

How to Achieve a Person-Centred Culture Change in a Residential Aged-Care Facility: A Tailored Implementation Strategy.

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Definite Master Thesis

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Introduction

Because of a rapidly ageing population¹ and increasing prevalence of chronic diseases², quality of care and life in elderly care is a worldwide concern^{3,4}. To improve the quality of care and life of elderly, a worldwide movement from traditional, medically oriented care to person-centred care is unfolding^{3,5}.

Person-centred care (PCC) is '*a holistic (bio-psychosocial-spiritual) approach to delivering care that is respectful and individualized, allowing negotiation of care, and offering choice through a therapeutic relationship where persons are empowered to be involved in health decisions at whatever level is desired by that individual who is receiving the care*'⁶. In elderly care, PCC is often referred to as resident-directed or resident-centred care⁶ and entails self-determination and choice of residents, close relationships between residents, staff, family and the community, a homelike atmosphere and shared decision-making^{7,8}. A growing body of evidence shows a tendency towards the effectiveness of PCC in improving patient quality of life⁹⁻¹¹, patient satisfaction¹² and staff satisfaction¹³⁻¹⁵. Moreover, examples of PCC's cost-effectiveness are extant¹⁶⁻¹⁸. These patient, staff and financial benefits make PCC an essential concept for organizations to use in dealing with quality concerns in elderly care^{4,19}.

The development towards PCC in elderly care can be seen in the increasingly well-known *culture change movement*^{5,20,21}. Herein, development of shared cultural values, beliefs and patterns is needed to improve PCC in an organization^{22,23}. Also, a vital precondition for PCC is an organizational culture that values and supports staff empowerment^{6,24-26}. However, it is difficult to achieve such a complex culture change^{7,13,20,27}. Previous research identified various barriers in changing the culture to be more person-centred, such as staff's lack of motivation and vision^{23,25,28}, leadership resistance and (unjustly) expected extra costs³.

PCC culture change research suggests numerous implementation strategies to overcome these barriers and successfully implement PCC in elderly care^{3,23,25,28}. Examples are education^{3,28}, promoting adaptive leadership²³, informal empowerment and access to resources²⁵. Preferably, multiple strategies are combined and choosing the appropriate implementation strategies should be done thoughtfully²⁹.

Implementation research shows that implementation is most successful when tailored to the context³⁰. Tailoring can be done by prospectively identifying context-specific barriers to change³⁰. In other words, thorough implementation diagnostics are needed³¹. A relevant method for diagnosing what tailored implementation strategy (TIS) is needed to implement a complex nursing innovation, such as a PCC culture change^{3,23,25,28,29}, in a complex context, is provided by the innovation-contingency model (IC-model) of van Linge^{31,32}. This model

provides a method, in which characteristics of the organization are diagnosed in terms of fit with the innovation (i.e., PCC). These fit-diagnostics can be used to develop a TIS³¹.

Fit between organization and innovation characteristics is a predictor of implementation success^{31,33}. Yet, an unpublished study³⁴ (i.e., a cross-sectional observational study conducted in a Dutch elderly care facility) recently highlighted the importance of adding multilevel diagnostics (i.e., on employee, team, and organization level) to the IC-model's method. The employee's attitude towards the innovation, the team's team learning abilities and the organization's learning capabilities are also promising in predicting implementation success of nursing innovations³⁴⁻³⁸. To aim to refine and elaborate on the theoretical foundation of TIS-development, in this study, the IC-model's method of fit-diagnostics was extended by adding these multilevel diagnostics^{34,36,39-41}.

Next to this objective regarding further development of the IC-method, the current study pursued a more practical objective. To ultimately improve quality of care and life in elderly care, the objective was to develop a TIS aimed at successfully achieving a PCC culture change in a Dutch residential aged-care facility. To reach this, first, multilevel fit-diagnostics of the extended IC-method³¹ were conducted among employees of the residential aged-care facility. Second, based on these multilevel fit-diagnostics, a TIS was developed by use of IC-model³¹. Third, insight was gained into whether the TIS could be carried out successfully in the organization it was tailored to. Feasibility is an indicator of implementation success⁴². Therefore, it was assessed whether the developed TIS is deemed feasible by the members of the organization.

Method

Design

To reach the study's objective, a sequential embedded mixed-methods (QUAN(qual)) design was conducted^{43,44} (Figure1). Multilevel fit-diagnostics were assessed quantitatively and feasibility of the TIS qualitatively. In this design, the qualitative data was supplemental to the quantitative data⁴⁴. By use of this mixed-method design, insight was gained into the usefulness of the quantitative findings⁴⁵ by qualitatively assessing whether the developed TIS is likely to be successful in daily practice. By use interpretive integration⁴³, results of both types of data were drawn together on a narrative level to develop an overall conclusion regarding the developed TIS⁴³.

<Insert Figure1>

Quantitative methods. Multilevel-fit between organization characteristics and PCC was determined with five self-reported questionnaires, which were filled in by employees of the residential aged-care facility. Multilevel-fit was diagnosed in terms of fit between innovation (PCC) and team characteristics, and multilevel characteristics, that is, innovation attitude, team learning and organizational learning. Also, given the complexity of PCC and the fact that PCC is an existing concept in nursing practices¹², the organization's current status of PCC was assessed with a sixth questionnaire.

Qualitative methods. To examine whether the refined fit-diagnostics actually resulted in a feasible TIS, its perceived feasibility was examined. This qualitative inquiry was used to provide in-depth supplementary information^{43,46} on how employees of the residential aged-care facility perceive the TIS in terms of feasibility to their context. The feasibility of the TIS was evaluated in a focus group. A focus group can provide insight into how participants think about a specific issue⁴⁷ and is likely to yield rich information and deep expressions of opinion^{43,46}.

Setting and Subjects

The setting is a Dutch culture-specific residential aged-care facility, which provides somatic and psycho-geriatric care for 81 Indo-European and Moluccan elderly. The facility consists of three nursing teams (i.e., 40 employees) and is part of a larger organization (i.e., 184 employees), which also provides nursing home and extramural care. The population entails the employees of the three nursing teams. Employees are of different vocational nursing levels, comparable to nursing aides, licensed practical nurses and licensed vocational nurses in the United States. Also, in accordance with the IC-model³¹, characteristics of the entire organization were diagnosed. Therefore, in addition to the members of these three nursing teams, other employees of the organization (e.g., management, policy workers and other teams) were included. As insight into the organization is vital, flex workers and external students were excluded.

Sampling

Quantitative data. For each questionnaire, participants were purposely selected⁴³ to provide optimal information on that particular questionnaire, based on employment function and position in the organization. See Figure 2 for a schematic overview of this questionnaire-based purposive sampling in the organization. Members of the three nursing teams filled in questionnaires on the employee level (innovation attitude), team level (team learning and team characteristics) and the current status of PCC. To gain insight into the characteristics of other teams of the organization, the questionnaire on team characteristics was also administered among members of all other teams (N=9) of the organization. On the

organization level, the questionnaire (organizational learning) was filled in by members of the organization who have a position in the organization that gives them an organization-wide perspective (e.g., management, team coaches, policy workers). The questionnaire on innovation characteristics was filled in by members of the organization who have knowledge of PCC.

