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Change in Healthcare: Using Existing Theory to Develop Tools for Qualitative Analysis

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Keeping Up with Change, in Practice and in Theory

It is evident from the literature that change is ongoing, all around us. “Change has become both pervasive and persistent. It is normality…” (Hammer and Champy, 1993, p23). Change is not only an ever present feature of organizational life, but one which is becoming of a greater magnitude and much less predictable than ever before (Burnes, 2004). Health care institutions are in no way exempt from this ubiquitous prevalence of change, if anything their experience is further complicated by changing policies, the economic environment and most recently the volatile political agendas (Hunter, 2011).

Nonetheless, change is not a negative thing in itself. Indeed the introduction of new technologies, strategies for increasing performance, and improving patient experience are all changes which are beneficial (Weiner et al., 2008; Walker and Boyne, 2006). Few would dispute however, that the implementation of change requires carefully considered strategies, processes, leadership and management (Weiner, 2009; Dickinson and Ham, 2008; Bamford and Daniel, 2005). Within the broad title of change, it should be recognized that there is a wide scope and range of change elements. Change experts and health care leaders readily assert that certain prerequisite conditions of an organisation are critical to successful implementation of change (O’Connor and Fiol, 2006; Kirch et al., 2005; Kotter, 1996).

As change theory has evolved there has been a marked shift towards adopting a more contextual approach which suggests that change should be considered as a dynamic and iterative process (Devos and Buelens, 2006; Bazzoli et al., 2004; Collins, 1998). Contextualism has emphasised the need to consider previous internal factors in conjunction with external factors such as the political and economic environment. This subsequently includes analysis of factors such as organisational complexity and change environment, which may have impacted the organisation and therefore have implications for its responsiveness to change (McLaren et al., 2002).
Pettigrew and Whipp (1991) developed the ‘content, context and process model’ of strategic change, which stresses the importance of interacting components and the organisational context (Iles and Sutherland, 2001). Pettigrew, and colleagues, then went on to conduct further research, by means of a series of case studies, within the National Health Service (NHS) and examining, in particular, what makes a health care organisation receptive to change (Pettigrew et al., 1992). One output from this work was a conceptual model which presents eight factors of receptive contexts for change. Pettigrew and colleagues, (Pettigrew et al., 1992; Pettigrew and Whipp, 1991; Pettigrew et al., 1989) are identified as having pioneered the research in this area, with both models being deemed as major pieces of research which have helped form the foundations of the basic literature around strategic change (Iles and Sutherland, 2001).

Application of the Model

This paper considers how the Pettigrew model: eight factors of receptive contexts for change, could be used to provide a structured coding scheme to guide the analysis of data related to change in health care (Pettigrew et al., 1992). This paper then presents a coding scheme derived from the eight factors of receptive contexts for change, developed by Pettigrew et al (1992). The purpose of this paper is to offer a practical tool for the subsequent analysis of qualitative data generated from, for example, interviews, focus groups, observation or participatory research. The expectation is, therefore, that this coding scheme could be used flexibly by researchers to guide the analysis of qualitative data in the arena of change and organisational behaviour in health care.

Pettigrew et al, (1992) advise that the eight factors they identify should not be treated as discrete elements in themselves, but should be considered as a network of inter dependent and related components. The framework proposed by Pettigrew et al, is included in Figure 1 and illustrates eight factors which influence the receptivity of an organisation to change. The factors are presented as a linked set of conditions which influence the energy and momentum of change implementation and contribute to organisational performance. The factors include a range of capabilities, competencies and conditions and are not static concepts in themselves, and cannot be used to generate direct cause and effect relationships.

This model was selected as it has been developed through previous research in the NHS and has been used to analyse and learn retrospectively from change programmes in organisations (Pettigrew et al., 1992; Pettigrew et al., 1989). The model has subsequently been used, in the UK and internationally, to guide investigation of the implementation of a range of change initiatives in both private and public health care (Marchionni and
Ritchie, 2008; Stetler et al., 2007; Ross et al., 2004; Newton et al., 2003; Peppard and Preece, 1995).

**Figure 1. Receptive Contexts for Change: The Eight Factors**

![Receptive Contexts for Change: The Eight Factors](Image)

Pettigrew et al., 1992, p276

**Role of Qualitative Research**

Qualitative research is ideal for examining and understanding phenomena, taking consideration of context and identifying links between concepts and behaviours, as such it has a role in both generating and refining theory (Pope and Mays, 2000; Strauss and Corbin, 1998; Miles and Huberman, 1994; Glaser and Strauss, 1967). Research and development are inextricably intertwined and the premise for development of tool is ultimately to benefit health care organisations. The aspiration being that, equipping qualitative researchers with such tools will enable them to more readily identify areas which are lacking, or which require attention and improvement.

