



ORIGINAL RESEARCH PAPER

How to Manage Organisational Change and Create Practice Teams: Experiences of a South African Primary Care Health Centre

BJ Mash¹, P Mayers², H Conradie¹, A Orayn³, M Kuiper³, J Marais³

¹Stellenbosch University, Tygerberg, South Africa

²University of Cape Town, Observatory, Cape Town, South Africa

³Department of Health, Worcester CHC, Worcester, W Cape, South Africa

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Mash BJ, Mayers P, Conradie H, Orayn A, Kuiper M, Marais J

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ABSTRACT

Background: In South Africa, first-contact primary care is delivered by nurses in small clinics and larger community health centres (CHC). CHCs also employ doctors, who often work in isolation from the nurses, with poor differentiation of roles and little effective teamwork or communication. Worcester CHC, a typical public sector CHC in rural South Africa, decided to explore how to create more successful practice teams of doctors and nurses. This paper is based on their experience of both unsuccessful and successful attempts to introduce practice teams and reports on their learning regarding organisational change.

Methods: An emergent action research study design utilised a co-operative inquiry group. The first nine months of inquiry focused on understanding the initial unsuccessful attempt to create practice teams. This paper reports primarily on the subsequent nine months (four cycles of planning, action, observation and reflection) during which practice teams were re-introduced. The central question was how more effective practice teams of doctors and nurses could be created. The group utilised outcome mapping to assist with planning, monitoring and evaluation. Outcome mapping defined a vision, mission, boundary partners, outcome challenges, progress markers and strategies for the desired changes and supported quantitative monitoring of the process. Qualitative data were derived from the co-operative inquiry group (CIG) meetings and interviews with doctors, nurses, practice teams and patients.

Findings: The CIG engaged effectively with 68% of the planned strategies, and more than 60% of the progress markers were achieved for clinical nurse practitioners, doctors, support staff and managers, but not for patients. Key themes that emerged from



the inquiry group's reflection on their experience of the change process dealt with the amount of interaction, type of communication, team resilience, staff satisfaction, leadership style, reflective capacity, experimentation and evolution of new structures.

Conclusion: The group's learning supported a view of change that sees the organisation as a living system in which information flow, participation and the development of resilience are key aspects. These themes fit well into an understanding of change based on complexity theory. If managers of the health system wish to enhance organisational change, then their goal may need to shift from optimising health care delivery in a mechanistic model to optimising health care workers in a living system.

Keywords: Organisational change, complexity, primary care, teamwork, action research

Introduction

Organisational change in the health care system typically focuses on issues of management structures, post allocations to different facilities, distribution of beds, clinic service points relative to population density and utilisation of services (Provincial Government Western Cape, 2006). The language and thinking behind organisational change appears to belong largely to a mechanistic perspective (Capra, 2003). The organisation is seen as a machine where the components should be designed and linked together efficiently with a precise understanding of what they should do. Control and maintenance is in the hands of the designer, or in this case, the top management. Change happens through a process of external re-engineering. There is little room for flexibility and the emphasis is on policy, control, efficiency and the delivery of health care by the correct mix and number of health care workers. From this perspective organisational change should be driven by policy, aligned with budget, predictable, orderly, quantifiable and controlled (Capra, 2003). However because the "machine" is made up of people and not inanimate parts, the response on the ground may not be as transformative as the managers would like.

A recent study comparing two South African primary care clinics serving the same population concluded that "to improve efficiency of public clinics, qualitative issues, including organisational culture, management style, staff attitudes and patient satisfaction need attention rather than large-scale adjustment of staffing levels" (Couper *et al.*, 2007). Key attributes of nursing managers have been listed as the ability to plan in line with the organisation's vision, knowledge of the organisational structure, ability to direct subordinates, maintain control and exercise authority (Jooste, 2003). Managers had little to say about their "human resources" except that they should be effectively utilised (Jooste, 2003). Relational skills such as being trustworthy, open, outgoing and participative were seen as ways in which the managers could exert control, direction, planning and organisation on their subordinates (Jooste, 2003). When nurses, however, were asked to reflect on their working environment, they linked job satisfaction to being part of a team, having good relationships and the opportunity to be "creative and innovative" (Erasmus, 1998). They recommended that supervisors receive better training in human resource management (Erasmus, 1998). Another study on nurse managers' experience of organisational change linked their negative feelings to a lack of two-way communication, a lack of participation in decision-making and an autocratic style of higher management (Buys & Muller, 2000).

