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Abstract

Aim: To examine (1) how flexibility is defined and described in healthcare literature and (2) which interventions are used at what organisational level to influence flexibility.

Background: Flexibility is necessary in healthcare for continuous adaptation to the dynamic environment. In accordance with Social Ecological Theory, it takes the combination of all organisational levels to achieve flexibility (individual, interpersonal, organisational, community, and macro-policy). However, managing this is complex.

Evaluation: Using Psychinfo and Web of Science, a systematic search was performed on flexibility in health care organisations. The 19 studies that met the selection criteria were analysed from a social ecological perspective. Eight publications described flexibility as a result of interventions, but provided little information about their evidence base.

Key issues: It is difficult to achieve flexibility: a pro-active attitude and capability to adapt internal processes to the changing environment. Interventions promoting flexibility in healthcare need all organisational levels, since they mutually influence each other.

Conclusion: This study shows that there is too little evidence on how to create flexibility in healthcare organisations.

Implications for management: Change in healthcare is continuous. Therefore, flexibility should be a permanent pro-active attitude of both managers and professionals and should take all organisational levels into account.

Introduction

Flexibility

The environment of healthcare organisations has become turbulent and complex.[1] Healthcare organisations have to be adaptive to the changes to maintain their existence. Flexibility is needed, in order to be responsive and adaptive to change.[2] Volberda defines (internal) flexibility as the 'management's capability to adapt to the demands of the environment.'[2] (p. 171). Wu and Hisa[3] define flexibility as 'The ability to recognise and identify a firm's new market opportunities, determine the potential strategic importance of these capabilities and resources, and renew its competencies'[3](p. 99). In literature, the concept 'dynamic capabilities' is mentioned as a synonym of flexibility: Teece *et al.*[4] define dynamic capabilities 'as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments'[4](p. 516).

Volberda[5] stresses the need for 'permanent flexibility' of organisations; they continuously need to adapt their flexibility based on the external dynamics. The 'revitalization' from rigid or planned firms to flexible organisations has consequences for leadership, culture, structure, technology, and the operational skills on all organisational levels.[5]

The before-mentioned definitions have in common that flexibility is an organisational capability, based on recognising the changing circumstances and the adaptation of the internal processes. The idea that change is continuous, leads to the need for a permanent flexible organisation. Therefore, in this publication, we consider flexibility not as a temporary instrument as input for a single change or innovation. We use the following working definition: flexibility is a permanent pro-active attitude and capability to adapt to the changing environment. Flexibility is a result of organisational change.

Why is it difficult to create flexibility?

Creating flexibility is difficult to achieve[6,7] for three reasons: (1) the flexibility paradox has to be handled, (2) change management is difficult, and (3) institutional forces block change. First the flexibility paradox as described by Volberda.[2,5] Organisations, teams, and workers try to control risks and have a tendency to look for consistency and comfort.[8] Too much flexibility creates chaos, and chaos results in an uncontrollable and fragmented organisation that looses its competitive advantage. So, paradoxically, flexibility has to be combined with stability.[2,5] Secondly, organisations try to deal with the dynamic environment by 'change management'. Kotter[9] explains the steps for successful change, starting with creating a sense of urgency followed by forming coalitions, creating and communicating the vision, empowering others to act on the vision and creating short-term wins, ending with consolidation and institutionalising.[9] This process; rigid state – flexibility (to change) – change – consolidation and institutionalisation risks a transformation from one rigid state to another.[8] The result of this is that for the next change process readiness for change has to be created again. Workers perceive this readiness for change as the flexibility imposed upon them by managers.[8] Thirdly, managing the changes there are also institutional forces that block the change. Regulative, normative, and cognitive cultural forces, such as shared values, rules, beliefs, patterns, competences, and structures provide consistency but they also cause rigidity.[7] Rigidity occurs in teams and individuals, manifesting itself in an identification with a particular position, externalisation of responsibility, fixation on incidents, and other phenomena.[10] Because of these three reasons it is difficult to create flexibility. According to Folke[11] developing a flexible and learning organisation demands restructuring of the organisation and processes, reconsideration of leadership and management

styles, development of professionals in a multilevel approach. To analyse these relations and connections, the 'social ecological theory' provides a helpful viewpoint.

