

Research Article

Kreitzer's Well-Being Model Through Clinical Care Classification System: A Concept Mapping Study

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Introduction: Nursing diagnoses are conventionally considered as functional, emotional, or behavioral deficiency, but they could also determine the level and quality of patients' well-being if properly formulated.

Objective: The goal of this study was to integrate the standardized nursing language (SNL) of the Clinical Care Classification (CCC) system with Kreitzer's model of well-being.

Methods: A concept mapping process was carried out, by a multidisciplinary team, between the 60 major diagnoses of the CCC system and the six dimensions of Kreitzer's well-being model. Diagnoses were independently evaluated, and consensus was reached through discussion. Agreement was measured using Fleiss' Kappa, and each diagnosis was scored as fully or partially aligned to quantify conceptual correspondence.

Findings: The mapping process reached an initial agreement above 50%. Some diagnoses were mapped to more than one dimension. All six dimensions of Kreitzer's model were represented, with 60 nursing diagnoses fully and 24 partially included. All well-being dimensions included at least one related nursing diagnosis. Most of the nursing diagnoses, through the mapping process, were included in the health dimension (85%) or in the security dimension (20%) of well-being.

Conclusions: Nursing diagnoses of the CCC system are a possible indicator of the patient's current and potential well-being, paving the way for the creation of a structured tool to be included in the initial assessment of the nursing process and for the identification of specific outcomes and interventions to work on the well-being of patients with different health problems.

Keywords: nursing diagnosis; standardized nursing languages; well-being model

1. Introduction

Well-being is considered a complex and multidimensional concept and represents the condition to which all individuals tend over their lifetime, especially after significant life events [1]. The five core elements of well-being according to the best-known model of Martin Seligman's are Positive Emotion, Engagement, Relationships, Meaning, and

Accomplishment (PERMA) [2]. However, traditionally human well-being is divided into two essential components, objective (e.g., employment, health, and education) and subjective (e.g., life satisfaction, autonomy, and personal security), both necessary to guarantee the general health of the individual [3]. A prolonged loss of well-being can lead to numerous discomforts related to the physical, mental, and relational spheres [4–6], which represent areas where

nursing interventions have been shown to provide a relevant contribution on patient's outcomes [7, 8].

Nursing care was also defined as “an inherent human process of well-being, manifested by complexity and integration in human systems” [9]. Therefore, well-being can be considered a primary endpoint of tailored nursing care that takes into account the whole individual [10]. Consequently, in nursing care, an appropriate recognition of patients' well-being needs, identified through an accurate assessment, and their formalization with the nursing diagnoses, is a fundamental phase in the care process [11].

Nursing diagnoses, along with nursing interventions and patient outcomes, represent what is defined as standardized nursing languages (SNLs). SNLs are able to support nurses in implementing and describing care plans and predict important patient and organizational outcomes, such as mortality, quality of life, length of hospital stay, hospital charges, and amount of nursing care [12–14]. Nursing diagnoses are standard terms to identify patient human responses to clinical or life conditions [15] and are conventionally associated with patients' care needs as indicators of nursing dependency that is functional, emotional, or behavioral deficiency [16]. Conversely, they could also determine the level and quality of patients' well-being if properly formulated. From a clinical perspective, establishing a direct link between well-being outcomes and nursing diagnoses could enhance care planning and enable nurses to monitor patients' holistic progress over time [17, 18]. Among the various well-being frameworks, Kreitzer's model has a holistic and integrative perspective, which aligns closely with nursing values and practice. It reflects the biopsychosocial and spiritual aspects central to nursing care, making it particularly suitable for integration with SNLs [19]. Indeed, previous studies [20, 21] have considered the Omaha System, an SNL that comprises also patient's care needs, together with the Kreitzer well-being model. The objective was to perform an integration between nursing care and the evaluation of well-being allowing a more complete initial assessment. Moreover, this opens up the possibility of ensuring the best possible level of well-being for the patient.

In one study, this integration was done through a mapping process between the well-being model concepts and the SNL [21], while in the other one, well-being was assessed through a series of questions and related multiple answers mapped and coded with the SNL [20]. According to the integration between the SNL and the well-being model, Monsen et al. [21] developed neutral rating questions with one or more strength indicators for each problem concept in order to incorporate the Omaha System into the assessment of a person's global well-being. Instead, Gao et al. [20] documented well-being through problems, strengths, attributes, and signs/symptoms.

