	Team (care) Shared (care) Ongoing (care)
Patient centered (care)/patient centred (care)/ Patient-centered (care)/patient-centred (care)/ Patient focused (care)/patient-focused (care)	Seamless (care) Consistent (care) Connected (care)
Case management Transition (of care)/transitions (of care)/ Transitional (care)	Collaborative (care) Cooperative (care) Transmural (care)
Discharge planning Continuum (of care) Continuing (care) Continuous (care) Continued (care)	Smooth (care) Accessibility (to care)/Access (to care) Multidisciplinary (care) Interdisciplinary (care)

Box 2 Search strategies

Search 1

Continuity[ti] OR coordination[ti] OR co-ordination[ti] OR coordinated[ti] OR co-ordinated[ti] OR coordinating[ti] OR co-ordinating[ti] OR integration[ti] OR integrated[ti] OR integrating[ti] OR patient centered[ti] OR patient centred[ti] OR patient-centered[ti] OR patient-centred[ti] OR patient focused[ti] OR patient-focused[ti] OR case management[ti]

Search 2

Definition[ti] OR definitions[ti] OR define[ti] OR defined[ti] OR defining[ti] OR dimension[ti] OR dimensions[ti] OR component[ti] OR components[ti] OR concept [ti] OR concepts [ti] OR conceptualization[ti] OR conceptualizations[ti] OR conceptualisation[ti] OR conceptualisations[ti] OR meaning[ti]

patient and taking into account changes over time (chronological continuity), providing care regardless of the site (geographical continuity), treating diverse illnesses in one patient (interdisciplinary continuity), earning ‘trust’ from patients, families and colleagues (interpersonal continuity) and having knowledge of his patients (informational continuity)’.

Another multidimensional mode, introduced in the same period, describes continuity as ‘the planning of care according to patient’s needs (individual dimension), providing an ongoing relationship with a care provider (relationship), communicating with patients and other care providers (communication) and enabling patients to move orderly through services (longitudinal dimension), having a broad range of services available (cross-sectional continuity), being able to move between services flexible (flexibility) and having easy access to care services (accessibility)’.¹¹

After the mid-1970s, the emphasis was placed on continuity as a measurable concept. Continuity increasingly became a synonym for seeing the same doctor, who knows the patient and has an ‘implicit contract’ with the patient.^{12,13} Several measurement instruments were developed for this purpose, such as the continuity of care index (COC),¹⁴ the number of providers seen (NOP),¹⁵ the sequential continuity index (SCN)¹⁶ and the usual provider index (UPC).¹⁷

From the 1990s on, multidimensional models re-emerged. Continuity was defined from the patient’s point of view as ‘the patient’s experience of a coordinated and smooth progression of care’.¹⁸ To achieve this, excellent information transfer, effective communication, flexibility, relational continuity and care from as few professionals as possible are needed.

A hierarchical model of continuity was also introduced at this time, in which informational continuity was positioned at the lowest level, longitudinal continuity at the middle level and interpersonal continuity at the highest level.¹⁹ Longitudinal continuity involves,

in addition to informational continuity, that every patient has a medical home where the patient receives most care. At the highest level, an ongoing relationship exists between the patient and a personal care provider.

Other multidimensional models distinguish between informational, relational and management/team/cross-boundary continuity. A care provider uses information on past events to deliver care that is appropriate to the patient’s current circumstances, providers develop an ongoing personal relationship with patients and connect their care in a coherent way.^{20–22}

Coordination of care

The OED describes coordination as the action of placing or arranging (things) in proper position relatively to each other and to the system of which they form parts, to bring into proper combined order as parts of a whole. Quotations date back to 1837.

The concept ‘coordination of care’ has been used in the found literature since the end of the 1940s. Until the 1970s, coordination was used interchangeably with integration. It was described as the cooperation between care providers.^{23–25} Coordination meant keeping each other up to date by effective communication and linking different programmes and activities.^{26,27}

In the 1970s and 1980s, a more narrow definition was introduced. Coordination was defined as the extent to which care providers recognize information on patients from one visit to the next and are aware of the involvement of other care providers.^{28–33} This definition seems rather comparable with informational continuity.^{21,22}

In the 1990s, the patient’s perspective emerged. Coordination was defined as the patient’s perception of their care provider’s knowledge of other visits to them and visits to specialists as well as the follow-up of problems through subsequent visits or phone calls.³⁴ This approximates the patient-centred definition of continuity of care.¹⁸

After the mid-1990s, coordination and case management were often used interchangeably: care coordinators or case managers were supposed to have an overview of all patient’s care needs and already available care, to make a care plan and to execute this plan. They link patients to services to provide them with optimal health care.^{4,35–38}

In 2008, a new definition was introduced in which coordination was defined as ‘the delivery of services by different care providers in a timely and complementary manner in order to achieve connected and cohesive patient care’.³⁹ Thus, again resembling the patient-centred definition of continuity.¹⁸

Integration of care

The OED describes integration as the making up or composition of a whole by adding together or

combining the separate elements. It is the combination into an integral whole and is often opposed to differentiation. Quotations in which this term is used this way date back to 1620.