The social ecological theory (SET)

The social ecological theory (SET), rooted in the general system theory, offers a multilevel approach of organisational learning and development.[12] Ecological models focus on the interactions of people with their environment.[13] The multiple factors on different levels of influence are interdependent: changes on one level can have an impact on another level of influence and together they form the ecology of human development.[12] The SET defines five levels of influence: intrapersonal-individual, interpersonal, organisational, community and macro-policy.[14] These levels of influence mutually influence each other: determinants at one level of influence can modify the effects of determinants at another level and changes at one level of influence can bring about changes at another level. As a result it takes the combination of all levels to achieve substantial changes. Interventions need to be grouped according to level and according to type of change that is aimed for on each level.[15]

The SET provides a frame of reference that brings all levels together in an interdependent, multiple perspective needed to understand the way organisations can create flexibility.

Research question

Conclusively: flexibility is a permanent pro-active attitude and capability to adapt to the changing environment. Flexibility is a result of organisational change. It is difficult to achieve and affects all organisational levels. In this review we study how flexibility in healthcare organisations can be created from a multilevel- and systemic perspective. The research questions are:

1. How is flexibility defined and described in the healthcare literature?
2. Which interventions are used to influence flexibility and on what level of influence do they occur?

Methodology

Data collection

The Psychinfo (1973 to 01-10-2014) and Web of Science databases (1975 to 01-10-2014) are searched

for 'peer reviewed' publications in Dutch or English. Criteria were:

- The subject of topic had to be Flexibility, defined as the individual or organisational capability to adapt to changing circumstances (search terms, e.g.: flexib*, dynamic*, adapt*).
- The domain presented had to be Healthcare organisations (e.g: health care, healthcare),
- And the target groups needed to be Employees (e.g: physician, practitioner, nurse) and/or Management (e.g.: *manage*, strateg*, organiz*, organis*).

The selection was co-checked by the co-authors. The references and abstracts were downloaded in a Psychinfo folder and a Web of Science folder in Endnote X7. The abstracts were studied and when the criteria were met, the full papers were studied. The search resulted in 655 hits and after reading titles, abstracts, and texts 19 publications were included.

Data analyses strategy

Firstly, a distinction is made between flexibility as an input factor and flexibility as a result or an outcome of organisational development. We aim at flexibility as a result, as an attitude needed for continuous adaption.

Secondly, analyses were conducted using MS Excel. The publications were placed in rows and key elements in columns (e.g. definition, aim, question, methodology, data collection, target group, context, intervention-elements, indicators, findings). Definitions of flexibility in healthcare were extracted from the publications when available.

Thirdly, using the Ecological Learning Framework (ELF)[16,17] the information is structured in organisational levels, interventions, and interactions. ELF adopts five levels of influence: intrapersonal, individual (Micro level M1, worker, professional); team (Meso-small M2); organisation (Meso-large M3); network (Macro-small M4; group of organisations); country or society (Macro-large M5). In addition it includes four intervention-elements: Target group (social units which the interventions intent to change); Characteristics (the target groups characteristics and the physical and social context); Intervention activities (strategies for changing); and Outcome (the intended or achieved result of an intervention). For analyses purposes ELF is visualised in a table with the five levels as column headers, the four intervention-elements as boxes with level indications (see Fig. 1). ELF brings the multiple levels together with four intervention-elements forming 'building blocks'. Dashed arrows are used to represent the route of influence. It provides a schematic tool for identifying the following levels and elements.[16] ELF is used to visualise and analyse the 19 included publications.

The following steps were taken for the analysis of the documents:

