Barriers and facilitators to successful hospital mergers

A systematic review

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Purpose

A new children's hospital is to be constructed on the campus of St James's Hospital in Dublin 8. This single hospital will bring together three existing children's hospitals into a merged entity and provide tertiary and quaternary care for children throughout Ireland. In conjunction with two satellite centres, it will also provide secondary (or less complex) care for children from the Greater Dublin Area. The satellite centres will be located on the campuses of Tallaght Hospital and Connolly Memorial Hospital. Each centre will provide both urgent and outpatient care. The centres will be under the governance of the new children's hospital, with staff from the main hospital rotating between the centres and the hospital. The Department of Health (DoH), which has responsibility for overseeing the implementation of the new merged entity, commissioned the Health Research Board (HRB) to review the evidence on the subject of hospital mergers. In particular, the DoH wished to identify the barriers and facilitators to successful implementation of a merger. Additionally, it wanted to know how successful hospital mergers were defined and evaluated in the literature.

Review question

The overall question addressed in this review is:

> **Q** What are the barriers to, and facilitators of, the successful implementation of hospital mergers reported in the research literature?

The following sub-questions were developed and agreed:

1. How are successful mergers between hospitals defined and evaluated in the research literature?
2. What are the barriers to, and facilitators of, implementing hospital mergers reported in the research literature?
3. Are there particular interventions reported in the literature that facilitate a hospital merger?
4. What is the quality of the available research to inform success in hospital mergers?

Methods

Initially, we undertook a rapid scoping exercise to determine what peer-reviewed literature was available on the subject of hospital mergers. Using the information from the scoping exercise we then discussed and agreed the review questions with the DoH. At this point, we undertook a broad search of Medline and CINAHL from January 1996 to February 2015 for relevant peer-reviewed literature. The Medical Subject Headings (MeSH) term 'health facility merger' was used to keep the search broad, so as to ensure that no articles of relevance were overlooked. This yielded 2,774 results. Initial screening of titles and abstracts resulted in 2,624 exclusions, as they did not meet our inclusion criteria. Thus, there were 150 articles for full text screening, after which there were 89 articles with potential for inclusion in the synthesis. A further 11 articles were retrieved from reference chasing. Of these 100 articles, 49 were used in the synthesis. A thematic synthesis of the qualitative data was performed and, due to the heterogeneity of the quantitative data, a narrative summary was the chosen method to assimilate findings. We undertook a quality appraisal of all the included studies.

Findings

Definition and evaluation of successful hospital mergers (Sub-question 1)
In general, hospital mergers are defined as the combination of previously independent hospitals formed by either the dissolution of one or more hospitals and their absorption by another, or the creation of a new hospital from the dissolution of all participating hospitals. In essence, the merged institution operates under a single licence and reports a single set of financial and utilisation statistics. However, hospitals may join a system where it retains its licence but transfers its ownership to a separate governing body.

The literature was searched for quantitative papers that reported on the evaluation of hospital mergers. This was done to identify the measures used for evaluation and, in doing so, to ascertain what might be considered as proxy indicators of successful mergers. Costs, efficiency, productivity, quality of care and increased patient access are the reasons outlined in the quantitative literature for initiating mergers and are also the main measures used to evaluate hospital mergers. Therefore, we inferred that the factors associated with a successful merger in this context are those described as reduced costs, increased efficiency, reduced duplication, increased productivity, improved quality of care, increased number of services and access to services.

The quantitative literature also highlights the most consistent staff requirements for successful mergers, which were clear communication, participation, autonomy in practice, respect, trust and parity in pay. These findings mirror the findings of the qualitative analysis. Overall, staff expectations of a successful hospital merger are very different from the views expressed by senior hospital management.