Integration of care has been used since the 1950s in the found literature and was then considered the core of good care.⁴⁰ Later on, integration was described as the opposite of fragmentation, bringing care providers together instead of separating them.^{41–45} This reflects team and management continuity.^{20–22} The aim of integration was to provide unity by working together.^{46–48} To ensure integration, care providers needed to establish common objectives, identify specific characteristics of the team members and it is necessary that the organization facilitates optimal cooperation, coordination and communication.^{43,45,48–50}

In the past 10 years, integrated care is frequently used interchangeably with managed care in the USA, shared care in the UK and transmural care in the Netherlands. Other European countries mention seamless care, continuous care or multidisciplinary care.^{51–53}

Integration is also seen as a continuum with three levels: linkage, coordination and full integration^{54,55} Linkage, the minimalist approach to integration, means that different care providers function within their own rules, responsibilities and funding constraints. At the level of coordination, care is organized in a way that promotes information sharing and prevents fragmentation. This compares to informational continuity.^{21,22} In case of full integration, responsibilities, resources and financing from multiple systems are combined under one organization.

Later definitions bring together delivery, responsibility, management and organization of care to achieve coordinated and continuous care.^{53,56–63} Case managers could enhance integration of care by serving as a communication link between care providers.⁶⁴

Patient-centred care

The OED describes centered as placing at the centre or in a central position. Quotations in which this term is used this way date back to 1590. Patient-centred care is not explicitly described in the OED.

Patient-centred care or patient focussed care has been increasingly mentioned in the literature since 1970, contrasting disease centred care, in which only the health care provider's agenda was addressed.⁶⁵

Patient-centred care was defined as care in which the care provider tries to see the illness through the patient's eyes.^{66–68} The care provider tries to understand the patient's complaints not only in terms of illnesses but also as expressions of the patient's unique individuality, his tensions, his conflicts and problems.^{69–71} This definition approaches that of the individual dimension of continuity.¹¹

From the mid-1980s on, more practical definitions emerged. Patient-centred care was described as care

in which the care provider is supportive and encourages the patient to express himself and the patient speaks openly about the reasons for consulting, asks questions and offers suggestions.^{66,72–75}

In 1995, a patient-centred clinical model was developed,⁷⁶ which has been frequently used in later years.^{77–79} This model consists of exploring both the disease and the illness experience, understanding the whole person (resembling the first descriptions of continuity of care^{5,6}), shared decision making, enhancing the patient–doctor relationship (comparable with relational continuity^{21,22}), incorporating prevention and health promotion and being realistic. In 2000, a comparable five-dimensional model was presented⁸⁰ which has since frequently used.^{81,82} This model combines the prior model with the care provider's awareness of the influence of personal qualities and subjectivity on daily practice.

Other definitions came up from 2000 and onwards in which shared decision making and patient involvement are the central elements.^{83–86}

Case management

The OED describes case management as the coordinated course of action determined for a particular person's medical care, social support, etc. It is the organized implementation of such a programme. Quotations in which this term is used date back to 1918. A case manager is a person such as a doctor, nurse or social worker who is assigned to coordinate and monitor the care or support of a particular individual. This term dates back to 1969.

At the end of the 1970s, the central theme of case management was to provide patients with a case manager: an individual who is responsible for helping the patient to coordinate their care within a complex care system to ensure that patients receive the care they need in an efficient manner.^{87–91} This is similar to the longitudinal, individual and relationship dimensions of continuity of care.¹¹ Case management was based on the assumption that patients with complex health problems need assistance in using the health care system effectively.⁹⁰ It reduces fragmentation and promotes continuity of care.^{92,93}

Until the 1990s, case managers were responsible for identifying eligible patients, assessing patient's needs, planning to meet those needs, linking patient to care provider(s), linking care providers, monitoring patient's care participation, detecting changing needs and advocating for patient's rights.^{91,94,95} The latter is almost identical with McWhinney's¹² definition of continuity of care, while the linking of care providers resembles management/team/cross-boundary continuity.^{20–22}

Other definitions expand case management to the patients' physical and social environments, including e.g. housing, income, transportation, insurance and social networks.^{89,96}

Since the 1990s, definitions of case management vary by the responsibility of case managers. Some describe case management as primarily a matter of coordinating and/or matching services, while others define case management as a broader concept, including case identification, assessment, planning, implementation, linking, facilitation, coordination, integration, providing a continuing relationship between patient and care provider, advocacy, referral, monitoring and evaluation.^{97–108} The responsibility and discipline of the case manager (social worker, nurse or physician) varies, also depending on its responsibility for just one care setting or for patient’s total care.^{105,108}

Discussion

Continuity of care, coordination of care, integration of care, patient-centred care and case management all are concepts describing core qualities of care. Surprisingly, most concepts have changed their meanings and definitions substantially throughout the years and are conceptually entangled (Fig. 1). However, we found that researchers using one concept hardly ever refer to overlapping concepts. They seem to operate mainly within their own conceptual framework and literature.