- Precoding of documents: Using MS Excel, for each document the ELF building blocks were identified accomplished with the route of influence if described.
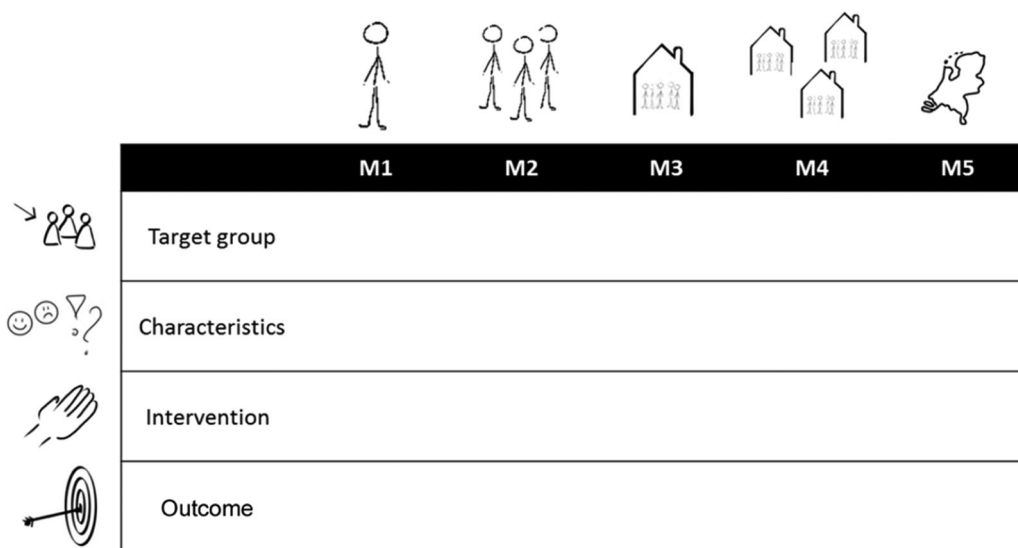- Textual format per document: an ELF table was filled with available information from the precoding.

Figure 1: The ELF, adapted from Stubbé-Alberts and Corbalan Perez[16].

- Framework per document: an ELF is constructed for each document. A route of influence, extracted from the text, is symbolised with arrows between blocks.
- Group of documents: Documents were grouped based on the way flexibility is described, flexibility as input or as a result.
- Drawing general conclusion: the previous steps offer an overview of similarities and differences between the various documents. Special attention is paid to individual as well as patterns of building-blocks.

Results

General characteristics

The 19 included publications were numbered from P1 to P19 (see Table 1). They have publication years between 1999 and 2014. Twelve publications described empirical research of which seven used qualitative (P1, P3, P7, P9, P12, P14, P16)-, two quantitative (P10, P11)-, and three mixed methods (P4, P8, P19) designs. The seven other publications are opinions, reviews, or reflections of the author.

Definitions

Flexibility is poorly defined, only five publications out of 19 publications (P3, P4, P7, P8, and P11) provided a definition of flexibility or one of its alternative terms. From these five, only one (P8) defines flexibility as main objective: 'the organizational capacity to respond to a turbulent environment through innovation of products, services, and processes, based on an inclusive organization and a culture of renewal and learning'[25](p. 131).

Two studies define specific kinds of flexibility such as 'temporal flexibility' (P4) and 'functional or internal flexibility' (P7). Temporal flexibility is defined as 'the extent to which workers have an ability to control the timing of their work'[21](p. 298). Functional or internal flexibility is defined as 'where staff are redeployed across tasks to accommodate variations in demand'.

In two other publications alternative terms are used such as: 'proactive innovative behavior' (P11) and 'Adaptive organisation' (P3). Pro-active innovative behaviour is defined as 'Employees' motivation to give content and form to their direct working environment'[28](p. 360). In P3 the adaptive organisation is defined as: 'aligning the internal structure and processes of an organization to match the characteristics and demands of the external environment'[20](p. 116).

Flexibility as input or result

This study focuses on flexibility as a result of an organisational transformation. However, in 11 publications flexibility is described as an input factor that leads to security, performance, change, or adaptability (Fig. 2). The other eight (P1, P4, P5, P11, P14, P15, P16, and P18) are describing flexibility of the organisation or workforce as a result of interventions. Five of these eight publications (P1, P4, P11, P14, P16) are based on empirical research.

In Fig. 2, an overview is given of flexibility as input and as result. The upper block represents the

Table 1: General characteristics of the included publications and type of flexibility