Barriers and facilitators to implementing a hospital merger (Sub-question 2)
To address the review question on barriers to, and facilitators of, hospital mergers, we combined the relevant findings from 18 qualitative studies using thematic synthesis to develop six descriptive themes and, from them, five analytical themes. From these analytical themes we developed our main findings about the barriers and facilitators to implementing a hospital merger. By integrating the findings from the quantitative literature we found support for these conclusions. The barriers and facilitators are outlined below:

1. **Implementing hospital mergers is *hindered* when hospital staff are excluded from active participation and dialogue.**

2. **Participatory dialogue between hospital staff and senior management can *facilitate* the implementation of a hospital merger.**

The analytical theme underlying these two statements was ‘staff exclusion from active participation and dialogue’ developed from the descriptive theme, ‘staff participation and communication’. Hospital staff were disappointed with the lack of active participation and communication that they experienced in merger situations, and the findings infer that failure to address these issues in future merger processes could hinder the implementation of a hospital merger. Hospital staff want to be actively engaged in all phases of implementing a merger, and participatory dialogue between hospital staff and senior management is a major facilitator of a successful merger.’

3. **Implementing hospital mergers is *hindered* when hospital staff are distanced from influencing decisions.**

4. **Implementing hospital mergers is *facilitated* when senior management is less remote from staff.**

The data underpinning these statements derive from the analytical theme 'distance from decision-making'. This theme was developed from the descriptive themes, 'management, participation and communication'. Hospital staff expressed the view that they were not respected by senior management. Senior management kept staff at a distance from contributing to, or influencing, decision-making and, left unchecked, this distance hinders the process of merging hospitals. Hospital staff expressed a degree of disappointment at what they perceived as senior managers remaining remote from them. Staff wish to be involved in the decision-making process and they also want a closer overall working relationship with senior management; a relationship not just characterised by formal meetings and presentations about the merger, but one that is premised on mutual respect and dialogue and a genuine interest in, and respect for, the beliefs and views of all staff and management. The merging of hospitals can be facilitated when managers are less remote from staff and when mutual expression of views and experiences is encouraged and welcomed.

5. **Implementing hospital mergers is *hindered* when the emotional and professional pressures on hospital staff threaten their professional identity.**

Data from the analytical theme of 'occupational and professional limbo' were used to develop this statement. This theme was developed from the descriptive themes, 'emotional and professional impacts'. The emotional impacts are expressed in terms of loss, insecurity and anxiety, and the professional impacts are expressed in terms of the threat to professional autonomy. Both of these impacts are interrelated and, when taken together, they underpin the claim that hospital staff can experience occupational and professional limbo during the merging of their organisations. These findings infer that such experiences, if left unchecked, contribute to low job satisfaction, poor morale and low levels of commitment to the newly merged entity, which can be a barrier to the implementation of a merger.

6. **Implementing hospital mergers is *facilitated* when the primacy of patient care is emphasised and hospital staff can reclaim or maintain their professional caregiver status.**

The statement directly above was developed from the analytical theme 'promoting the primacy of patient care'. The literature suggests that the occupational and professional limbo experienced by hospital staff during a merger can be reversed, and the process of merging facilitated, when the primacy of patient care is emphasised during a merger. Hospital staff expressed the view that the merger provided a good opportunity to introduce innovative practices to improve the quality and safety of patient care; however, when they were excluded from participation and distanced from decision-making, their capacity to believe that quality of patient care was a priority was compromised. The data suggest that hospital staff can also use 'promoting the primacy of patient care' as an opportunity to reclaim some of their autonomy by engaging creatively with the implementation process and bringing their ideas and experiences to the table on behalf of themselves and their patients.

7. **Implementing hospital mergers is *hindered* when parties fail to bridge the cultural divide.**

This statement concerning the cultural dimension of hospital mergers was developed from the analytical theme 'preserving pre-merger culture'. This theme of pre-merger culture describes the impact on hospital staff when

organisations fail to address their cultural differences and fail to bridge the cultural divide. The findings infer that staff engage in preserving fragments of the old hospital culture they knew prior to the merger; they do this to help them retain their identity and familiarity in the face of so much uncharted change. Left unchecked, failure to address these cultural differences and to bridge the cultural divide between merging entities can hinder the implementation of a hospital merger and may exacerbate and prolong such divisions.