This paper is based on a specific example of organisational change at a Community Health Centre (CHC) in the Cape Winelands District of the Western Cape. In South Africa, district health services are usually structured around a district hospital with an associated CHC and several smaller fixed or mobile satellite clinics run by nurses. Clinics and CHCs offer ambulatory primary care, but the CHC is larger, includes doctors and a wider range of personnel such as pharmacists, therapists and social workers, and receives referrals from the clinics. Organisational change was planned and implemented by the managers and senior staff of the



CHC with the aim of creating more effective practice teams of doctors and nurses. Teamwork has been identified as a key characteristic of primary health care as far back as Alma Ata in 1978 (Gillam, 2008). In developed country settings, there is growing interest in the role of nurse practitioners as an addition to the doctor-driven service (Salvage & Smith, 2000). In sub-Saharan Africa, however, first contact care is usually offered by a nurse who refers to a doctor within the same facility or at the district hospital. In both settings, teamwork is important although the roles and responsibilities may differ considerably (Mash *et al.*, 2008).

At many facilities in the Western Cape Province, the clinical nurse practitioners and doctors work alongside each other with little effective teamwork (Kapp & Mash, 2004). Worcester CHC has been unique in its willingness to experiment with teamwork despite the failure of initial attempts. In 2004, the CHC attempted to create three semi-autonomous practice teams consisting of doctors and nurses. After the collapse of the experiment, the CHC formed a co-operative inquiry to explore why this had happened and how the centre could try again with more success. The key findings of this nine-month inquiry were that the CHC should change leadership style, create more opportunities for genuine dialogue with and amongst all the staff and help doctors and nurses to change and negotiate their complementary roles and relationship. From this inquiry, success also depended on ensuring adequate staffing levels and sufficient suitable space (Mash *et al.*, 2007).

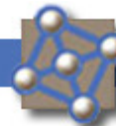
Subsequent to the findings of this initial study, the co-operative inquiry group decided to continue the process and re-introduce practice teams. It was intended that each team would consist of two doctors and two clinical nurse practitioners. On this occasion, the practice teams were sustained. This paper reports on the learning of the inquiry group during this second nine-month phase on how to successfully implement organisational change in a CHC.

Methods

The co-operative inquiry group - CIG - (Reason, 1988) met over a period of nine months and completed four cycles of planning, action, observation and reflection. The CIG consisted of the provincial and municipal facility managers, the senior family physician, a principal medical officer, the primary care nurse trainer and an administrative clerk. The group was co-facilitated by two outsiders, a senior lecturer in nursing and a professor of family medicine. The central question of the inquiry was how more effective clinical care teams of doctors and clinical nurse practitioners (CNP) could be created. Two practice teams, called “yellow” and “green”, were introduced.

Outcome mapping is a recognised approach to planning, monitoring and evaluating development projects that is congruent with action research (Earl *et al.*, 2001). The CIG started with a planning phase that adopted the design steps of outcome mapping (Table 1). The vision, mission and strategies were actively shared and discussed with the staff of the CHC. The outcome challenges and progress markers were used by the CIG to monitor change in the boundary partners. Five boundary partners were identified:

- ◆ Clinical nurse practitioners
- ◆ Doctors
- ◆ Patients
- ◆ Administrative and support staff
- ◆ Senior managers



At the end of the inquiry, the CIG scored the extent to which each progress marker had been achieved as high (score 2), medium (score 1) or low (score 0). A final score was calculated for each boundary partner and expressed as a percentage of the total possible score if all progress markers were achieved.