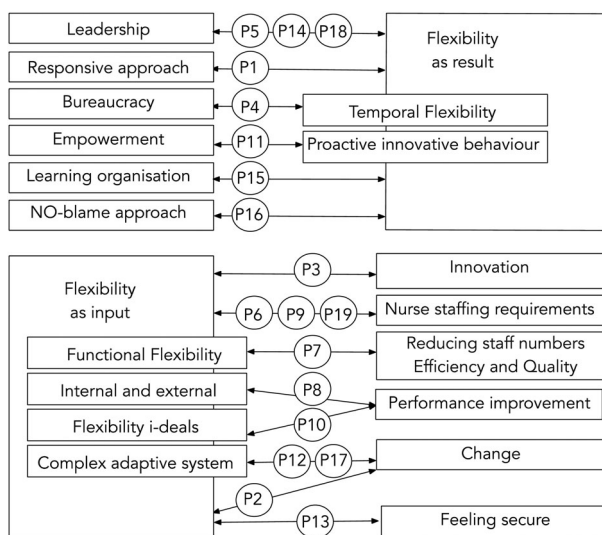| Publ	Publication	Design	Flexibility as…
P1	[18]	Qualitative	result of a responsive approach
P2	[19]	None	input to become adaptive
P3	[20]	Qualitative	input to build adaptive cultures that can ensure innovation
P4	[21]	Mixed	result of bureaucratic factors
P5	[22]	None	result of better leadership
P6	[23]	None	input to empower nurses
P7	[24]	Qualitative	input to improve efficiency and service quality
P8	[25]	Mixed	input to improve performance
P9	[26]	Qualitative	input to create a pro-active role
P10	[27]	Quantitative	input to lower psychological workstrain
P11	[28]	Quantitative	result of empowerment
P12	[29]	Qualitative	input to successfully change
P13	[30]	None	input to succeed and experience security nowadays
P14	[31]	Qualitative	result of transformational leadership
P15	[32]	None	result of organisational learning
P16	[33]	Qualitative	result of a no blame approach
P17	[34]	None	input to achieve professional and organisational change
P18	[35]	None	result of shared governance and shared leadership
P19	[36]	Mixed	input to the retention of staff

Figure 2: Flexibility in publications as input or as a result of interventions.

studies with 'flexibility as result' and the lower block 'flexibility as input'.

The ELF
The eight publications (P1, P4, P5, P11, P14, P15, P16, and P18) describing flexibility as a result, were searched for the target group, characteristics, interventions, and outcomes (Table 2). After this, it was determined at what level these interventions took place from M1 to M5. ELF is used to create an overview of intervention-elements and the organisational levels. Each publication shows its own pattern of elements as presented in Fig. 3 along with dashed arrows representing the routes of influence.

Target groups
Target groups are social units which the interventions intent to change. Three publications (P4, P11, P16) target on the microlevel (M1): professionals, workers, and nurses as individuals have to develop skills and a different attitude towards ambiguity. Two publications (P1, P14) target teams (M2) as subject of interventions or a new approach. Target groups at the organisational level (M3) are found in four publications (P5, P14, P15, P18): hospitals in different sectors of healthcare, clinics, and faculties. None of the publications describe the change in policy, cooperation, and systems for target groups on the macro-level (M4 an M5).

Characteristics
Characteristics refer to the target groups characteristics and the physical and social context. Three publications (P5, P15, P18) mention the dynamics of the environment in one way or another at network or

country level (M4, M5). The increasing speed and complexity of the changes in the environment are described as the context or the rationale. The authors cite ambiguity, financial support, the need for positioning in the market, the autonomy of workers, the affective tone, and the way errors are handled as the characteristics.

Intervention activities
Intervention activities are the strategies or activities for changing. As can be seen in Table 2, interventions are described on almost all the organisational levels. On the individual M1 level, multi-skilled professionals with co-existing different roles who are personally involved, have to take risks and gain insight into their mental models (P5) so they can contribute to flexibility on this level. On the small-meso level (M2) the importance of cooperation is mentioned more than once, examples are cross-departmental teamwork, cross-occupational working groups, and quality circles/groups (P5). The way teams and managers share information, give feedback, use a responsive approach, coach professionals, and create job-variety will contribute to flexibility (P1, P4). On the large meso level (M3) organisations can create flexibility in different ways. Examples of interventions that facilitate flexibility are: enabling hand-offs, the exchange, of clients and information between professionals by standardisation (P4), creating job- and skill variety (P5) and structural empowerment (P11). Emphasising the renewal of visions and values (P15) and organise participatory 'events' from structured large-scale workshops to small informal discussion groups (P15) are ways to create commitment. Recurring theme is leadership development, managers have to develop leadership that empowers the professionals (P11, P14, P18). On M4 level, networking and external cooperation are named as interventions along with the awareness of 'the marketplace' and understanding who the competition is (P5). On the large-macro level (M5) no study describes interventions.