Our overall finding in answer to our main research question ['What are the barriers to, and facilitators of, the successful implementation of hospital mergers reported in the research literature?'] is that 'the distance between senior management and hospital staff is a greater threat to implementing a hospital merger than the differences between cultures in merging hospitals'. This distance is characterised by senior management not affording hospital staff opportunities for active participation in how the merger is implemented; this is characterised by minimal dialogue between senior management and staff and little opportunity for staff to influence decisions pertaining to their role or their responsibility for patient care. Our findings from the literature suggest that hospital staff are not usually active participants during the implementation of a hospital merger. At best, they are afforded degrees of partial participation, which excludes them from influencing decisions pertaining to their role in the merger and decisions affecting patient care. This exclusion is seen by hospital staff as a decision taken by senior management; a view that contributes to staff feeling disrespected and not trusted by management. This has implications for the way that staff perceive their role in the merger. For example, exclusion from decision-making and distance from senior management means that hospital staff are prone to experiencing anxiety and uncertainty about their role in the merger; in particular, they fear a threat to their professional autonomy which is linked to the absence of dialogue between management and themselves. They are also confronted with uncertainty about the goals of the merger and its impact on the quality of care for patients – uncertainty that is compounded by poor communication and unclear information.

Individual interventions to facilitate hospital mergers (Sub-question 3)
There were three small-scale interventions to facilitate a merger reported in the literature. The approach to the interventions had similarities and differences. Two of the intervention teams carried out a literature review to identify possible interventions. All three intervention teams chose an intervention that brought people together. Moreover, they identified commonalities and differences in visions, values, processes and procedures. In addition, all three teams completed a facilitated approach to agree a single vision, and a set of common values, processes and procedures. In one case, the facilitator was an external person whose neutrality was appreciated by staff. A buddy system was used in two interventions. The three intervention teams completed post-intervention staff satisfaction surveys but none collected baseline satisfaction scores. The staff satisfaction surveys indicated that they appreciated any well-thought out intervention to facilitate a merger. Only one team examined patient satisfaction. Another team examined quality of care. Both showed that the interventions had some positive effects on patient care.

Quality of the research (Sub-question 4)
It is important to note that we were unable to locate any suitable study that reported the views of hospital staff involved in the merging of children's hospitals or paediatric units within hospitals. Included in the review are studies with mixed method designs containing both qualitative and quantitative data. We scrutinised the quality of the studies that we included and for this we used three separate generic instruments, as appropriate, for examining differently designed studies. In general, the quality of the research was adequate to complete this analysis.

Conclusion

The quality of the literature was adequate to complete the review, which is based on experiences in United States, Canada, England, Finland, Israel, Norway and Sweden. Our overall conclusion is that 'the distance

between senior management and hospital staff is a greater threat to a merger than any cultural differences between merging institutions'. We identified from the qualitative literature four specific barriers that impede, and three potential facilitators that support, hospital mergers and these are corroborated by the findings in the quantitative primary literature and are further reinforced by a number of reviews on the topic. There were three small-scale interventions to facilitate a merger reported in the literature. All three intervention teams chose an intervention that brought people together, and identified commonalities and differences in visions, values, processes and procedures. In addition, all three teams completed a facilitated approach to agree a single vision, and a set of common values, processes and procedures. The staff satisfaction surveys related to the interventions indicated that staff appreciated any well-thought out intervention that facilitates a merger.

Introduction

This report presents the findings of an evidence review undertaken by a team at the Evidence Centre of the HRB. The review presents a set of barriers to, and facilitators of, the successful implementation of hospital mergers. A new children's hospital is to be constructed on the campus of St James's Hospital in Dublin 8. This single hospital will bring together three existing children's hospitals into a merged entity, and will provide tertiary and quaternary care for children throughout Ireland. In conjunction with two satellite centres, it will also provide secondary (or less complex) care for children from the Greater Dublin Area. The satellite centres will be located on the campuses of Tallaght Hospital and Connolly Memorial Hospital. Each centre will provide both urgent and outpatient care. The centres will be under the governance of the new children's hospital, with staff from the main hospital rotating between the centres and the hospital. The Department of Health (DoH), which has responsibility for overseeing the implementation of the new merged entity, commissioned the HRB to review the evidence on the subject of mergers. In particular, the DoH wished to identify the barriers and facilitators to successful implementation of a merger. Additionally, it wanted to know how successful hospital mergers were defined and evaluated in the literature.