In instances where theory already exists about the phenomenon being studied, potential exists to use explanations and models developed thorough previous research as a basis or framework for analysis of new data (Fade, 2004). In this way, existing frameworks may offer predictions about themes or
topics of interest, or the relationships between variables and as such may help develop an initial coding scheme for analysis. The application of previous research or existing theory in this manner has been termed deductive category application (Mayring, 2000). A directed approach to content analysis, such as deductive category application, relies on a more structured process than would be conventionally used, and can be used to validate or conceptually extend an existing theoretical framework or theory (Hsieh and Shannon, 2005; Hickey and Kipping, 1996).

The proposal is that this deductive category scheme is used alongside an inductive approach to analysis. Inductive analysis is an approach which allows the researcher to freely generate codes, concepts and themes through reading and interpretation of raw data (Pope and Mays, 2000; Strauss and Corbin, 1998; Miles and Huberman, 1994). Additional codes which have been identified through this inductive method can be listed alongside the codes provided in the framework. Once all the data has been interpreted and allocated to codes in this way the data can be revisited and the codes further refined, by collating or merging codes where categories are similar, or by dividing into sub-codes where categories contain more detail (Bryman, 2004; Gibbs, 2002).

Using a directed approach to content analysis makes explicit the reality that researchers are contaminated with theory and are not working from some naïve perspective, as is the assumption of many naturalistic designs (Hsieh and Shannon, 2005). However, the primary benefit of including an open and inductive approach to analysis alongside a structured coding scheme is to minimise any restriction from the imposed methodology by allowing research findings to emerge from the data (Fereday and Muir-Cochrane, 2006; Thomas, 2006). This suggestion is further supported by Fade (2004) who notes that existing models can be used by researchers to analyse new data, with the proviso that they should be continuously re-evaluated against emerging data and revised accordingly. Thus, new data and emerging findings would be used to evolve, refine or dispute existing models and theory.

**Methodology**

Each factor was allocated an integer code which corresponds to the factor number allocated by Pettigrew et al (1992). Sub-codes were then derived from the discussion and reflections of the factor which are, provided by Pettigrew et al, in their original presentation of the model, to devise a complete coding scheme (1992). This scheme has endeavoured to abide by the principles and ideas presented by Pettigrew et al, (1992). Potter and Levine-Donnerstein (1999) advocate that a coding scheme is valid if it is faithful to the theory in its orientation of codes to the focal concepts. In line with this the sub-codes have been allocated to each factor, or focal concept, and not created as a free list of unstructured codes. Structure was provided by creating a placeholder code for each factor. A placeholder code is created as a higher level theme, which
allows a selection of other codes to be grouped and allocated beneath the placeholder (Gibbs, 2002). The sub-codes were derived using a process of open coding, which is described by Strauss and Corbin (1998) as a method of examining the text to identify salient categories of information.

By way of illustration: ‘quality and coherence of policy’ is factor one and as such was allocated code one (1). In Pettigrew et al’s, explanation of the factor they note that “ensuring that a strategic framework considered questions of coherence between goals, was feasible…” (1992, p277). Firstly, the code ‘policy coherence’ (1.1) was generated from this statement. To facilitate allocation of raw data to this code, this was further sub-divided into coherent (1.1.1) for the allocation of data which supports the coherence of the policy and fragmented (1.1.2) for the allocation of data which states that the policy was not coherent. An extended excerpt from Pettigrew et al’s, (1992) discussion of their findings and reflections on factor one is presented in Table 1, along with a demonstration of the development of codes and sub-codes.

This process was applied to the full discussion and reflections provided by Pettigrew et al (1992) until a deductive coding scheme for this factor was developed. This process was repeated for each factor; a complete list of codes and sub-codes generated using this method is included in Table 2. Placeholder codes as discussed above are those allocated with an integer code, sub-codes are allocated a position beneath the applicable placeholder.

**Application of the Coding Scheme**

The use of this coding scheme will be illustrated with reference to a case study. The study in question used a case study approach and aimed to identify organisational responses to change in health care policy. The first step in the analytical process was to read each transcript through several times to give the researcher an overall sense of the data. The transcript was then read line by line and each sentence or concept of note was allocated to a code, as presented by the coding scheme. In any instance where the researcher felt that the statement is of interest but is not adequately captured by the codes provided in the scheme a new code can be created. As each transcript is read and coded, codes can be revisited, redefined and grouped together as appropriate.