Outcome
Outcomes are the result of an intervention. Outcomes on M1 level are flexibility, new skills, and a way to handle ambiguity (P1, P11, P18). On the team level (M2) flexibility is the outcome of standardisation and bureaucracy due to its positive effect on hand-offs and sharing of information (P4). The quality of teamwork and effectiveness are the outcome of new forms of leadership (P18). Five studies (P4, P5, P15, P16, P18) describe outcomes on the M3 level. Flexibility allows

Table 2: ELF intervention-elements publications flexibility as a result

Publ	Targetgroup	Context characteristics	Intervention activities	Outcome
P1	Transinstitutional palliative team (M2)	Team (M2) in palliative health care, loosely organised in an ambiguous environment. Ambiguity taken as an occasion for empowerment, dialogue and innovation.	Using a responsive approach to evaluation (M2)	A responsive approach to evaluation is appropriate in situations marked by intensive ambiguity. Evaluators might accept and acknowledge ambiguity and help practitioners (M1), such as the palliative team (M2).
P4	Professional service workers, physicians (M1)	In professional services there exists a high level of specificity in the relations between worker and client, promoting a one-to-one correspondence between them. (M1)	Enhancing temporal flexibility by gaining client participation (M1), • standardisation (M3) and • transfer of knowledge (M3)	1. Overall bureaucratic organisations can enhance temporal flexibility (M3) 2, the key to understanding this inversion lies with worker-to-client specificity and hand-offs. (M2),
P5	Managers (M3)	Today's turbulent health care environment (M4)	Celebrate the workforce (M3); remove barriers (M3); allow people to take risks (M3); stop managing other people's problems(M3); prioritise organisational values(M3); stop managing for consensus(M3); segment your marketplace(M4); understand who the competition really is(M4); establish new relationships (M4); forget about employee satisfaction (M3); stop budgeting departmentally (M3); beware of sacred cows (M3).	Fostering adaptability and helping sustain the organisation's purpose/ mission (M3)
P11	Registered nurses (m1)	Empowerment motivates employees to engage in more innovative behaviour in the workplace, this statement has not yet been justified when it comes to nurses (m1)	Testing hypotheses empowerment correlation to innovative behaviour by nurses (m1 and m3).	• structural and psychological empowerment as determinants of nurses' innovative behaviour (M3). • informal power strongly conducive to the nurses' innovative behaviour(m1). • for nurses, impact is the most important element of psychological empowerment to show innovative behaviour(m1).

(Continued)

Table 2:   Continued.

Publ	Targetgroup	Context characteristics	Intervention activities	Outcome
P14	Managers in acute healthcare setting (M3)	Negative affective tone moderates the impact of the mediators on team effectiveness. (M2)	Transformational leadership (M3)	Transformational leadership for diverse teams; (M3) The effectiveness depend upon the affective environment (M3). Negative affect can have a significant benefit. The absence of negative affect is likely to limit team effectiveness. (M2)
P15	Organisations in hospital-based mental health (M3)	Program for dealing with managed care by mental health providers, organisational learning as part of an innovative approach for managing change and for dealing with environmental uncertainties (M5). 9. Encourage staff to set their own goals (M3). 10. Emphasise cooperation rather than competition among staff (M3). 11. Work smarter in collective, reflective, and intuitive ways (M3), 12. Give up total centralised planning and complete centralised control (M3)	1. Emphasise the renewal of visions and values (M3), 2. Function at the edge of uncertainty.(M3), 3. Renew the organisation (M3), 4. Develop organisations that are self-referent (M4). 5. Heighten the quality of connections (M3), 6. Educate people to what others are doing. (M3), 7. Create tensions (M3), 8. View organisational design as an ongoing process (M3)	If the future is unknowable and unpredictable, then the approach we take to management of organisations (M3) will be essentially different from the traditional professional bureaucratic view. Learning in real time is key to allowing a strategy to emerge that can deal effectively and creatively with what arises in the unknowable future.
P16	Organisations (M3) and healthcare professionals (M1)	In high-reliability organisations (hros) (M3) errors hinder the existence of the firm and the safety. Hros encourage the reporting of errors and near misses to improve their operative processes.	The following organisational elements are more conducive to a no blame approach. a. Loose hierarchy with specialisation (M3) b. Commitment to resilience (M3) c. Skills variety (M3).	A no blame approach: • link to environments of higher learning intensity and reliability • could help to release the organisational knowledge (M3) • could assist organisations to learn from rare events, (M3) • making entrenched knowledge available to other levels