Although these studies [20, 21] have analyzed the Omaha System in the light of a model of well-being, the system includes forty-two neutrally defined patient problems or areas of concern; this differentiates them from nursing diagnoses of the other SNLs [22]. Furthermore, these patient problems were not specifically mapped into the well-being dimension model. Consequently, it was not possible to identify whether and which dimensions of the model were consistent with patient

problems in conceptual and meaningful terms. Other SNLs exist that were translated and adapted in many world contexts including the European one. In particular, the Clinical Care Classification (CCC) System [23, 24] has a strong applicability in different healthcare settings and is easily included in electronic health records (EHRs) [25, 26].

The mapping process holds the promise of linking similar concepts in standardized nursing data [27]. However, its use for the mapping of nursing concepts with theoretical models is still lacking in the literature. The mapping of well-being terms could be beneficial in supporting healthcare professionals in better managing chronicity to better reflect the current healthcare system and developing tools that effectively measure well-being from a nursing perspective. However, despite growing interest in integrating well-being frameworks into nursing practice, there is still no clear understanding of how the concepts of well-being correspond to nursing diagnoses within existing SNLs. This lack of conceptual alignment represents a significant gap that this study aims to address. For these reasons, the aim of this study was to map the CCC system and Kreitzer's well-being model to formally integrate them.

2. Methods

2.1. Research Design. A concept mapping study was conducted to integrate the nursing *diagnoses* of the CCC system and the Kreitzer's well-being model.

2.2. The CCC System. Among the SNLs recognized by the American Nurses Association, there is the CCC system [23, 24], that has recently been translated into Italian language for its applicability in different healthcare settings and its easy inclusion in electronic health records [26].

The CCC system is an organized framework that has a conceptualization arranged on four levels:

- Level one: Four healthcare patterns (physiological, psychological, functional, and health behavioral).
- Level two: 21 care components (e.g., activity, cardiac, coping, metabolic, nutritional, respiratory, safety, and self-care).
- Level three: 176 nursing diagnoses and outcomes, and 201 core nursing interventions/actions.
- Level four: Three outcome qualifiers (improved, stabilized, or deteriorated) and four action-type qualifiers (monitor, perform, teach, or manage).

Each nursing diagnosis can be combined with an outcome qualifier, as each nursing intervention/action can be combined with an action-type qualifier. Consequently, there are 528 possible outcomes and 804 nursing interventions to choose from during the nursing process.

Nursing diagnoses, composed of keyword sorts, were developed in major categories and subcategories for the varying concept scopes; for example, the nursing diagnosis of *pain* represents the major category and *acute pain* or *chronic pain* represents the subcategories of the *pain* major category nursing diagnosis.

The major nursing diagnoses are less granular and more comprehensive of the concept of interest [23]. For this reason, to best integrate the nursing diagnoses with the dimensions of the well-being model, we have considered the major nursing diagnoses for the concept mapping process.

2.3. Kreitzer's Well-Being Model. Kreitzer's well-being model includes six dimensions that consider all main aspects of human life that are also interesting for nursing: *health* understood from a physical, emotional, mental, and spiritual point of view; *purpose* in life that gives it meaning; *social relationships* and their qualities; *role of people in the community* that provides resources and infrastructure; *access to a healthy physical environment* (e.g., clean water); and *perception of a sense of personal and social security* [19].

2.4. Mapping Procedure. The mapping process was carried out by a group composed of seven expert nurses and one supervisor (RA) with the following characteristics: two SNLs experts (FD, AB), defined as people with advanced skills in SNLs and their applications (i.e., research in SNLs and/or implementations of SNLs in clinical practice); an SNLs expert and well-being counselor (VZ); a well-being psychologist (SB); two spirituality and modeling experts, defined as people who have studied the role of spirituality in healthcare contexts and contributed to the development of theoretical models (GP, EV); and modeling of assessment instruments expert, defined as people who have developed useful tools for nursing assessment (MDM).