Table 1: Steps for project design in outcome mapping with examples

Definition of the steps in the design phase of outcome mapping	Examples
Step1: Vision: The CIG developed a shared vision of the ideal community health centre.	“In the greater Worcester region, as well as the Western Cape Province and the country, our community health centre will be the prime example of quality family- oriented primary health care and a place of hope for all who are sick. Individual clients/patients will choose to attend the health centre regardless of income or privilege as they are assured of holistic, compassionate and professional care. The staff of the centre is recognised for effective teamwork, excellent interpersonal relationships and the community are fully involved in the centre. The community served by the centre consistently have an increased quality of life, higher measurable health status, well-managed chronic conditions and lower rates of preventable conditions. The Community Health Centre is the provider, employer and trainer of choice.”
Step 2: Mission: The CIG defined how the creation of practice teams would contribute to the realization of this vision.	“In support of the vision, the CIG will work to provide primary care at the CHC that has continuity with the same providers, is comprehensive in nature and oriented towards the person, family and community. It will contribute to the development of more trusting and collaborative relationships between patients and practitioners, doctors and primary care nurses, as well as between the practitioners themselves. It will develop effective practice teams, with sufficient resources, that function with a degree of independence and responsibility for the care that they provide. It will contribute towards greater participation of the patients and broader community in improving the care offered at the CHC. The project will be characterized by a commitment to communication, transparency and empathic understanding of the readiness to change amongst the staff of the health centre. The project would like each person to have a voice and be heard and be valued for their unique contribution towards achieving the vision.”
Step 3: Boundary partners: The CIG identified the people or other groups that they would like to influence or change in order to achieve the mission.	<ul style="list-style-type: none"> ◆ Clinical nurse practitioners ◆ Doctors ◆ Patients ◆ Administrative and support staff ◆ Senior managers
Step 4: Outcome challenges: The CIG described the change in behaviour or activities that they would ideally like to see in each boundary partner if the practice teams were successful.	<p><i>For doctors:</i></p> <p>“The CIG program intends to see that doctors as boundary partners are approachable, communicate effectively with colleagues both in the CHC and outside, act professionally and are life-long learners. They work with the Clinical Nurse Practitioner as an equal partner in the provision of PHC and endeavour to work with them in practice teams, have a comprehensive approach towards the health care of their patients and value the community as an important partner in care. The doctors experience better job satisfaction.”</p>
Step 5: Progress markers: The CIG defined the steps along the way to achieving these challenges in terms of those outcomes that they would “expect to see”, “like to see” and “love to see”. Each of these stepping stones required progressively greater commitment to change or actual transformation in the boundary partners.	<p><i>For doctors:</i></p> <p><i>Expect to see:</i> Doctors give feedback to CNPs on their referrals</p> <p><i>Like to see:</i> Doctors are keen to teach and mentor the CNPs around specific patients</p> <p><i>Love to see:</i> Members of practice team share workload and no one is over-worked or over-pressurised.</p>
Step 6: Strategies: The CIG defined the activities that each person would engage with in order to achieve the progress markers.	<p><i>For doctors and CNPs:</i></p> <p>“To conduct meetings with nurses and doctors together to discuss important issues for the functioning of the team: referral of patients between doctors and nurses, how nurses can consult doctors for support and advice.”</p>



Each action-reflection cycle consisted of the following steps:

- ◆ Observation and documentation of change in progress markers and success of strategies.
- ◆ Reflection on the group's activities and experiences
- ◆ Planning of new activities
- ◆ Action by implementing the planned activities

All group discussions and interviews were recorded and the facilitators also kept field notes. Apart from the facilitators, all the group members were directly involved in the health centre and could reflect on their own experiences. During the inquiry, the facilitators conducted 3 focus groups, one with the doctors and one with each practice team, as well as ten in-depth interviews with clinical nurse practitioners from both teams. The focus of these interviews was their experience of working in the practice team and how well the teams were functioning. At the end of the inquiry period, five members of each practice team completed a structured questionnaire (Pritchard & Pritchard, 1994) that assessed the quality of teamwork. Respondents were offered two statements for each of six different criteria, which described well and poorly functioning teams, and asked how closely they resembled them on a 5-point scale. Members of the CIG also interviewed 45 patients on their perceptions of the practice teams and feelings about family members being seen within the same practice.

After the last cycle, the two outside facilitators then followed a process of qualitative data analysis using all of the qualitative data listed above. The framework approach to qualitative data analysis was used, which involves steps of familiarisation with the data, development of a thematic index, coding of text, charting of similarly coded data and finally interpretation. The emergent themes were finally re-validated with the members of the cooperative inquiry group.

Ethical approval for the study was obtained from the University of Stellenbosch.