Qualitative data. Focus group participants were employees of the organization. Because of the complexity of the subject (i.e., TIS), participants were purposely selected⁴³ to have expert insight into implementation processes in the organization (i.e., team coaches, management, policy workers). The preferred number of participants in the focus group was six to eight⁴⁷. To ensure enough participants were present during the focus group, nine were selected.

<Insert Figure2>

Data Collection and Procedures

Quantitative data collection. First, from January through March 2015, participants were asked to fill in questionnaires for the multilevel fit-diagnostics. Every participant received a selection of the six questionnaires, depending on their position in the organization (Figure2). See Table1 for characteristics of the questionnaires. Each paper-based selection of self-reported questionnaires started with assessment of demographics.

<Insert Table1>

Innovation and team characteristics. In accordance with the IC-model³¹, team and innovation characteristics were assessed with original Dutch versions of the Observed Team Configuration Scale³¹ and the Observed Innovation Configuration Scale³¹, respectively. These questionnaires gain insight into the internal fit within and external fit between the organization on team level and the innovation. This fit between innovation and team characteristics is a valid predictor of implementation success^{31,33,34,36}. Fit is determined on four sets of characteristics, called configurations³¹. These configurations are regulation-oriented, goals-oriented, team-oriented and development-oriented and can be defined on two axes of external to internal focus and controlling to flexible focus³¹ (Figure3). The configurations are layered into operational characteristics, explicit values and goals and fundamental conceptions.

<Insert Figure3>

Innovation attitude. On employee level, a Dutch adaptation of the Innovation Attitude Questionnaire⁴⁸ was used to assess the attitude towards the innovation (PCC). The questionnaire is based on Rogers' diffusion of innovation model⁴⁹ and gives insight into the innovation's complexity, trialability, operational compatibility, goal compatibility and observability⁴⁸.

Team learning. On team level, team learning was assessed with a Dutch translation of the Team Learning Survey⁵⁰. The questionnaire gains insight into three team learning modes, that is, fragmented learning (team members do learn individually, but do not share their knowledge), pooled learning (individuals share knowledge with some team members, but not all) and synergetic learning (the team learns by constructing shared meanings)⁵¹.

Organizational learning. On organizational level, organizational learning was administered with a Dutch translation of the Learning Capability Scale³⁴. This scale gains insight into four dimensions of the organization's learning capabilities: managerial commitment, systems perspective, openness and experimentation and knowledge transfer and integration⁵².

Current status of PCC. To assess the current status of PCC in the organization, a Dutch translation⁵³ of the Person-centered Care Assessment Tool⁵⁴ was used. This questionnaire gains insight into nursing staff's view of the presence of PCC in the organization. Specifically, it measures three PCC-aspects: personalized care, organizational support for providing PCC and environmental accessibility. A higher score indicates a more person-centred organization as viewed by the nursing staff. This questionnaire was deemed appropriate to assess PCC in this study as it is designed for the context of residential aged-care facilities⁵⁴ and the three subscales represent important aspects of the PCC culture change (personalized care, support of staff empowerment and PCC environmental factors)^{7,8,54}.

Development of the TIS. Next, in April 2015, the fit-diagnostics as provided by the IC-model³¹ were used to select the best fitting implementation strategy to implement PCC in the residential aged-care facility. Herein, the questionnaires on innovation and team characteristics were used to determine (internal and external) fit between the innovation and the organization (See Figure4 for this IC-method). Multilevel diagnostics were used to further refine this TIS (Figure5).

<Insert Figure4 and Figure5>

Qualitative Data Collection. Finally, the developed TIS was evaluated for its perceived feasibility by members of the organization in a focus group in May 2015. Participants of the focus group were personally contacted six weeks in advance by the researcher. Those who agreed to participate, received an official invitation with information about the study. A week before the focus group, a reminder was sent by e-mail. The location of the focus group was a conference room at residential aged-care facility and took 90 minutes. As the researcher is an employee of the organization herself, an independent moderator led the focus group and took care of soliciting every participant's input⁴³. The researcher assisted, took notes and audio-recorded the focus group.

During the focus group, first, the most important results of the implementation diagnostics were presented in order to assess its concordance with the participants' view of the organization (recognisability). Next, the TIS was presented. With regards to the TIS, three topics were assessed interactively: acceptance/integration, implementation/practicality and demand. These topics were based on relevant key areas in assessing feasibility as proposed by Bowen and colleagues⁵⁷.

Data Analysis

Quantitative Analyses. All statistical analyses were conducted by use of software program SPSS⁵⁸. Data was stored anonymously and non-retraceable to the respondent. Demographics and questionnaires were analysed by use of descriptive statistics. More specifically, fit-diagnostics of innovation and team characteristics were analyzed according to the IC-method (Figure5)³¹. Innovation attitude, team learning and organizational learning were analyzed according to methods provided by Moore and Benbasat⁴⁸, Corpening⁵¹ and Jerez-Gomez and colleagues⁵², respectively. See Table1 for interpretation of the scores (i.e., the questionnaires' descriptive statistics). For all questionnaires, missing values were imputed by the mean of the participant's responses on the other items of the (sub)scale.

For the assessment of current status of PCC, the responses on the Person-centered Care Assessment Tool were analyzed according to the method provided by Edvardsson and colleagues⁵⁴. That is, reversed responses were recoded. Next, means were calculated for the participant's responses on all thirteen items and the three subscales separately.

Qualitative Analyses. Qualitative analyses were conducted by use of software program NVivo⁵⁹. The audio-recorded focus group was transcribed verbatim and anonymized. First, the researcher read and listened to the data repeatedly, alongside taken notes. Next, data was coded into themes, guided by the topics of the focus group⁴⁶. Finally, these themes were interpreted and interrelated⁴⁶. For reliability purposes, a peer researcher repeated this process for a segment of the original transcriptions⁴⁶. Herein, intercoder

agreement was assessed⁴⁶. Results were member-checked by two participants of the focus group⁴⁶.

As described above, quantitative and qualitative data were analyzed independently. The separate findings were drawn together (by the researcher) on a narrative level to develop an overall conclusion.

Ethical Issues

The study was conducted according to the declaration of Helsinki. WMO (*Wet Maatschappelijk-medisch Onderzoek*) guidelines were not applicable, because data collection was non-experimental and non-invasive on non-patient participants⁶⁰. Written consent was asked of the organization's director. Participants and the researcher signed written consent prior to questionnaire and focus group participation. Participants participated in free will and without financial compensation and were allowed to withdraw from the study at any time, without having to give a reason. Data was collected anonymously and kept secure on a computer with a personal security code.

Results

Quantitative results: Multilevel fit-diagnostics

Purposive sampling led to a total of 99 employees, who filled in a selection of one or more questionnaires (i.e., 54% organization-wide) for the multilevel fit-diagnostics. In total 210 questionnaires were administered by employees. Following exclusion criteria, three participants were excluded, leaving 96 participants and 203 administered questionnaires (see table2 for demographics and response rates). Within the questionnaires, there were three missing values.