The aim of the mapping process was to verify if the 60 CCC major diagnoses conceptually fell in at least one of Kreitzer's well-being model dimensions. The first phase of the mapping process was made individually by each expert. In the second phase, seven online meetings were held among experts to find a shared agreement. Disagreements among experts were discussed and resolved through guided discussion led by the supervisor until consensus was reached (Figure 1). To assess the agreement among the experts, the interrater reliability was calculated through Fleiss' Kappa. A kappa score of > 0.60 was considered satisfactory [28].

2.5. Mapping Criteria and Scores. The experts had to indicate for each nursing diagnosis whether the nursing diagnosis fell into one or more dimensions of the well-being model (yes or no). Furthermore, if yes, the nursing diagnosis could be included fully (2 points) or partially (1 point) in the well-being model dimension. Fully meant that the diagnosis was completely reflected in the concept (e.g., the nursing diagnosis gastrointestinal alteration (B.04.0) undoubtedly fell fully within the health dimension). On the other hand, the nursing diagnosis individual coping impairment (E.12.0) fell partly within both the health dimension and the purpose dimension, as the definition considers it an inadequate response to health problems, which certainly has a counterpart in the sense given to life. Consequently, it was possible for the same diagnosis to fall into more than one dimension fully and/or partially.

Ultimately, the total score was calculated by adding the individual scores obtained from the diagnoses in each dimension. One score for both fully and partially included diagnoses. For example, in the relationships dimension, there were 5 fully nursing diagnoses and 1 partial. Therefore, the total scores were 10 and 1, respectively.

2.6. Ethical Considerations. This study was based on a theoretical concept mapping procedure and did not involve human participants or personal data; therefore, it was exempt from ethical approval in accordance with institutional and national research guidelines.

3. Results

An initial poor mapping agreement ($K=0.571$) among the experts was reached. Immediate agreement was found above all on the diagnoses to be included in the health dimension and on the fact that all nursing diagnoses could be included in at least one dimension of the model. The differences were solved by consensus and collaboration with the supervisor.

All dimensions had at least one nursing diagnosis that fell fully within the concept of the dimension and at least one that fell partially, with a minimum of 4 to a maximum of 51 nursing diagnoses for each dimension of the Kreitzer's well-being model. Overall, 46 nursing diagnoses were fully included and 5 partially included in the health dimension, 3 fully and 3 partially in the purpose dimension, 5 fully and 1 partially in the relationship dimension, 4 fully and 8 partially in the security dimension, 1 fully and 4 partially in the community dimension, and 1 fully and 3 partially in the environment dimension (Figure 2).

Some diagnoses were conceptually relevant to more than one dimension; most of the nursing diagnoses were included in the health dimension (85%) or in the security dimension (20%), and three dimensions (security, community, and environment) out of six were mostly represented by diagnoses that partially fall within the given concept (Figure 2). The health dimension achieved a score of 92 points for nursing diagnoses that fully fell within the dimension and 6 points for partial diagnoses. The dimension of safety reached a score of 8 for both fully and partially covered diagnoses. Considering all fully included nursing diagnoses ($n=60$), only four of them, namely the dying process (E.10.0), home maintenance alteration (G.19.0), perinatal risk (U.60.0), and violence risk (N.34.0), have been included in two dimensions, while all the others represented only one dimension of well-being. According to the partially included nursing diagnoses ($n=24$), sexuality patterns alteration (M.31.0) was included in three dimensions and individual coping impairment (E.12.0) was included in two dimensions, while all the others have been counted in one dimension only (Supporting Information(available here)).

4. Discussion

To our knowledge, this is the first study that sought to integrate the CCC system with a model of well-being, showing how standardized nursing data such as nursing