Table 3 provides extracts from a set of transcripts to demonstrate the application of the coding scheme. This illustrates use of the coding scheme by demonstrating how relevant text has been selected and allocated to codes included in the scheme. In addition, it demonstrates where new codes have been generated to describe concepts emerging from the text. These are preliminary codes which have emerged from the first wave of analysis, it is expected that these codes will change, merge and divide as analysis of further transcripts is undertaken and with additional iterations of analysis.
Table 1. Illustration of Codes Derived from Pettigrew Model

<table>
<thead>
<tr>
<th>Excerpt from Pettigrew explanation of factor (Pettigrew et al., 1992, p277)</th>
<th>Codes derived</th>
<th>Numerical Code</th>
</tr>
</thead>
</table>
| Factor 1  
The Quality and Coherence of Policy | Policy quality  
Policy coherence | 1.4  
1.1 |
|  | Policy quality  
- articulate  
- vague | 1.4  
1.4.1  
1.4.2 |
|  | Policy vision  
- broad  
- narrow | 1.2  
1.2.1  
1.2.2 |
|  | Policy coherence  
- fully coherent  
- fragmented | 1.1  
1.1.1  
1.1.2 |
|  | Policy feasibility  
- implementable  
- limited feasibility | 1.6  
1.6.1  
1.6.2 |
|  | Policy fit  
- in line with/  
- divergent from existing strategy | 1.5  
1.5.1  
1.5.2 |
Table 2. Coding Scheme

1: Quality and Coherence of Policy
- 1.1: policy coherence
  - 1.1.1: fully coherent
  - 1.1.2: fragmented
  - (1.1.3: contradictory)
  - (1.1.4: notable gaps)
- 1.2: policy vision
  - 1.2.1 broad
  - 1.2.2 narrow
- 1.3: commitment building
  - 1.3.1 buy-in
  - 1.3.2 shared world view
- 1.4: policy quality
  - 1.4.1 articulate
  - 1.4.2 vague
  - 1.4.3 strategy broken into actionable pieces
- 1.5: policy fit
  - 1.5.1 in line with existing strategy/direction
  - 1.5.2 divergent from existing strategy/ direction
  - 1.5.3 matched to a realistic and achievable financial framework
- 1.6: feasibility
  - 1.6.1 implementable
  - 1.6.2 limited feasibility

2: Key People Leading Change
- 2.1: leadership
  - 2.1.1: local/organisational level
  - 2.1.2: national (NHS) level
- 2.2: leadership continuity
- 2.3: leading change
  - 2.3.1 planning
  - 2.3.2 opportunism
  - 2.3.3 timing
  - 2.3.4 simultaneous resolution of issues
- 2.4: team building
- 2.5: personal skills

3: Environmental Pressure
- 3.1: radical change
- 3.2: financial pressure
  - 3.2.1 history
  - 3.2.2 distribution of power
  - 3.2.3. local assumptions
- 3.3: energy drain
- 3.4: environmental buffering
- 3.5: scape-goating and defeat of managers

4: Supportive Organizational Culture
- 4.1: hierarchies
  - 4.1.1: formal hierarchies
  - 4.1.2: informal hierarchies
  - 4.1.3: focus on skill over rank
- 4.2: openness
  - 4.2.1 to risk
  - 4.2.2 to research and evaluation
4.3: value base (including rewards)
   - 4.3.1 deep seated assumptions
   - 4.3.2 officially espoused ideologies
   - 4.3.3: Challenging and changing beliefs

4.4: ways of working (purpose designed structures)
   - 4.4.1 flexible working across boundaries
   - 4.4.2 leaders as role models
   - 4.4.3 general manager cadre

4.5 positive self image and sense of achievement

5: Managerial Clinical Relations

5.1: communication
   - 5.1.1: effective communication
   - 5.1.2: ineffective communication

5.2: supportive relationship
   - 5.2.1 trust
   - 5.2.2 honesty
   - 5.2.3 early involvement of clinicians
   - 5.2.4 mutual respect
   - 5.2.5 relationship building

5.3: Clinician attitudes
   - 5.3.1 hybrid clinicians

5.4 Managerial attitudes
   - 5.4.1 use of incentives/ penalties
   - 5.4.2 identify clinician values/ needs

6: Co-Operative Inter-Organization Networks

6.1: informal networks

6.2: purposeful networks
   - 6.2.1 trading and education
   - 6.2.2 commitment building and energy raising
     - 6.2.3 marrying top down and bottom up concerns

6.3 organisational power/ influence

7: Simplicity and Clarity of Goals and Priorities

7.1: key priorities
   - 7.2.1 protection from constantly shifting short term pressures

7.2: persistence in pursuit of organisational goals

7.3: organisational agreement/ awareness of goals

7.4 breaking the problem into more manageable and actionable pieces

8: Change Agenda and its Locale

8.1: pace of change

8.2: political culture
   - 8.2.1 organisational/ local political culture
   - 8.2.2: NHS political culture