| P18 | Organisations in healthcare (M3) | New forms of leadership are required if staff are to be effectively engaged and involved in decision-making and promoting clinical effectiveness. (M3) | • Laying the foundation; developing a permissive culture (M3)
• Implementing a suitable framework (M3)
• Raising awareness and meeting the challenges (M3)
• Preparation of staff for their roles on the council (M3)
• Fitting into the organisational agenda and managing expectations (M3) | • uses staff skills (M1)
• It creates culture and system. (M3)
• It provides a pro-active learning environment.(M3)
• Staff feel valued and empowered. (M1)
• It recognises the value of working together.(M2)
• Ensure practice is based on evidence. (M4)
• It promotes clinical effectiveness (M2) |

organisations to adapt to the dynamics of the environment (P4, P5) and it is a more appropriate way to handle ambiguity (P1, P15). Enhanced temporal flexibility is an outcome of standardisation of information (P4). Other outcomes are higher learning intensity, reliability, innovation (P11), and organisational learning and knowledge (P16).

Routes of influence

According to the SET, the factors are interdependent and they influence each other. This interdependency is presented as routes of influence, visualised in the ELF in Fig. 3. However, the routes of influence between ELF building-blocks were not explicitly described in the publications and not empirically tested. Nevertheless some routes were implied in the text and dashed arrows were used in the figures to represent these implicit routes of influence. Most important in this study is of course the route between interventions and flexibility as outcome. But because the route was unclear, it was unclear as well how flexibility best can be implemented.

Discussion

How is flexibility defined and described in the healthcare literature?

There appeared to be a rich body of knowledge on change management. Flexibility in those cases is the input for change. Managers use the sense of urgency as a lever to create the flexibility needed to get people from one state of mind to another. People feel manipulated and many change programmes finally fail.[6] Little has been written about flexibility as a permanent pro-active attitude. Definitions are sparse and the flexibility in organisations is seldom main objective in publications.

The definitions in managerial theory and the few definitions in the included studies gave input for our definition; flexibility concerns an organisation on all levels, it is a capacity or capability to adapt and change the processes and to align these with the external dynamics. It brings us to accept the definition that: flexibility is 'the capability of an organisation to align the internal processes on all organisational levels to match the dynamics of the environment'.

Which interventions influence flexibility and on what level do they occur?

Using ELF, it became clear that most publications focus on one or two organisational levels. Most intervention-elements are on the individual level (M1) and on the organisational level (M3):

P1

The nursing director (M3i) initiates a 'responsive approach of evaluation' (M2i). Ambiguity (M3c) is an important characteristic of this targeted, loosely organised (M2c) palliative team (M2t). The responsive approach is appropriate in situations marked by intensive ambiguity for individuals and team (M1o and M2o).

P4

Hand-offs are impeded by high levels of client-to-worker specificity (M2c). An organisation uses bureaucracy to influence the temporal flexibility (M3i) of workers (M1t). Standardisation facilitates sharing of knowledge and hand-offs between professionals (M1t) leading to temporal flexibility in teams en organisations (M2o and M3o).

P5

Bujak states that a manager (M3t) can be a better leader. "In times of transformational change" (M4c) a manager has to develop leadership to intervene on all organisational levels (M1i, M2i, M3i, M4i) ways, the outcome is adaptability (M3o).

P11

Employees' motivation is a major succesfactor (M1c). Organisations have to empower (M3i) of nurses (M1t). The outcome is innovative behaviour of nurses (M1o).

P14

Managers (M3i) have to develop transformational leadershi(M3t) to influence teams (M2t). Negative affect is a limiting characteristic(M2c) on the influence of transformational leadership. Openness to diversity is an outcome (M2o).

P15

Characteristics on macrolevel (M5c) force organisations to adapt (M3i). The intervention is creating a learning organisation (M3t) that is flexible, adaptive, and nimble (M3o).

P16

Errors in high-reliability organisations and the importance of reporting the errors are the characteristics (M3c). A no-blame approach (M3i) is intervention that encourage professionals to improve quality (M1t). The outcome is an organisation that has flexibility and variability (M3o) .

P18

Involving staff is a central vision of current UK Government Policy, change is needed (M5c). Central is the commitment to develop shared governance M3i). This leads to outcomes on all organisational levels (M1o, M2o, M3o, M4o) in order to be flexible and responsive.

Legenda

Micro M1; intrapersonal, individual worker, professional

Meso-small M2; interpersonal, small group or team

Meso large M3; organisational, management and organisation

Macro-small M4; community, group of organisations

Macro-large M5, policy, country or global

Targetgroup; the social units which the interventions intents to change.

Characteristics; the physical and social context.