<Insert Table2>

With regards to innovation (i.e., PCC) and team characteristics, the three nursing teams nor the innovation showed an internal fit on any of the IC-model's³¹ configurations. Therefore, also no external fits were found. The innovation showed high means (between 3.07 and 4.80) on the flexibility axes, that is, it showed characteristics of the team- and development-oriented configurations. Herein, standard deviations were high (varying from .56 to 1.40, of which eight out of twelve were above 1.00) (see Table3 for the fit-diagnostics).

One other team in the organization (team complementary care) showed internal fits on the team- and development-oriented configurations (means between 4.0 and 4.8). None of the other teams showed relevant fits.

On employee level, results on innovation attitude showed high scores on goal compatibility and observability for the three nursing teams combined. Complexity, trialability and operational compatibility showed middle scores. On team level, results on team learning indicate that the three nursing teams were in the pooled team learning mode. On the organization level, results on organizational learning showed that managerial commitment was high. Middle scores were found in systems perspective, openness and experimentation and knowledge transfer and integration. Results on the current status of PCC in the organization, showed PCC to be in the middle score, overall. When examining subscales, employees of the three nursing teams indicated a high score on personalized care. Experienced organizational support and environmental accessibility were in the middle category. Overall, little variance was shown between the three nursing teams. See table4 for the results of the multilevel diagnostics.

<Insert Table3 and Table4>

Development of the TIS

Based on the IC-model³¹, results of the fit-diagnostics were interpreted to develop a TIS (Figure4). First, high standard deviations on innovation characteristics indicated a lack of shared perception of PCC. Therefore, a consensus strategy is needed in order to ensure all members of the organization share a common perception of PCC. Next, the lack of fit between innovation and organization on the team- and development-oriented configurations, showed that a co-evolution strategy is needed, in which the three nursing teams develop towards being more team-oriented and development-oriented. Members of the team complementary care are included in the TIS, because of internal fits on team- and development-oriented configurations in their team.

The results of the multilevel diagnostics (innovation attitude, team learning, organizational learning) and current status of PCC were used to refine the TIS. That is, emphasis is put on support in operational preconditions for PCC, improvement of team learning (reaching synergetic team learning), and organization learning (creating a culture that promotes openness, experimentation and sharing and integrating knowledge and stimulates the development of shared vision and cooperated action towards reaching shared goals). For a more detailed depiction of the TIS, see Figure6.

<Insert Figure6>

Qualitative results: Focus group on feasibility of the TIS

For participation in the focus group, nine employees were purposely selected to participate. One (a policy worker) was unavailable at the scheduled time of the focus group. Participants were two managers, three team coaches (i.e., of the three nursing teams*), and three policy workers).

Mainly, results of the multilevel fit-diagnostics were in concordance with the participants' view of the organization. All participants recognized the lack of shared perception of PCC. With regards to the finding that employees of the nursing teams experience that they provide personalized care, questions were raised. Focus group participants indicated that employees might have that experience, but that they do not actually provide personalized care.

With regards to the three topics of feasibility, overall, the TIS was perceived as feasible. Participants indicate that the TIS fits the organization mostly (acceptation/integration). One important aspect that was perceived as lacking in the TIS by some participants, is early inclusion of residents and their informal carers. Other participants saw sufficient opportunities to include patient perspectives. Participants indicated that the TIS could be performed by the organization, but preconditions (e.g., education, time and money investments) should be determined early in the process and it will be a long process (implementation/practicality). Also, all participants expressed the intention to actually use the TIS (demand), but indicated that it will be a long-lasting process. See Table5 for themes and quotes.

<Insert Table5>

Discussion

In this study, multilevel fit-diagnostics indicated that, for this residential aged-care facility, PCC should be implemented by use of a TIS that consists of a consensus-strategy followed by a co-evolution strategy. This TIS was found to be feasible by members of the organization it was tailored to.

These results confirm findings of earlier studies that show that the IC-model³¹ is useful in developing a TIS for complex nursing interventions^{31,32,34}. Also, the expectation that

* At the time of questionnaire administration, team A and C did not have team coaches yet (see figure 2). They were appointed in March 2015.

adding multilevel diagnostics to the IC-model results in an elaborate insight into the context³⁴⁻³⁸ (i.e., the organization) and refinement of the development of a feasible TIS, is confirmed.

Besides strengthening the theoretical basis of the IC-model^{31,32,34,36,39,41}, this study shows the added value of a mixed-methods design, which is increasingly used in implementation research⁶¹⁻⁶⁴. By adding qualitative methods to the quantitative multilevel fit-diagnostics, tailoring can be done more precise. It can provide confirmation of patterns seen in the quantitative data and additional information on further tailoring the TIS to the context. Also, by including an innovation-specific measure (current status of PCC) and discussing this in the focus group, useful insight was revealed that employees of the nursing team experience that they provide PCC, while management and team coaches question this.

The current study stresses the importance of including patients' perspectives in implementation processes. Nowadays, health care organizations increasingly include patients and informal caregivers in development of new forms of care⁶⁵. Even though the IC-model and the developed TIS provide opportunities for including patient's perspectives, some members of the organization in this study indicated the need for a more explicit role of patients and their informal caregivers earlier in the implementation process.

A study's strength is the elaborate method of diagnosing the context on multilevel implementation-relevant characteristics. Reaching a PCC culture change particularly, is difficult to implement^{7,13,20,27}, and therefore, this elaborate theory-based method for developing a feasible TIS is important in improving quality of care and life³⁰. Also, internal generalizability of this study is high. High response rates and thorough diagnostics throughout the organization, on different levels, provide a representative insight into the organization. External generalizability however, is low. Current data only apply to the current context and cannot be transferred to other organizations. On the other hand, the mixed-methods design of this study allows to speculate, that if similar, thorough, methods were conducted in a different organization, an implementation strategy to implement PCC could be tailored to that specific context feasibly.

On a theoretical basis, future research should further refine the multilevel fit-diagnostics by use of mixed-method design and apply them to different contexts and interventions. Furthermore, Baker and colleagues advise that methods to select effective interventions to overcome prospectively identified barriers, need to be developed³⁰. The IC-model's method meets this need mostly by its theory-based and detailed guidance from implementation diagnostics to a fitting, feasible strategy. However, a more detailed guidance in selecting accompanying effective interventions, is an opportunity for further improvement of the IC-method.

On a more practical basis, the developed TIS should be implemented in the residential aged-care facility it was tailored to. Results from the focus group indicate that a

few aspects should be added, that is, the inclusion of residents and their informal carers earlier in the process (e.g., by including the patient council in the consensus phase), determining pre-conditions during the consensus-strategy, and management should challenge the nursing team members to reflect on their (false) experience of already providing personalized care.

To determine the success of the TIS, in a follow-up implementation study, implementation outcomes⁴² should be assessed. This can be done by re-assessing multilevel fit-diagnostics periodically. This way, changes in attitudes, shared vision, fits, and learning abilities are documented and can guide further implementation³⁰.

Conclusion

The current study strengthens the theoretical foundations of implementation research, and specifically TIS-development, by refining the IC-model's method of fit-diagnostics into multilevel fit-diagnostics. This way, a feasible strategy to implement a complex nursing intervention such as a PCC culture change, can be tailored to this context. Ultimately, this supports the process of improving quality of care and life in elderly care.