8.3: plurality of providers

8.4: presence of teaching hospital (/foundation trust)

8.5: relationship with local community

8.6 change timing
Table 3. Application of Coding Scheme

<table>
<thead>
<tr>
<th>Interview and line number</th>
<th>Quote</th>
<th>Code *</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 16, 93</td>
<td>If you are not paying for the time and the resource for clinicians you are not going to get anywhere so if collaborating with clinicians as being pathetically and poorly resourced all over the country really although it has varied I think from PCT to PCT...</td>
<td>1.5.3 achievable financial framework</td>
</tr>
<tr>
<td>ID 16, 95</td>
<td></td>
<td>2.1.2 national leadership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>variation in practice</td>
</tr>
<tr>
<td>ID 16, 101</td>
<td>another barrier is, despite what the PCT thinks, how they operate is usually top down [ok] decisions are made you know by execs and stuff or by higher up often from the SHA</td>
<td>2.1.1 local leadership</td>
</tr>
<tr>
<td>ID 16, 103</td>
<td></td>
<td>decision making</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.1.1 formal hierarchies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.3 organisational power</td>
</tr>
<tr>
<td>ID 19, 320</td>
<td>you’ll hear people say “this is the 3rd reorganisation I’ve been through” or “this is the 6th one I’ve been through” or whatever and so many people in the organisation, not everybody but many people in the organisation, have been through these a number of times and for that reason they’re probably not sanguine about but they’re sort of realistic about the fact that, you know the next wave of change is here it’s going to happen.</td>
<td>8.1 pace of change</td>
</tr>
<tr>
<td>ID 19, 322</td>
<td></td>
<td>8.2.2 NHS political culture</td>
</tr>
<tr>
<td>ID 19, 324</td>
<td></td>
<td>4.4 ways of working</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3 energy drain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2 openness</td>
</tr>
</tbody>
</table>

*Italics indicate additional codes inductively derived from the text, over iterations of the analysis it is expected that these codes will change, and perhaps merge with existing codes.

Discussion and Conclusions

The role of this paper is three fold. To generate a tool, of practical relevance, that facilitates the application of existing learning and theory to the study of change in health care. Secondly, to stimulate the introduction of qualitative research tools, in other academic areas, and enhance the translation of knowledge across theory, research and practice. Thirdly, to stimulate wider academic discussion on the processes used by qualitative researchers to understand and generate research findings from data.

The Pettigrew et al, model (1992) has provided a conceptual map for the development of this coding scheme. The formulation of this scheme, which is a practical tool for researchers, is closely linked with the theory and as such encourages consideration of previously identified concepts and factors alongside new research. A description of the methods employed in developing the scheme along with recommendations for its use, should readily facilitate
application of the model by other researchers. Additionally it may provide a platform for other researchers, who may use the methodology to generate an alternative tool from existing theory in their field.

The scheme presented in this paper is not without bias, and the generation of codes has unavoidably been influenced by the author’s interpretation of Pettigrew et al’s text (1992). If another individual followed the same methodology they may not have selected codes which have been included and indeed may have generated additional codes which have not been identified here. It is often difficult to ascertain the applicability and generalisability of in-depth qualitative methods (Carter and Little, 2007; Kohlbacher, 2006; Mayring, 2000). In the application of this scheme to the case study, the author did not have prior knowledge of the data. It is not apparent whether previous exposure to the data would have generated a different scheme. Similarly, it may be opportune that the scheme can be applied to the case study discussed here. It may not be as readily applicable to other data sets. Further work which explores the use of the scheme by independent coders and a range of data sets would help address these queries.

Future Application

This scheme will be used to analyse a complete wave of data from the study referenced above and findings will be reported in a later paper. It is expected that the coding scheme presented here will be developed and refined during this process and it is intended that a revised coding scheme will be shared at a later date to illustrate how the coding scheme can be used and shaped in accordance with individual studies. Prior to publication this revised model will be tested by independent coders to assess its validity. Potter et al, (1999) advise that inter-rater validity can be demonstrated if the decisions made by independent coders are found to match the approved standard.

The next step will explore connections within and between codes and categories, by considering underlying conditions, actions, relationships and interactions and other key phenomena. This will then be used to develop and re-interpret the Pettigrew et al (1992) model for the current healthcare context. In particular, consideration will be given to the differences between receptivity to change when change is planned and driven by the organisation in contrast to change which is imposed by policy directives.

It is hoped that the early exposure of this coding scheme will encourage other qualitative researchers to consider the use of existing frameworks and models within their arena of study in conjunction with more traditional inductive analytical methods.
References


Intercultural Dialogue on Health Economics, Management and Policy: Challenges and Chances