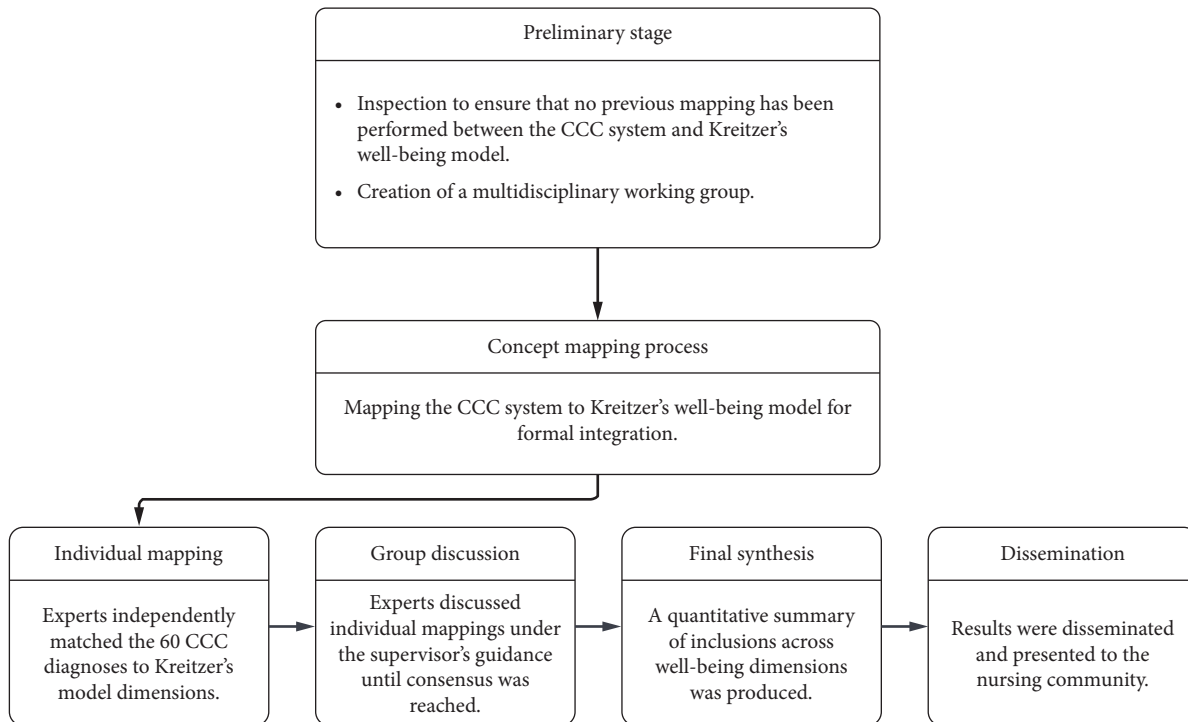


FIGURE 1: Concept-mapping process. Legend. CCC = clinical care classification; Kreitzer's well-being model = Kreitzer [19].

diagnoses appeared to represent all six dimensions of the well-being model. So, the CCC nursing diagnoses can potentially become supportive in assessing the patient's well-being level from a nursing point of view, primarily regarding the physical well-being and safety of the patient. Clinically, linking well-being dimensions to nursing diagnoses can enhance individualized care planning and allow nurses to monitor holistic patient progress. Integrating this mapping into electronic health records would also support systematic documentation of well-being outcomes and strengthen the visibility of nursing contributions to patient care. For example, the nursing diagnosis spiritual state alteration (E.14.0) related to the well-being purpose dimension can guide nursing interventions toward strategies that reinforce the patient's sense of meaning and direction in life, thereby supporting a more comprehensive and individualized evaluation of their overall well-being trajectory.

As reported in the literature, over time, SNLs received several definitions and meanings. For example, SNLs have been seen as an instrument for common communication or collaboration across disciplines, or as a common language for describing care, specialty domains, or groups of patients [29, 30]. However, there are very few studies in the literature that have approached an SNL as a formal indicator of health rather than a care deficit [20, 21]. This different vision of SNLs, especially for nursing diagnoses, has paved the way for their integration into well-being assessment instruments. Moreover, both studies identified and referenced the model developed by Mary Jo Kreitzer, although PERMA is among the most well-known wellness models [2]. Probably because the PERMA model, while considering the most important dimensions of human experience, lacks the care aspect,

which is instead taken up by Kreitzer's model with the dimensions of health, safety, and context.

Compared with Gao et al. [20, 21], this study differs conceptually and methodologically. While those authors integrated well-being indicators into the Omaha System, we mapped CCC nursing diagnoses into the well-being model's dimensions, showing that existing terminologies can inherently reflect aspects of well-being. These differences help explain our broader representation of well-being dimensions—especially health and security—suggesting that the CCC structure naturally captures holistic elements of patient well-being.

4.1. Mapping Process. Regarding the mapping process, in the nursing context it is usually performed between non-standardized terms with standardized terms or between different terminologies [31]; therefore, the desire to integrate standardized terms with the dimensions of a model appears to be a recent strategy.