Results

The CIG's planned actions were defined by 40 specific strategies developed in step 6 of the outcome map. Out of the 40 strategies listed, 27 (67.5%) were rated as "high" in terms of successful engagement, 9 (22.5%) as "medium" and 4 (10%) as "low". This demonstrated adequate engagement with action as a basis for reflection and learning.

The scoring of the progress markers for each boundary partner is shown in Figure 1. This gives a quantitative indication of change in each boundary partner and helps to support the qualitative results, presented below, that change was achieved. All boundary partners, except for the patients, achieved more than 60% of their total possible score. The CIG did not succeed in enabling patients to contribute to the planning of practice teams or other services within the CHC.

The result of a questionnaire survey at the end of the action-research period on the effectiveness of teamwork in each of the teams is shown in Table 2. Overall, the yellow team scored lower than the green, confirming and supporting qualitative findings.

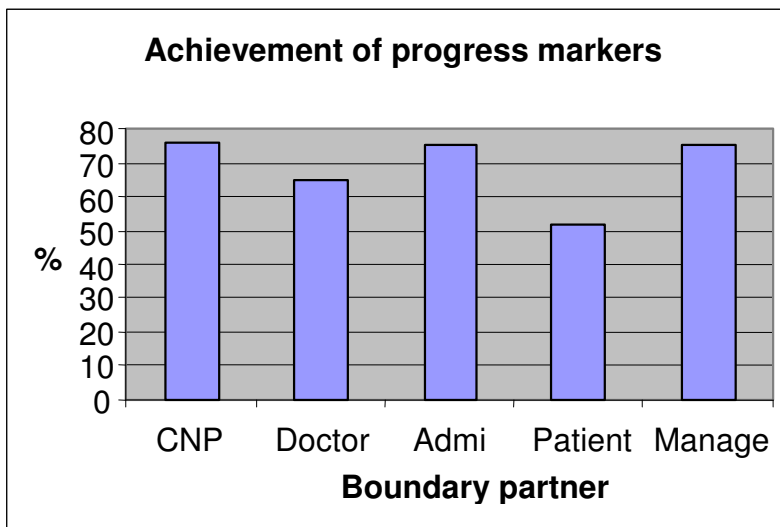
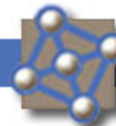


Figure 1: Percentage of total possible scores for change in each boundary partner

Table 2: Results of questionnaire on effective teamwork for the two practice teams

Criteria (scale of 1, poor, to 5, good)	Team Green score (n=5)	Team Yellow score (n=5)
<i>Team goals</i> – I am very clear about what our team is trying to achieve and we all put our efforts into it.	4.8	4.4
<i>My role</i> – In almost every situation I am sure about what my responsibilities are and what other team members are supposed to be doing. When a query arises, we discuss where we each think our responsibilities lie.	4.6	4.8
<i>Procedures</i> – Everyone gets a chance to speak and to influence the discussion. We listen to everyone’s contribution. No one is ignored. Everyone is drawn into the discussion.	4.6	4.6
<i>Decisions</i> – When we discuss a problem, I usually understand exactly what the issue is, and what we have decided to do about it, and what my responsibilities are. Decisions made by the team are effectively carried out.	4.5	4.0
<i>Managing conflict</i> – We try to get the disagreeing parties together and let them talk through their points of view, until each can see some sense in the other’s ideas. Then we try to reach an agreement which makes sense to everyone.	4.8	4.3
<i>Availability</i> – When you have a question, or need some help from another team member, there is no problem in getting hold of anyone. People go out of their way to be available to each other. I have no difficulty talking to anyone on the team.	5.0	4.2
<i>Mutual support</i> – I really like my job and working together in this team. The team encourages you to take responsibility. Other team members appreciate your efforts and help when things are not going well. We really pull together in this team.	4.8	4.5
<i>Average score</i>	4.7	4.4



A number of key lessons were derived from the CIG's reflections. These are described as a series of themes below.

Create more interaction between staff members

Successful change was dependent on creating a number of different formal and informal opportunities for interaction between staff members. These opportunities included the cooperative inquiry group itself, the monthly practice team meetings, a weekly family medicine meeting for the doctors, a weekly meeting of the nurses and the usual weekly staff meeting. These meetings allowed the CIG to dialogue with the rest of the staff members, with an ongoing exchange of information and ideas, both before and after the implementation of the practice teams.