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Figures and Tables

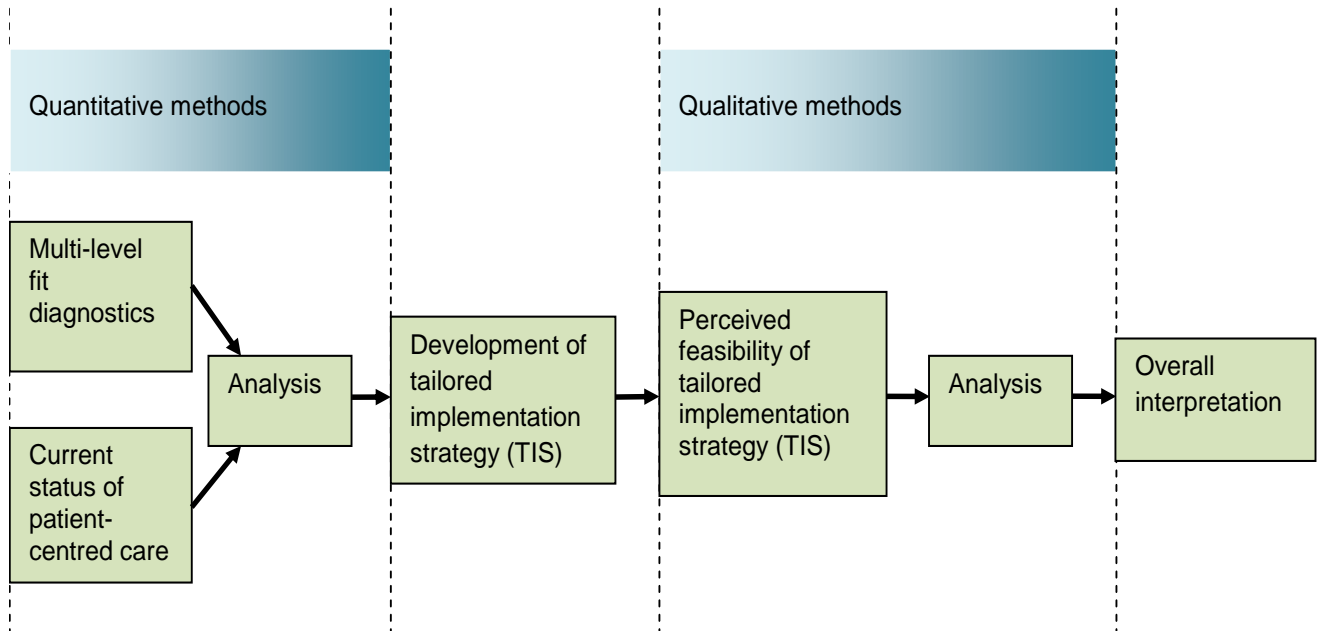






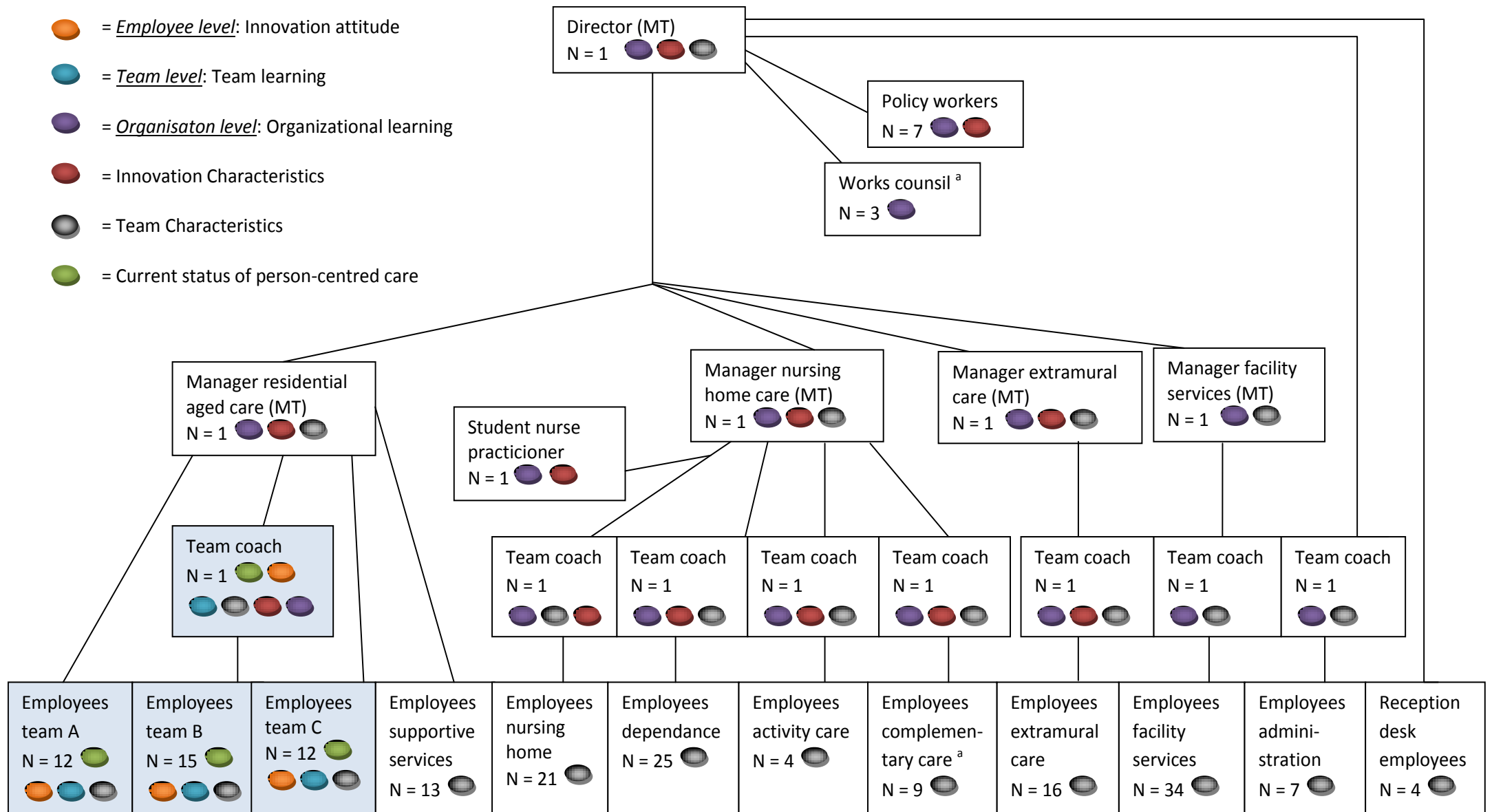


Figure 1. Mixed-Methods Study Design.

-  = Employee level: Innovation attitude
-  = Team level: Team learning
-  = Organisation level: Organizational learning
-  = Innovation Characteristics
-  = Team Characteristics
-  = Current status of person-centred care



Note. Blue boxes = employees of the three nursing teams, MT = member of the management team, N = number of employees.

^a Members of the team are also members of other teams in the organization.

Figure 2. Overview of questionnaire-based purposive sampling.