The identified studies mapped well-being model concepts [21] or questions and answers of a well-being assessment instrument [20] into the Omaha System. Instead, we did the opposite process. The nursing diagnoses of the CCC system were mapped into the dimensions of the well-being model. This choice was made since the information model of the CCC system depicts how nursing knowledge links diagnoses, interventions, and outcomes [32]. These interconnections make the system well integrated in the nursing process by determining the possibility of including the CCC elements within the perimeter of larger dimensions and areas of care that nurses consider relevant for the

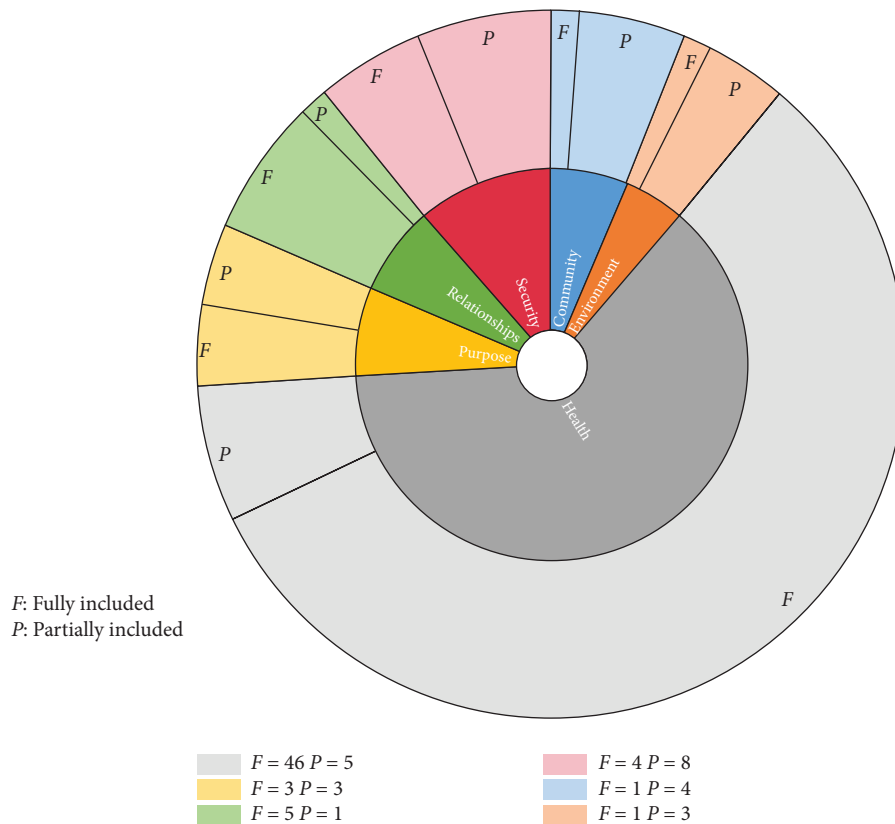


FIGURE 2: Distribution of CCC nursing diagnoses in the well-being model dimensions.

autonomy and psycho-physical well-being of the patient. Furthermore, directing the mapping from diagnoses to dimensions allowed the authors to demonstrate that even if they were not elaborating on thinking about a model of well-being, they are well suited to an integration with it and potentially able to measure the level of well-being when properly included in a measuring instrument. From a practical standpoint, this alignment supports the potential creation of digital nursing tools that can automatically link well-being dimensions to care plans and interventions, facilitating real-time documentation and evaluation within EHR systems.

The initial mapping agreement (51.7%) is not completely satisfactory. This could be due to the intentional creation of a multidisciplinary work group, which allowed for an in-depth discussion on the concepts (e.g., coping, role performance, deficit, and risk) from different points of view. All six dimensions of the Kreitzer model were represented in the 60 major nursing diagnoses of the CCC system. Not surprisingly, the most represented dimension is that of health (85%), as nursing care is focused on “person existential experience of health and illness” [33]. Thus, nursing diagnoses as a human response to a health problem’s name actual or potential conditions related to problems that come to the awareness of the patients primarily due to physical/functional discomforts followed by behavioral/spiritual discomforts [34]. This probably explains the small number of diagnoses included in the dimensions of purpose, relationships, community, and environment. In all cases, it

was important to ensure that the nursing diagnosis not only had repercussions in the dimension of well-being but entered it of its own right. For example, the nursing diagnosis thought processes alteration (code D.09.0) certainly can have repercussions in all dimensions of well-being (e.g., relationships and security) but the change in cognitive processes has its specific focus in the dimension of health, as the origin of the changes are in the functionality and physiology of the brain.