Intervention activities; strategies for changing a given state of affairs.

Outcome; intended or achieved result of the interventions.
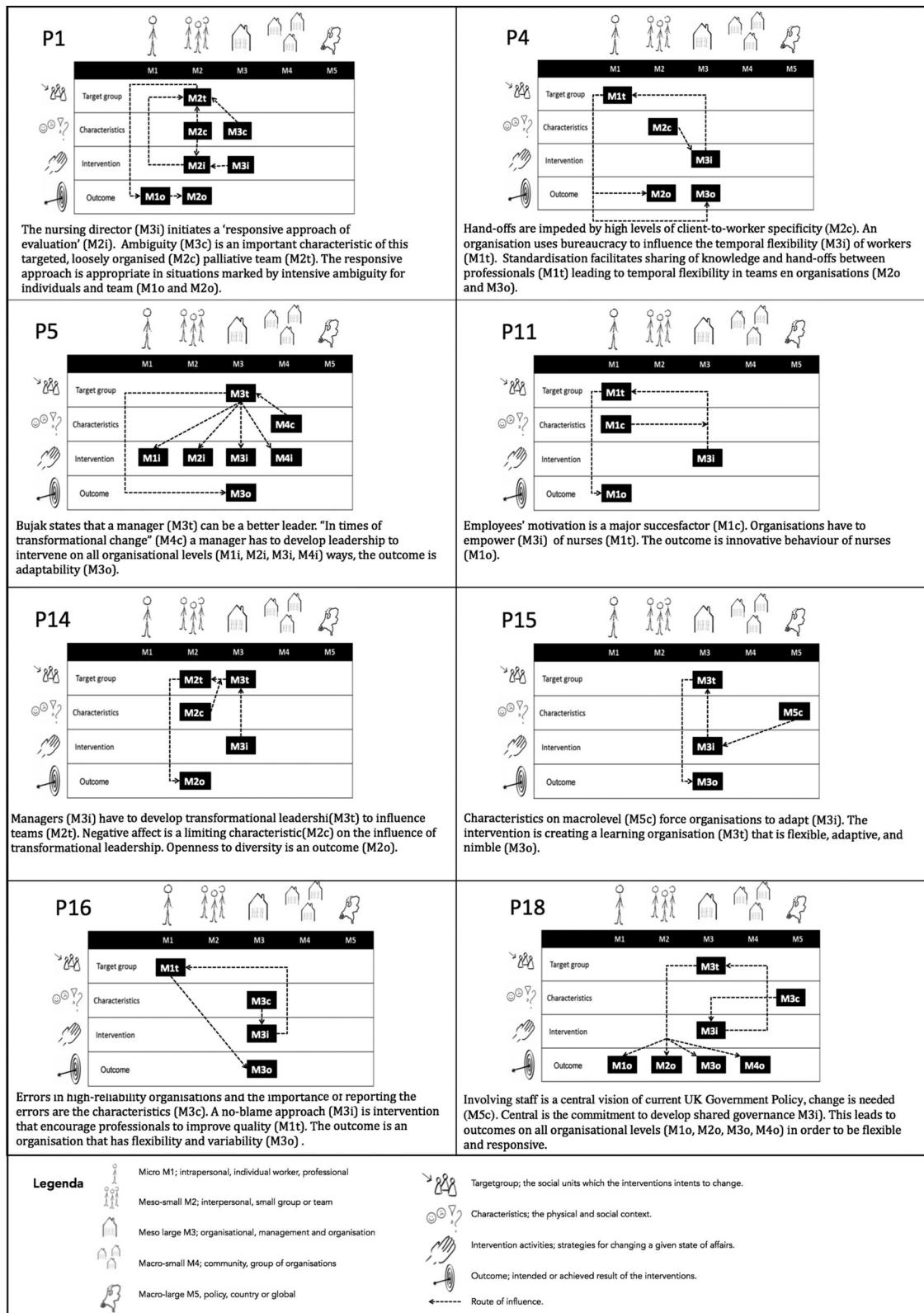
------- Route of influence.

Figure 3: Visualisation of included publications using ELF.