Overlaps and differences between concepts

We found that most definitions are formulated from the patient’s perspective. In general, the definitions of continuity of care comprise of three major themes: (i) a personal care provider in every separate care setting who knows and follows the patient; (ii) communication of relevant patient information between care providers and (ii) cooperation between care providers, both in a specific

care setting and between care settings, to ensure that care is connected. These themes recur to a certain extent in the other described concepts. Coordination of care is about the teamwork between different care providers and thereby comprising the themes communication and cooperation. The definitions of integration of care over time also comprise the themes communication and cooperation but also include the sharing of responsibilities and care organization. Both definitions of coordination and integration of care do not include the importance of a personal care provider. Patient-centred care is all about involving the patients in their own care. A personal relationship between patient and care provider will facilitate patient-centred care but is not a necessary element. Communication and cooperation between care providers are not included in the definitions of patient-centred care. Lastly, case management describes all activities needed to guide a patient through health care, including the provision of a personal care provider and communication and cooperation between providers.

Implications for practice and future research

We have shown a great entanglement between the different concepts and provide clarity by historically reviewing their definitions. We believe it is impossible to unravel the entanglement of these concepts. However, we could identify three major themes: (i) having a personal care provider who knows and follows the patient, (ii) communication between care providers and (iii) cooperation between care providers. Because the various descriptions of care processes often cover these three themes, these three themes are apparently core elements of care to patients. To our knowledge, no measurement instrument

	1950	1960	1970	1980	1990	2000	2010
Continuity of care		Personal relationship	Definitions including personal relationship, communication and cooperation	Personal relationship		Definitions including personal relationship, communication and cooperation	
Coordination of care		Cooperation and communication		Communication		Definitions including personal relationship, communication and cooperation	
Integration of care		Definitions including communication and cooperation					
Patient centered care					Definitions including personal relationship		
Case management					Definitions including personal relationship, communication and cooperation		

FIGURE 1 Evolution of definitions of the different concepts

exists to measure these themes universally yet. We think it would be valuable to develop such an instrument. This will enable researchers and policy makers to focus on the core elements of patient care, while researchers can still add other themes depending on the concept they want to focus on. Such a measurement instrument will make it possible to compare studies and to evaluate new interventions or developments in care from the patient's perspective.

Context of changing definitions

Developments in care contribute to the different priorities and definitions of the concepts over the years. The changing definitions of continuity of care, for example, are related to developments in general practice. In the 1950s, the first researchers in general practice were trying to explore and define their discipline. Single-handed practices prevailed in which a personal care provider guaranteed continuity of care. In the 1960s, the number of partnership practices increased in the UK, while in the USA, general practice became virtually extinct and had to be reborn as family practice. In the 1970s, concerns about the growing size and anonymity of group practices came up.¹⁰⁹ Nowadays, the number of group practices is still growing and multidimensional models of continuity are introduced including aspects such as team continuity. Other contextual factors explaining the changing definitions include the increasing specialization and subspecialization of hospital-based care, the rise of the consumer movement and the women's movement, the rise of the primary care team and the expansion of medical science and technology.

Limitations

We searched for articles solely in PubMed and searched for terms solely in the title. As our aim was to describe the development of the different concepts over time and to show their entanglement, we do not think that potentially missing some minor articles has influenced the found result. Because we additionally analyzed already known articles, we do not think that we have missed important influential articles.

As we searched in PubMed from 1948 onwards, we can only provide a historical overview from this year on. Definitions before 1948 are missing.

Comparison with previous studies

We found one article reviewing definitions and comparing care concepts. This study reviewed discharge planning, transitional care, coordination and continuity by using articles published between 2000 and 2006 with a hospital-focussed perspective.⁴ The authors do not describe common themes, but conclude that the concepts are interrelated. They propose a conceptual model in which these four concepts are included.

Conclusions

Descriptions of care processes from the patient's perspective often cover the themes personal relationship, communication between providers and cooperation between providers. These themes are apparently core elements of care to patients, associated with better quality of care, better health, greater equity and lower cost for people and populations.³ Developments in care should be aimed to improve the outcome of these themes. We think it would be valuable to develop an instrument to measure the three common themes universally. In the patient-centred medical home, such an instrument might turn out to be an important quality measure, which will enable researchers and policy makers to compare care settings and practices and to evaluate new care interventions from the patient perspective.

Declaration

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