"If I think back to the first try, it failed because there was not enough, we thought it was enough, but it was not enough communication and that's why it failed. This time it succeeded because of all this communication that was going on." CIG

Conversely, a lack of interaction was identified as one of the key reasons for less successful teamwork in the yellow practice.

Communication is more than just meetings

Having more meetings in itself was not enough. The nature of the communication and type of interaction was also important. People engaged with each other in a manner that was respectful, appreciative, built trust and included social bonding. Doctors and nurses often embarked on real relationships for the first time:

"We know each other personally. Each member buys something when we meet. Feels like we belong to a group. The green team is very close. Can't say the same for yellow. One meeting around potjie and one around MacDonalds on a Friday." CIG

The interactions built a shared vision and clear goals within the teams:

"With regular meetings we discuss everything. That's why I am very clear about our goal." Green team

The meetings also enabled team members to coordinate their roles and responsibilities and make these explicit:

"[We have a] better understanding of each other, the doctors don't look like goggas [insects]. More as a unit. Seeing ourselves as a team more than separate professionals." Green team

Conversely, the less effective team struggled due to the lack of these same qualities:

"Not everybody participates. Things are talked about but not addressed (listen to suggestions, but nothing done about it)." Yellow team



“Agenda not followed up at next [meeting] and most decisions not decided upon in practice, but at big meetings monthly. Same discussions every time. Decisions made not clear.” Yellow team

Meetings needed to be effective with respect to listening, decision-making, conflict resolution and continuity.

Resilience in the face of constant change

Practice teams were vulnerable to the dynamics of people coming and going. The green team had one consistent full-time doctor and two other part-time doctors who alternated attendance. The two CNPs changed once during the study period. The yellow team had no full-time doctor, but four part-time doctors who tried to have two of the four doctors present at any time of the day. The two CNPs were changed twice during the study period. A certain amount of continuity in membership was required for people to build trust and adapt to each other’s personalities and preferred working styles. The team with less effective teamwork was more unstable and members were more likely to leave, which made it more difficult for members to interact, adapt and commit to each other:

“Green has a team spirit. Yellow team doesn’t see each other. Doctors pass each other and the nurses have been changing. We’re like the unstable team. Don’t feel belonging to the yellow team yet. Green team yes, had regular meetings, shared food, communicates well, doctors there all day, nurses are going to stay.” Doctors FGI

Consistent team membership was also constantly threatened by sick or annual leave, resignations, pregnancy, crises elsewhere in the CHC and attendance at training courses. Planning of staffing numbers had not anticipated this reality as the ‘norm’ and assumed that disruption was a rare event.

Focus on staff satisfaction

One of the underlying principles that emerged was the need to enhance staff satisfaction with their work and not just focus on service delivery. Satisfaction appeared to increase as practice teams developed and as the potential for quality and not just quantity of care was increased. By the end of the year, doctors and nurses were more satisfied with their work and relationships:

“... my husband asked me if I would like to move to Cape Town and I told him ‘No I’m happy where I am and I won’t find this ideal working situation anywhere else.’” Doctor FGI

“...I feel safe in the practice – that I can make my own suggestions and go to the doctor and say I have done this and this, and I think we should do this... it is not necessarily in the Essential Drug List – but can we start to think about this... it is good to be able to see the patient as a whole.” Nurse interview

“The feedback [from patients and doctors] makes me feel that I am worth something...” Nurse interview

Have an effective leadership style

The planning and change process was partly dependent on the senior family physician (HC) and facility manager (AO) developing a good working relationship based on a shared vision.



“AO and HC found that they shared a vision of getting staff to work better together.” CIG

They were open and accessible to the health centre staff:

“The door is always open to AO and HC.” CIG

It was important that once feedback was received and problems identified that management was responsive and proactive.

“Evaluation is important and not just planning. Not letting problems go on too long and getting worse. Evaluation and timely change/response. Problem-solving timely and proactive, before problems snowball.” CIG

It was important for the clinic leadership to remain aligned with key goals and follow through on decisions, while remaining open to feedback from the staff and the possibility of revising those decisions and goals.