Research question

The aim of this review is to provide the DoH with the best available evidence on the barriers to, and facilitators of, successful hospital mergers. In order to meet this objective, the DoH asked the following primary question:

Q What are the barriers to, and facilitators of, hospital mergers reported in the research literature?

The following sub-questions were developed; these describe the components of the primary research question:

1. How are successful mergers between hospitals defined and evaluated in the research literature?
2. What are the barriers to, and facilitators of, hospital mergers in the research literature?
3. Are there particular interventions reported in the literature that facilitate a hospital merger?
4. What is the quality of the available research to inform success in hospital mergers?

Background

New single National Children's Hospital

A new National Children's Hospital is to be constructed on the campus of St James's Hospital in Dublin 8. This single hospital will bring together three existing children's hospitals into a merged entity and will provide tertiary and quaternary care for children throughout Ireland. In conjunction with two satellite centres, it will also provide secondary (or less complex) care for children from the Greater Dublin Area. The satellite centres will be located on the campuses of Tallaght Hospital and Connolly Memorial Hospital. Each centre will provide both urgent and outpatient care. The centres will be under the governance of the new children's hospital, with staff from the main hospital rotating between the centres and the hospital. The DoH wished to examine the subject of hospital mergers, with the purpose of identifying the definition of a successful merger as described in the literature published on this topic, as well as identifying the obstacles that arise when hospitals are merged and the enablers to a successful outcome.

The **new National Children's Hospital** on the St James's site will take over the services currently provided at three existing Dublin paediatric hospitals – Our Lady's Children's Hospital, Crumlin; Children's University Hospital, Temple Street, and the National Children's Hospital (part of Tallaght Hospital).

St James's Hospital is primarily a key shaper and instrument of public policy in the health system, established through a fusion of a number of voluntary hospitals and a single municipal hospital. The hospital's fundamental purpose is the delivery of health treatment, care and diagnosis for adult patients, in addition to providing health promotion and preventive services at catchment, regional, supra-regional and national levels. Its service remit ranges in complexity from secondary to tertiary level. St James's Hospital is also an academic teaching hospital. It is thus committed to the creation of an environment and the circumstances in which education and research in the health sciences and allied areas is possible and flourishes. See:
http://www.stjames.ie/AboutUs/AnnualReports/Annual%20Report%202012%20(English).pdf

Our Lady's Children's Hospital, Crumlin is Ireland's largest paediatric hospital employing approximately 1,600 staff. The hospital's mission is to constantly improve the health and well-being of children and adolescents in a safe environment which is driven by quality healthcare and supported by excellence in knowledge, education and research. Our Lady's Children's Hospital, Crumlin is responsible nationally for the provision of the majority of quaternary, tertiary and secondary healthcare services for children. It is the national centre in Ireland for a range of specialties including children's childhood cancers and blood disorders, cardiac diseases, major burns, cystic fibrosis, clinical genetics and rheumatology. The hospital is built on a site comprising approximately five hectares, which was provided by the Archbishop of Dublin. It first opened its doors in 1956 and was specifically designed to care for and treat sick children. Bed accommodation provided in the original design of the hospital was 324 beds and, currently, 227 beds and cots are in use, including 38 day-case beds. The hospital is also involved in the teaching of medical personnel. Undergraduate students from University College Dublin, the Royal College of Surgeons in Ireland and Trinity College Dublin receive training in paediatrics at Our Lady's Children's Hospital. Research is a fundamental component of all paediatric disciplines, and the provision of a specialised research facility is recognised as an integral part of a modern, comprehensive children's hospital. The National Children's Research Centre at this hospital provides well-equipped laboratory facilities for the investigation of the biological basis of childhood disease and has made significant progress in the development of a Clinical Research Programme. In 2014, the hospital had 34,770 emergency attendances, 17,700 day cases, 10,467 inpatient admissions, 74,843 outpatient attendances and 14,744 surgical procedures were performed. See:
http://www.olchc.ie/About-Us/Hospital-Profile/