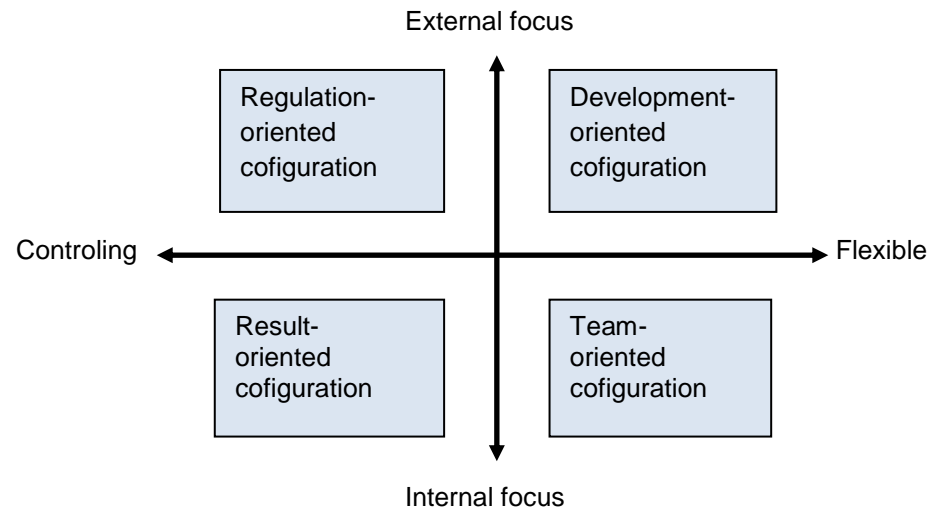


Figure 3. Schematic representation of the four configurations of the innovation-contingency (IC) model³¹.

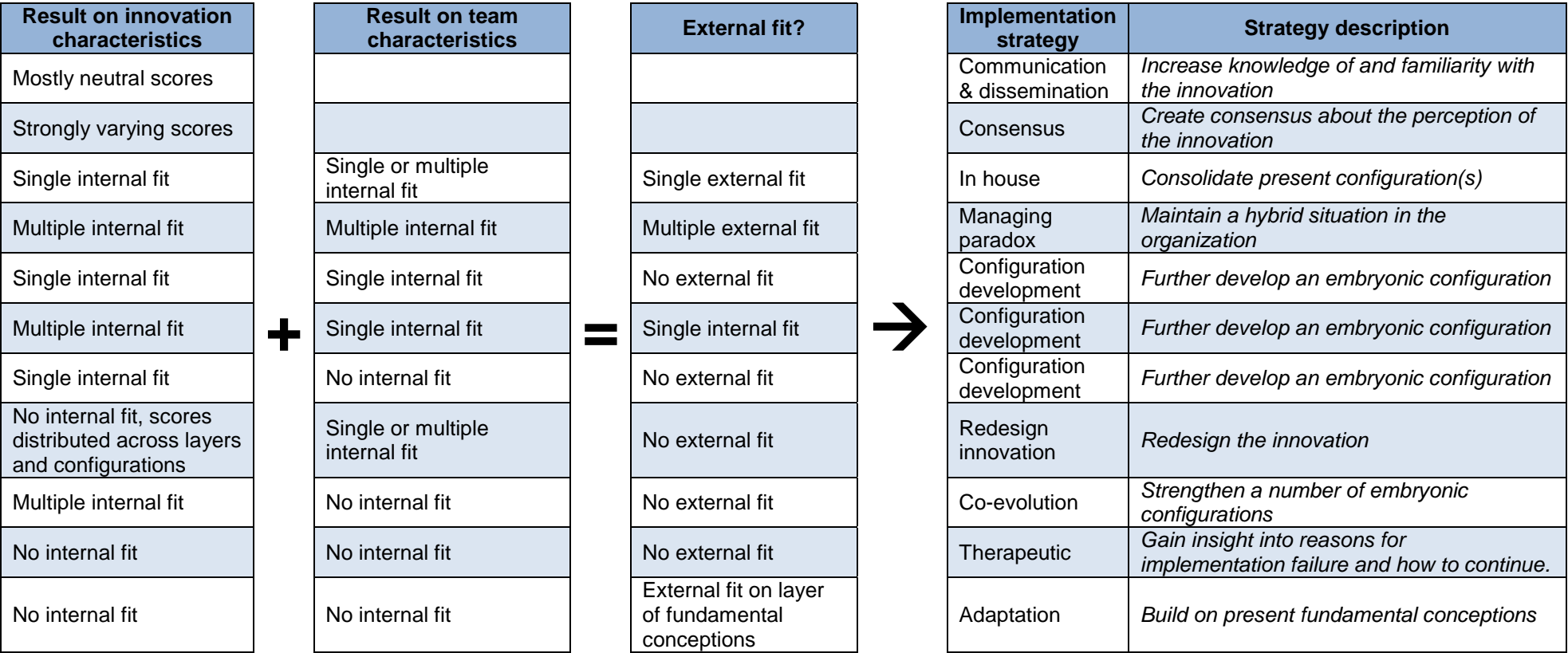


Figure 4. The Innovation-Contingency Model's method: Determination of internal and external fit and accompanying implementation strategies.