Create opportunities for reflection and learning

The CIG itself played a key role in the creation of practice teams. The involvement of two outside facilitators, one a nurse and the other a doctor, had the effect of introducing new ideas and catalysing the process of planning, action, reflection and learning as well as amplifying feedback within the group. The implicit example of interdisciplinary teamwork between the facilitators may also have been important. The outcome mapping approach provided a system for monitoring and obtaining clear feedback on progress as well as a process for reflecting and learning.

“[The CIG] ensured a different type of reflective space was created on a regular basis for listening and learning and realignment and planning.” CIG

At the end of the inquiry the CIG reflected on its own role in the change process and recognised that its style of interaction:

- ◆ Was more reflective than the usual pragmatic action-oriented management meetings
- ◆ Constantly realigned people with the purpose of creating effective practice teams
- ◆ Enabled personal growth and change
- ◆ Fostered a more democratic and inclusive communication style between diverse professions and different parts of the hierarchy
- ◆ Created a group that crossed institutional boundaries – between municipality and province
- ◆ Built trust and shared understanding between key role players in the health centre
- ◆ Modelled a different facilitation style that could be transferred to meetings in the health centre

Be open to experimentation

Underlying the success of this health centre has been willingness in the facility and higher management to encourage or at least allow experimentation – even when initially it had failed.



“Healthy organisation must support experimentation and innovation even if this fails. Tension between central policy and grassroots innovation. Worcester CHC has shown the value of experimentation and learning.” CIG

Structure evolves from the team’s learning

The critical shortage of doctors which led to the demise of the first attempt at practice teams was avoided by having two rather than three teams and ensuring that both teams always had a doctor in the morning and afternoon.

“Doctors not so stressed as last time – arriving 2pm with referred patients waiting, nurses waiting, follow-up patients waiting ...in the yellow team there is still a gap between the 2 doctors, one leaves at 12h00 and other arrives 13h00+.”
Doctor FGI

In the first attempt, the absence of doctors for part of the day created longer and inequitable waiting times between practices that led to anger, irritation and dissatisfaction amongst patients and nursing staff. Adjustment of the team’s structure and staffing levels based on the health centre’s learning resulted in a more functional system.

“The team is finishing consistently on time and patients are all dealt with by 4pm. After first few days patients are not complaining about flow and waiting times.” CIG

The provincial management made it clear that there was no budget for infrastructural changes at the CHC due to priorities elsewhere in the region. The teams therefore were unable to alter the physical structure to enable the practice teams to operate in a cohesive manner in a suitable configuration of rooms, in line with their learning. This resulted in problems such as members of the teams constantly changing or sharing consulting rooms.

“There is not enough space when more than two doctors are present and CNPs and part time doctors work in different rooms each day. This may reduce number of patients seen by CNPs and also prevent people from organising rooms as they would like and having a place to call one’s own.” Green Team

Discussion

The experience of successful, partially successful and previously unsuccessful change in the Worcester CHC allows an opportunity to reflect on organisational change in primary care. How do we make sense of the themes that emerged from the cooperative inquiry group? One conceptual lens that helps with this is the application of new insights into the management of organisations from the perspective of living systems and complexity theory (Capra, 2003; Kernick, 2002). This perspective can be contrasted with that of management that sees the organisation as a machine to be designed and controlled (de Geus, 1997). The themes emerging from the cooperative inquiry will be discussed in terms of three headings: use of information, participation and organisational resilience.



Use of information

One of the recurrent themes to emerge was the need to create more interaction and effective communication. Reflection on this from the perspective of a living system reveals important differences in the understanding and use of information. In a mechanistic model, information is seen as an entity that flows along predetermined lines of communication through the hierarchy in the form of reports, circulars, memos or guidelines. Information is collected to regulate and monitor performance and to preserve certain norms and standards. Information serves the structure.

In contrast, three central attributes of the CIG were openness to new information; attention to ambiguities; and allowing information to flow between and be generated equally by people who occupied different places in the hierarchy of the CHC. The process of change in the CHC also depended on the generation of large quantities of new information from a wide variety of staff members who had been connected through a number of new teams, meetings, interviews and informal networks. Information flow was not linear through the hierarchy, but through a network of formal and informal relationships.