Many nursing diagnoses that fit fully into the well-being dimension were partial to other dimensions. This is because the spheres of human existence inevitably influence each other. For example, nutrition alteration (J.24.0), which falls fully within the domain of health, also partially affects the sphere of safety since if one does not eat well for any reason, he/she engages in a dangerous behavior.

In each case, except for four nursing diagnoses, all clearly fell within a single dimension of well-being, indicating the natural integration of the diagnoses with Kreitzer’s model and their clear reference to specific aspects of well-being. This makes nursing diagnoses potential indicators of well-being. For example, in the domain of relationships there is the nursing diagnosis family coping impairment (E.11.0) which, if diagnosed, would indicate a decreased level of well-being in the family sphere. It would be interesting to be able to quantify this reduction in coping in the future with a validated instrument that also allows us to identify the best level of well-being achievable for the patient based on the clinical, social, and spiritual situation.

Four diagnoses—dying process, home maintenance alteration, perinatal risk, and violence risk—that were fully included into two dimensions were discussed a lot among the experts because they initially appeared as possible consequences of previous problems. In particular, the dying process (E.10.0), which has been included in the dimensions of health and purpose, if diagnosed, could apparently indicate a very low level of well-being. However, there are studies that show that a good death can still create a serenity that can depend by the relational and social context [35], which always contributes to general well-being. Spirituality, not defined as religiosity, could have an important role in improving patient well-being. Indeed, as described in the literature [36, 37], several authors observed that spirituality could have a moderator role between psychological variables (i.e., depression) and health or well-being.

4.2. Relevance to Clinical Practice. This study has several clinical and scientific implications. Firstly, it allows nurses to see nursing diagnoses as a possible indicator, not only of the patient's deficiencies, but also of their current and potential well-being. This means being able to include specific outcomes and interventions to improve well-being in care planning. Furthermore, this study is a prelude to the development of an indicator of well-being for people with various health problems, which is conveyed by nursing diagnoses, a peculiarity of nursing care. Incorporating these mappings into digital clinical systems could enable automatic suggestions for interventions and outcomes related to each well-being dimension, promoting more personalized and data-driven nursing care.

4.3. Study Limitations. This study has several limitations. Surely, a limitation of this study is the abstraction of the mapping process. Indeed, CCC nursing diagnoses formulated on a specific patient population were not involved. This is because the intention was to integrate as many diagnoses as possible with the well-being model and in a patient population. It is not certain that all the available nursing diagnoses are identified. In addition, for completeness, based on the structure of the CCC system, nursing interventions could also be mapped.

5. Conclusion

This study contributes to existing literature by being among the first to explore the integration of the CCC system with Kreitzer's model of well-being, bridging the gap between SNLs and holistic models of health. The mapping process revealed that all nursing diagnoses could be related to at least one dimension of well-being, with the health and security dimensions most frequently represented. These findings demonstrate that the CCC system provides a solid conceptual and practical basis for describing well-being from a nursing perspective.

Developing an integrated instrument grounded in this framework would enable nurses to assess and promote well-being systematically, addressing the factors that influence it

and their consequences for assistance, organizational functioning, and health outcomes. Furthermore, the CCC system was originally designed for EHRs integration; such a tool could be seamlessly implemented in digital clinical environments, enhancing the visibility and impact of nursing contributions to well-being. Ultimately, this integration opens new possibilities for reframing nursing care as a direct promoter of human well-being, positioning nurses not only as care providers but also as key agents in fostering holistic health across care settings.

Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Conflicts of Interest

The authors declare no conflicts of interest.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. (*Supporting Information*)

Supporting Information reports a table that maps CCC nursing diagnoses to the dimensions of Kreitzer's integrative well-being model, indicating whether each diagnosis is fully or partially included in the corresponding dimension.

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