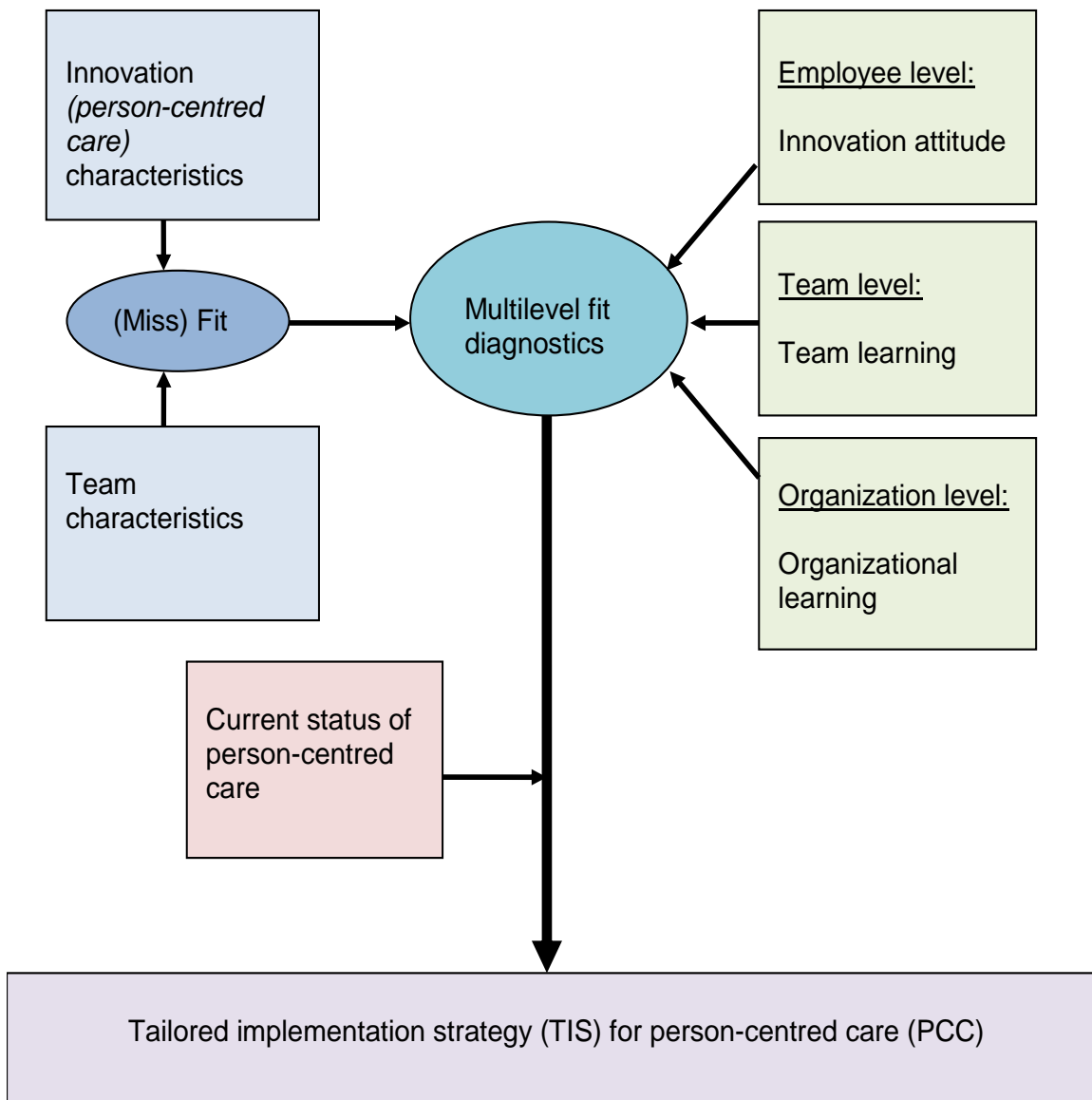
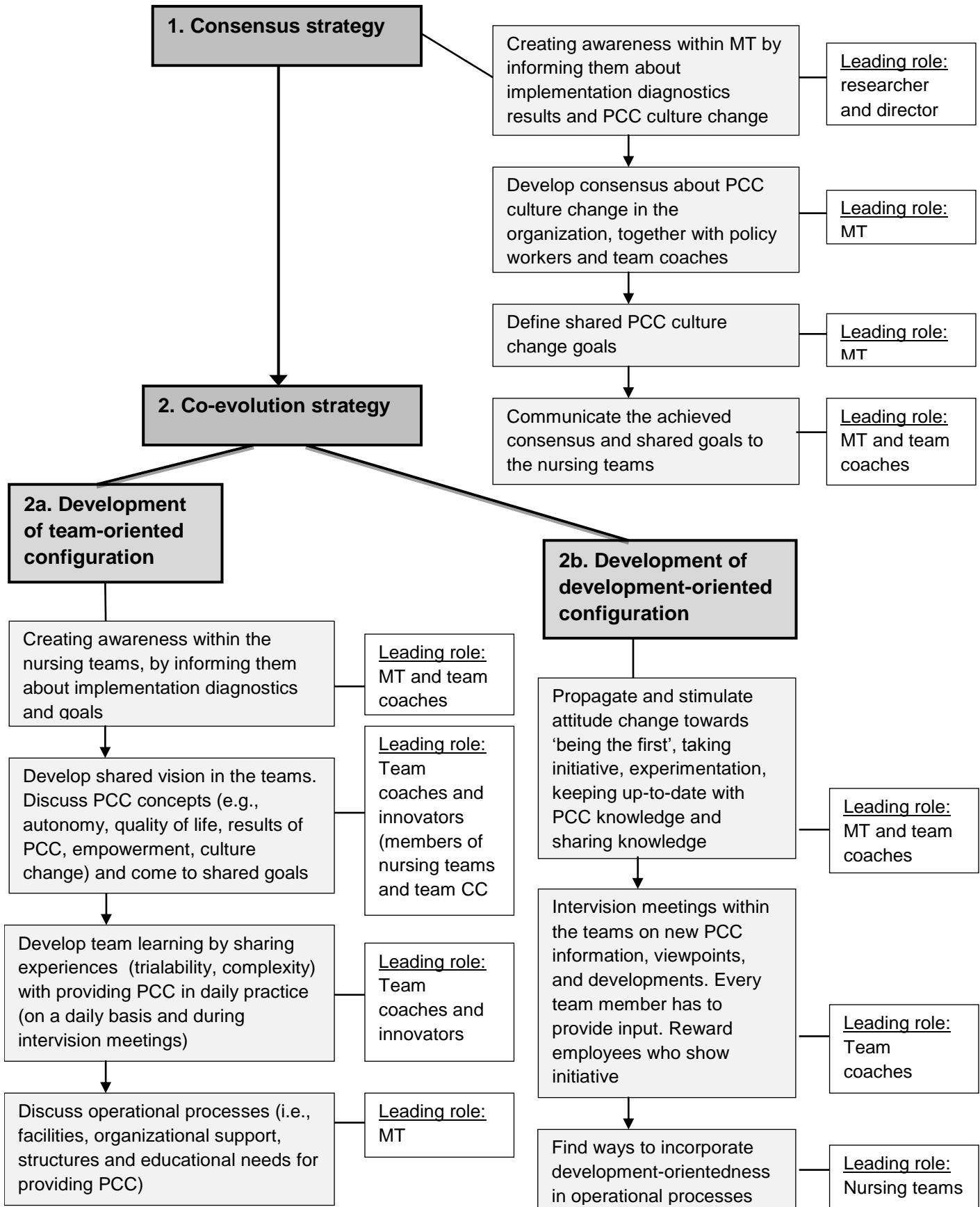


Figure 5. Development process of the tailored implementation strategy by use of implementation diagnostics and the innovation-contingency (IC) model³¹.



Note. CC = complementary care, MT =management team, PCC = person-centred care

Figure 6. Tailored Implementation Strategy (TIS)

Table 1

Instruments' characteristics

Implementation diagnostic	Questionnaire	Subscales	Number of items	Likert Scale	Min/max score	Cronbach's alpha (α)	Interpretation of the score
<u>Innovation characteristics</u>	Observed Innovation Configuration Scale ³¹	<i>Four configurations</i> (rule-oriented, result-oriented, team-oriented, development-oriented), <i>each consisting of three layers</i> (operational characteristics, explicit values and goals, fundamental conceptions)	12	Five-point	1 'totally disagree' to 5 'totally agree'	.76 - .91 ³⁹	A mean of 4 or higher on all layers of a configuration indicates an internal fit ^a on that configuration
<u>Team characteristics</u>	Observed Team Configuration Scale ³¹	<i>Four configurations</i> (rule oriented, result-oriented, team-oriented, development-oriented), <i>each consisting of three layers</i> (operational characteristic, explicit values and goals, fundamental conceptions)	12	Five-point	1 'totally disagree' to 5 'totally agree'	.70 - .75 ³⁴	A mean of 4 or higher on all layers of a configuration indicates an internal fit ^a on that configuration
<u>Innovation attitude (employee level)</u>	Innovation Attitude Questionnaire ^{48,49}	Complexity, Trialability, Operational Compatability, Goal compatability, Observability	21	Five-point	1 'totally disagree' to 5 'totally agree'	.76 - .87 ⁵⁵	A mean score of 1.00-2.33 is low, 2.34-3.66 is middle, 3.67-5.00 is high
<u>Team learning (team level)</u>	Team Learning Survey ⁵⁰	-	16	Seven-point	1 'strongly disagree' to 7 'strongly agree'	.94 ⁵¹	A mean sumscore of 16-68 is fragmented, 69-80 is pooled, 80-112 is synergistic team learning
<u>Organizational learning (organization level)</u>	Learning Capability Scale ^{34,52}	Managerial commitment, systems perspective, openness and experimentation, knowledge transfer and integration	16	Seven-point	1 'strongly disagree' to 7 'strongly agree'	.80 ³⁴	A mean score of 1.00-2.99 is low, 3.00-5.00 is middle, 5.01-7.00 is high
<u>Current status of person-centred care</u>	Person-centered Care Assessment Tool ^{53,54}	Individualized care, organizational support, environmental accessibility	13	Five-point	1 'totally disagree' to 5 'totally agree'	.84 ⁵⁴	A mean score of 1.00-2.33 is low, 2.34-3.66 is middle, 3.67-5.00 is high

Note. ^a An external fit is present if both the innovation and the organization show an internal fit on the same configuration.