The CIG had to become comfortable with a degree of uncertainty and to trust the natural ability of information to self-organise through the group process (Wheatley, 1992). In a living system, information itself, like DNA, has an organising function that determines the structure appropriate to that system (Wheatley, 1992). The structure of the practice teams evolved through this process of generating, selecting and amplifying information. New information was generated from the experience of the group members and from the outside facilitators, who also catalysed the process. The capacity for self-awareness and reflection was important in this process. Information was naturally selected on the basis of its meaningfulness to the group and was amplified through a process of feedback and reflection, which also created new knowledge and information. The final form of the practice teams was not dictated or designed in advance or from outside, but emerged from the flow and use of information in the CIG and CHC.

Participation

In a mechanistic model, the form of an organisation is defined by a few people at the top of the hierarchy who inevitably have a limited perspective. Many potential insights, understandings and interpretations are lost. This transactional leadership style “has a strong sense of direction and comes to an agreement with subordinates about what each will do to make a reality of a given vision” (Kernick, 2002).

Participation, however, in the CIG, enabled a wider variety of interpretations to be considered and contradictions were not immediately resolved by choosing one over the other. The full potential of the available information was better realised. Participation of the members of the CHC in the envisioning, monitoring and adjustment of the evolving teams also fostered a sense of trust and ownership. Commitment and agreement on the ‘new reality’ is only obtained through a participative process that genuinely allows people to co-create. Again, this emphasises that form or structure arises from the connections and relationships between people. Managers may need to ensure that these formal and informal networks are encouraged and not just rely on the traditional hierarchy. A transformational leadership style is preferred that “allows a vision to emerge from interaction and dialogue” (Kernick, 2002).



Organisational resilience

The mechanistic model of organisations values structure and stability (Capra, 2003). Structures are often planned in a way that people with the requisite qualifications can be interchanged, like spare parts, without disturbing the system. Disturbances and unsolicited feedback may be viewed as unwelcome and undesirable. Planning does not seem to anticipate the constant flux and disorder caused by environmental change, staff turnover, sickness and pregnancy. Highly stable and closed systems, like machines, tend to revert to a state of equilibrium – “a condition in which the result of all activity is zero” (Wheatley, 1992).

Living systems however value the feedback of information and pay attention to disturbances as a source of new growth and change. They maintain themselves in a state of disequilibrium that is open to the environment. The *resilience* of a living organisation and its ability to adapt and change is valued more than its stability (Wheatley, 1992). This is seen in the characteristics of the world’s longest living companies which constantly changed their structure and product focus, while retaining a strong sense of identity and integrity (de Geus, 1997). This quality of resilience is seen as the organisation’s ability to remain true to its core values, competencies and vision rather than invest in a specific structure (de Geus, 1997). The CIG created such a common vision and set of values, to which the process of change could be aligned, without the need to believe in a specific structure. Indeed, the form and structure of the teams has continued to evolve as the health centre remains aligned to its shared core values such as continuity, efficiency and quality of care. This implies that effective leadership is not about designing structure or even selling a centralised vision (as in the CHC’s first attempt at change), but about the ability to create shared vision, identity and collective values (de Geus, 1997).

Conclusions

This study draws attention to the need for a different organisational culture in the health system that mirrors the attributes of living systems. These attributes include the ability of information to self-organise and create new structures; the importance of participation in planning, monitoring and evaluation; and organisational resilience which values local autonomy while creating a collective vision, identity and values. These attributes strengthen the organisation’s ability to innovate, adapt and persist while remaining true to the core values and vision. The need for these attributes was reinforced by their importance to the successful creation of practice teams at Worcester CHC. Conversely, the less successful team created poorer relationships, had a limited flow of information, less buy-in to a shared vision and less participation.

Seeing the organisation as a living system may also have implications for the way in which we assess the organisation. Paradoxically, the ability of the organisation to offer quality of care may be more linked to a focus on teamwork, relationships, work satisfaction, shared values and sense of ownership and less about the number of patients seen or other routinely collected statistics. The patient-health worker relationship may mirror the health worker-manager relationship (Couper *et al.*, 2007). Organisational change reveals the flaws in a mechanistic model of the organisation. If managers of the health system wish to enhance organisational change, then their goal may need to shift from optimising health care delivery in a mechanistic model to optimising health care workers in a living system.



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