Individual managers are urged to adopt and develop transformational and empowering forms of leadership, professionals have to cooperate internally and externally and develop new attitudes towards ambiguity (M1). Healthcare organisations adapt by implementing new attitudes, approaches to change, and stimulate new forms of leadership. They create bureaucratic routines that support the exchange of information facilitating the hand-off, the exchange of patients or tasks. And organisations introduce flexible role definitions and promote a dynamic deployment of multi-skilled professionals

(M3). Five publications about flexibility as a result, are empirical researched (P1, P4, P11, P14, P16) some interventions are tested but no routes of influence were studied. Three of them take place on three or more levels indicating a multilevel approach (P4, P5, P14).

Two publications describe the target group at the group- or team level (M2) and in general only a few interventions were performed on level M2 (P1 and P14) were the operational cooperation takes place. It is an area in which workers directly influence each other, their patients and managers, and the group culture on a ward.[37] This level appeared underexposed.

Healthcare insurance companies and government are important players in the environment of the healthcare organisations. They impose rules, laws, finance, and requirements on the organisations, making it difficult to create flexibility. On small macro (M4) and large-macro level (M5) just a few interventions are described. The lack of studies on M4 and M5 level might be caused by the selection criteria in the initial search; target groups needed to be 'Employees' or 'Management', indicating individual (M1) and organisational (M3) level. This can be considered a limitation of this study. However, we did not explicitly include Teams as criteria, but nevertheless publications describing teams (small meso-level M2) as target groups were found.

In the ecological system, the macro level has large influence. Autonomy, control options, and pressure of laws, rules and directives determine the opportunity for the flexibility of organisations. When flexibility is needed, stakeholders on macro level have to consider ways to support the revitalisation of healthcare organisations.

In conclusion, the target groups, characteristics, interventions, and outcomes give some idea of what to do to create flexibility. The interventions focus on approach, attitude, leadership, cooperation, education, organisation, and entrepreneurship on the individual and organisational level. But still, with the lack of empirical research and the focus on just two or three levels, there is too little guidance for a multilevel approach for revitalisation. The research questions remain partly unanswered: some definitions and interventions were found, but it provides too little evidence on the question how to create flexibility in healthcare organisations from a multilevel- and systemic perspective.

Gaps

Given the turbulent environment of healthcare-organisations, the development of knowledge on organisational flexibility is needed. This study shows a number of gaps in research: First, this review shows that the body of knowledge about flexibility in healthcare organisations is limited. Although the concepts of flexibility and dynamic capabilities are well known in the profit sector,[4,5] in healthcare there's not much literature. This is probably because in healthcare competition, environmental dynamics and the need for flexibility are relatively new. What can healthcare organisations learn from firms in the profit sector? The comparison of the organisations in the profit and non-profit sector in terms of flexibility is a topic for further research. Secondly, flexibility in healthcare as a pro-active and dynamic attitude towards continuous change is underexposed and the few interventions described, are empirical barely tested. Research is needed on how a flexible attitude can be created on all the organisational levels in healthcare organisations and how effective the interventions are. Which interventions influence the degree of flexibility on all organisational levels in healthcare and what are the indicators? And which interventions are effective with regard to increasing flexibility in healthcare? The operational flexibility seems strongly related with the attitude, communication, and support between workers and their managers. How can teams monitor, foster, and create flexibility in order to learn and adapt to the changing and challenging demands from the stakeholders (clients, managers, health insurance, and government). Further research on team level is needed to define the indicators and possible interventions on this level.

Limitations

The ELF analyses are based on the publications and not on the cases as such. Not all information needed in our study could be extracted from the reviewed publications. More case studies and experiments are needed to describe how organisations take intervention-elements, organisational levels, and routes of influence into account when they want to create flexibility.

The selection criteria in the literature search, especially the criteria for target groups, probably exclude some studies on team and macro level. More reviews are needed to determine the body of knowledge on these levels of influence.

This study did not look at the measurability of flexibility and did not provide indicators of flexibility; that is, how you can determine whether an organisation, team, or individual is flexible or not. Instruments providing workers, managers, and organisations with information about the degree of flexibility, could help health care organisations to

anticipate and direct the development. Further research could provide these instruments.

Concluding

Most professionals love their comfort-zone, managers like to take control and organisations need their identity and consistency. These qualities create consistence but hinder the adaptation to a continuously and rapid changing environment. Flexibility is essential for organisations to survive. To create flexibility, people need to be adventurous, managers have to release top-down control and organisations have to experiment beyond their boundaries. There is a need for methods and models that build on Social Ecological Theory, with 'Keep it complex' as a slogan. These could help individuals, teams, and management, to handle ambiguity and create flexibility in health care organisations.

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