Table 2

Employee Demographics for Multilevel Fit-Diagnostics

	<u>Team A</u>	<u>Team B</u>	<u>Team C</u>	<u>Policy workers</u>	<u>Management</u>	<u>Other^a</u>
N (total N=96)	11	15	11	6	5	48
<u>Response rate</u>	100%	100%	100%	100%	100%	86%
<u>Gender</u>						
Female N (%)	9 (81,8)	12 (80,0)	11 (100,0)	4 (66,7)	3 (60,0)	42 (87,5)
<u>Age, in years</u>						
Mean	34,1	36,4	31,5	55,5	46,2	46,6
(SD; range)	(12,0; 21-57)	(10,9; 26-60)	(10,6; 21-51)	(8,4; 39-61)	(12,5; 32-61)	(13,1; 20-62)
<u>Educational level</u>						
Vocational or lower N (%)	9 (81,2)	10 (66,7)	7 (63,6)	0 (0,0)	1 (20,0)	32 (66,7)
Bachelor or higher N (%)	2 (18,2)	5 (33,3)	4 (36,4)	6 (100,0)	4 (80,0)	13 (27,1)
Missing N (%)	-	-	-	-	-	4 (8,3)
<u>Employment position</u>						
Nursing aide N (%)	3 (27,3)	3 (20,0)	4 (36,4)	-	-	-
Practical or vocational nurse N (%)	8 (72,7)	12 (80,0)	7 (63,6)	-	-	-
<u>Work experience, in years</u>						
<u>In organization</u>						
Mean	4,9	3,8	3,1	14,5	13,3	8,1
(SD; range)	(3,6; 0-11)	(3,1; 1-11)	(3,8; 0-13)	(15,7; 3-43)	(7,1; 6-25)	(6,2; 0-28)
<u>In employment position</u>						
Mean	4,2	6,1	4,5	4,5	9,1	5,49
(SD; range)	(3,7; 1-14)	(5,8; 1-18)	(6,0; 0-20)	(3,1; 3-10)	(4,8; 6-17)	(4,1; 0-19)

Note. N = number of participants, SD = standard deviation

^aThe category 'Other' consists of members of other teams of the organisation (i.e., supportive services, nursing home, dependance, activity care, complementary care, extramural care, facility services, administration, reception).

Table 3

Results of Fit-Diagnostics of the Innovation-Contingency (IC) model

	<u>IC-model's layer of operational characteristics</u> Mean (SD)	<u>IC-model's layer of explicit values and goals</u> Mean (SD)	<u>IC-model's layer of fundamental conceptions</u> Mean (SD)	<u>Interpretation of the Score</u>
<u>Innovation Characteristics (N = 15)</u>				
Regulation-oriented configuration	3.20 (1.26)	2.47 (1.25)	2.20 (1.15)	No internal fit
Result-oriented configuration	3.13 (1.13)	3.73 (.88)	3.87 (1.19)	No internal fit
Team-oriented configuration	4.40 (.83)	3.07 (1.10)	4.27 (.80)	No internal fit
Development-oriented configuration	3.67 (1.40)	4.33 (1.05)	4.80 (.56)	No internal fit
<u>Team Characteristics</u>				
<u>Team A (N = 8)</u>				
Regulation-oriented configuration	3.88 (.83)	3.88 (.64)	3.75 (1.49)	No internal fit
Result-oriented configuration	4.13 (.83)	4.13 (.83)	3.62 (1.30)	No internal fit
Team-oriented configuration	3.38 (1.30)	4.25 (.89)	3.88 (1.46)	No internal fit
Development-oriented configuration	3.75 (1.17)	3.75 (1.39)	3.50 (1.51)	No internal fit
<u>Team B (N = 9)</u>				
Regulation-oriented configuration	3.89 (.78)	3.56 (.73)	3.56 (1.24)	No internal fit
Result-oriented configuration	3.89 (.60)	4.11 (.60)	3.44 (1.01)	No internal fit
Team-oriented configuration	3.78 (1.20)	4.11 (.60)	3.89 (1.27)	No internal fit
Development-oriented configuration	3.89 (1.17)	3.11 (1.17)	3.33 (1.22)	No internal fit
<u>Team C (N = 9)</u>				
Regulation-oriented configuration	4.00 (.71)	3.79 (.83)	3.44 (1.13)	No internal fit
Result-oriented configuration	3.89 (.67)	4.11 (.60)	3.67 (1.12)	No internal fit
Team-oriented configuration	4.00 (1.32)	4.11 (.93)	3.78 (1.20)	No internal fit
Development-oriented configuration	3.67 (1.12)	2.78 (.83)	3.56 (1.33)	No internal fit
<u>Team A, B, C (N = 26)</u>				
Regulation-oriented configuration	3.92 (.74)	3.73 (.72)	3.58 (1.24)	No internal fit
Result-oriented configuration	3.92 (.69)	4.12 (.65)	3.58 (1.10)	No internal fit
Team-oriented configuration	3.73 (1.25)	4.15 (.78)	3.85 (1.26)	No internal fit
Development-oriented configuration	3.77 (1.11)	3.19 (1.17)	3.46 (1.30)	No internal fit

Note. N = number of participants, SD = standard deviation.

Table 4

Results of Multilevel Implementation Diagnostics

	<u>Team A</u>	<u>Team B</u>	<u>Team C</u>	<u>Team A, B, C together</u>	<u>Organization-wide</u>
	Mean (SD) <i>Interpretation of the score</i>				
<u>Innovation Attitude</u>					
Complexity	2.43 (.32) <i>Middle</i>	2.17 (.46) <i>Low</i>	2.60 (.88) <i>Middle</i>	2.38 (.61) <i>Middle</i>	
Trialability	2.92 (.87) <i>Middle</i>	3.55 (.69) <i>Middle</i>	3.70 (.35) <i>High</i>	3.42 (.72) <i>Middle</i>	
Operational compatibility	3.56 (.53) <i>Middle</i>	3.55 (.71) <i>Middle</i>	3.65 (.64) <i>Middle</i>	3.58 (.62) <i>Middle</i>	
Goal compatibility	4.29 (.38) <i>High</i>	4.00 (.56) <i>High</i>	4.15 (.44) <i>High</i>	4.13 (.47) <i>High</i>	
Observability	3.66 (.42) <i>Middle</i>	3.80 (.71) <i>High</i>	4.28 (.76) <i>High</i>	3.91 (.69) <i>High</i>	
<u>Team learning</u>	77.12 (10.75) <i>Pooled</i>	77.58 (11.29) <i>Pooled</i>	79.63 (10.36) <i>Pooled</i>	78.05 (10.49) <i>Pooled</i>	
<u>Organizational learning</u>					
Managerial commitment					5.09 (1.09) <i>High</i>
Systems perspective					3.70 (1.33) <i>Middle</i>
Openness and experimentation					4.40 (.86) <i>Middle</i>
Knowledge transfer and integration					4.52 (1.17) <i>Middle</i>
<u>Current status of person-centred care</u>					
Total	3.41 (.47) <i>Middle</i>	3.56 (.30) <i>Middle</i>	3.67 (.36) <i>High</i>	3.55 (.37) <i>Middle</i>	
Personalized care	3.57 (.69) <i>Middle</i>	3.73 (.44) <i>High</i>	3.75 (.49) <i>High</i>	3.69 (.53) <i>High</i>	
Organizational support	3.09 (.53) <i>Middle</i>	3.39 (.72) <i>Middle</i>	3.59 (.38) <i>Middle</i>	3.36 (.59) <i>Middle</i>	
Environmental accessibility	3.50 (.53) <i>Middle</i>	3.32 (.78) <i>Middle</i>	3.56 (.68) <i>Middle</i>	3.44 (.67) <i>Middle</i>	

Note. SD = standard deviation.

Table 5

Focus Group Results

Topic	Theme	Quote
<u>Recognisability of results of implementation diagnostics</u>	Lack of shared perception of PCC (innovation characteristics)	<u>Respondent 4</u> : “I think there are a lot of individual differences, between all layers and all employees of the organization. I think there is a lack of conformity about what PCC should look like. Because of that, there are a lot of different views and expectations of each other.”
	Employees experience that they provide personalized care (current status of PCC)	<u>Respondent 3</u> : “Often, employees reason from their own perspective what good care for the residents is, while they should reason from the resident’s perspective. I believe employees think they provide personalized care, but in practice they don’t.” <u>Respondent 2</u> : “Yes, I recognize that, because if you only do what you think is good for the resident and that is supposed to be PCC... meanwhile, you don’t even ask residents what they want to eat, it contradicts each other.”
	Pooled team learning	<u>Respondent 1</u> : “Well, it is important to share experiences with each other, what is PCC? What should we do? Share knowledge about how to handle things and what the effects are. Indeed, knowledge is shared, but not everyone is always around, so when you change shifts you should share your knowledge. That doesn’t always happen and not with everyone. “
	Goal compatibility and observability (innovation attitude)	<u>Respondent 8</u> : “I also think PCC fits well with organizational goals.” <u>Respondent 7</u> : “Employees see the importance of PCC... yes I think some of them do, but some do so less, they don’t bother with it that much.”
<hr/>		
<u>Feasibility</u>		
<u>Acceptation/integration</u>	Residents and informal caregivers should be included earlier in the strategy	<u>Respondent 3</u> : “When discussing ‘what is PCC for us?’, the residents and informal caregivers should already be included. ‘What does it mean for them?’” <u>Respondent 8</u> : “Just look at who should reach consensus (management, policy workers and team coaches), I think that layer is too thin and residents and informal caregivers should be added in that phase. Consensus strategy with the residents is needed.”

		<u>Respondent 7</u> : “I think we all mean the same, because in step 1 (consensus strategy), you already take resident’s perspectives and needs into account. That’s the starting point when determining vision and goals with management, policy workers, team coaches, just as described in the strategy. You always include the resident’s perspective, I don’t think we dismiss that.”
<u>Implementation/practicality</u>	Pre-conditions should be determined in the consensus strategy	<u>Respondent 4</u> : “I think it’s important to make sure everyone agrees on pre-conditions in step 1 (consensus strategy). Consensus about that is needed.” <u>Respondent 5</u> : “I think education is important in all innovations, education for employees, which could be management, or housekeeping employees, about PCC.”
	Long process	<u>Respondent 7</u> : “Yes, it is possible, but I think it will take a long time to fully implement PCC.”
	Attention to keeping shared goals	<u>Respondent 1</u> : “Yes, this strategy shows the importance of having everyone on the same page. I think that is important, keep shared goals, throughout the organization, communicate in a uniform way, and keep communicating that way. Share knowledge.” <u>Respondent 2</u> : “Yes, make sure goals stay the same for everyone, keep doing it together and help each other.”
<u>Demand</u>	Intention to use, well-considered strategy	<u>Respondent 2</u> : “Yes I like the strategy, the fact that it is well-studied and substantiated, numerous aspects are taken into account. Yes, I think that is well-considered and it could be successful in implementing PCC.”
	Intention to use, but will be a difficult task	<u>Respondent 7</u> : “This strategy, I do believe in it, however, it is a difficult task to complete to reach shared goals and vision throughout the entire organization. But it’s a good starting point and something to aspire to.” <u>Respondent 4</u> : “I think it is difficult to get all employees, of different teams and occupations, on the same page. I expect everyone has the intention to provide PCC care, but it will be a difficult task. This strategy should definitely be a starting point and help us in defining what we want. It shouldn’t discourage us.”

Note. PCC = person-centred care

Abstract

Title. How to Achieve a Person-Centred Culture Change in a Residential Aged-Care Facility: A Tailored Implementation Strategy.

Background. To overcome quality concerns in elderly care, a worldwide culture change movement towards person-centred care is unfolding. However, achieving a person-centred care culture change is known to be difficult. For successful implementation, tailored implementation strategies, such as can be developed with the Innovation-Contingency model, seem effective.

Objective. The objectives of this study were to refine the Innovation-Contingency model's method and to develop a tailored strategy aimed at successfully implementing person-centred care in a Dutch residential aged-care facility. To reach this, extensive implementation diagnostics were conducted amongst employees. These were used to develop a tailored implementation strategy using the Innovation-Contingency Model. Then, this strategy was assessed on its perceived feasibility by members of the organization it was tailored to.

Method. This study had a sequential embedded QUAN(qual) mixed-methods design. Implementation diagnostics were examined quantitatively by use of six self-reported questionnaires. The perceived feasibility of the tailored implementation strategy was assessed qualitatively in a focus group. Results of both types of data were combined by use of interpretive integration. For both methods, participants were selected by purposive sampling.

Results. Implementation diagnostics (N=96) indicated that there was lack of shared perceptions of person-centred care and team- and development-orientedness needed further development. Therefore, a consensus strategy followed by a co-evolution strategy was developed. This tailored implementation strategy was deemed feasible by members of the organization (N=8) it was tailored to.

Conclusions. In this study, the Innovation-Contingency model's method was refined. This method led to the development of a feasible implementation strategy to reach a person-centred culture change.

Recommendations. To improve elderly care in the organization, the developed tailored implementation strategy should be used. Mixed-method design is recommended for future implementation research.

Keywords: Patient-centred care, aged, organizational culture, health plan implementation, long-term care.