The **Children's University Hospital, Temple Street** was founded by the Sisters of Charity in 1872; it serves as one of Ireland's longest-established hospitals. The hospital provides acute, chronic and emergency care services across Dublin, North Leinster and the rest of the country through national specialist referral. It offers emergency treatment for hand, facial and soft tissue injuries and is the national centre for craniofacial (cleft lip/palate) surgery. It hosts the National Centre for Inherited Metabolic Disorders, which is the tertiary referral centre for investigation and treatment of individuals suspected of having a genetic disease. The Children's University Hospital is a major undergraduate and postgraduate teaching hospital in medicine, nursing and physiotherapy for University College Dublin and the Royal College of Surgeons in Ireland. It is a member of the Mater Misericordiae & Children's University Hospitals Group and is located close to the Mater campus. See: http://www.ucd.ie/medicine/lifewithus/ourcampus/clinicalcampus/childrensuniversityhospitaltemplestreetdublin/

The **National Children's Hospital** has its origins in the joining of the National Orthopaedic and Children's Hospital with Pitt Street Institution in 1884. They both moved to Harcourt Street in 1887. The stated objective of the hospital at that time was 'to educate mothers and nurses regarding the proper management of children in both health and disease.' In 1965, the National Children's Hospital established the first Irish paediatric haematology service. The first bone marrow transplant in Ireland was performed by Professor Ian Temperley in the hospital in 1978. Plans for the children's hospital in Tallaght began in the 1980s. On 21 June 1998, the Adelaide and Meath Hospital, incorporating the National Children's Hospital, opened at the location where it remains today. The National Children's Hospital currently comprises a children's emergency department, children's x-ray, children's outpatients department, and children's operating theatre and ward areas. See: http://www.amnch.ie/Just-for-Kids/About-Us

The construction of **the new National Children's Hospital** has its origin in the 2006 report, *Children's Health First*. McKinsey & Company was engaged by the Health Service Executive (HSE) to advise on the provision of tertiary paediatric care nationally and the provision of secondary care for the Dublin area. The McKinsey & Company report recommended that the population of Ireland and projected demand could support only one world-class tertiary centre. The centre would be at the nexus of an integrated national paediatric service, and would also provide care for all secondary needs in the Dublin area.

The new National Children's Hospital will bring together three existing independent and long-established paediatric acute hospitals. The integration of the three hospitals into a single service is a challenging and complex project encompassing the integration and change management of a wide range of functions, including clinical change/standardisation strategy, corporate/support services, workforce planning, standardisation of quality and patient safety, and the development of a new organisational culture, building on the values underpinning the existing hospitals. There is a need to apply learning from hospital mergers in other jurisdictions, including strategies and supports employed in integrating separate services and cultures, and their effectiveness or otherwise.

It is considered essential that the existing hospitals come together operationally, well in advance of the move to this new single National Children's Hospital, to ensure that they function effectively as a single entity. The Children's Hospital Group Board is an administrative (non-statutory) structure established in the context of Government policy on hospital groups. It encompasses the three existing hospitals. It is charged with:

- integrating the three existing children's hospitals into one organisation well before transitioning to the new National Children's Hospital
- developing effective corporate and clinical governance structures for the Hospital Group

- developing a services integration/reconfiguration plan
- acting as client for the new National Children's Hospital capital project.

Work is underway to establish a new statutory body which will take over the services provided by the existing hospitals so that they become legally one. At the overall governance level, this will achieve a merger in legal terms. Making that effective in terms of merging the people and processes of previously standalone organisations is considered a significant and complex challenge.

Methods

Initial scoping work

The authors undertook an initial exploratory scoping exercise to identify and describe the range of research studies available and relevant to hospital mergers. The purpose of the exercise was to use the information from this work to refine the scope and focus of the subsequent in-depth review. Initial discussion with stakeholders in the DoH established that the scoping exercise would search for research studies focusing on implementing a hospital merger and the outcomes associated with hospital mergers. In particular, studies focusing on 'cultural' factors associated with mergers would be included. Studies focusing on the cost-effectiveness and legal implications of hospital mergers would be excluded.

Initial screening of a number of studies revealed that the bulk of merger activity, particularly in the United States where most of the literature is derived from, occurred in the first half of the 1990s; therefore, it was decided to exclude any study published in or before 1995. It was also decided that including research published post-1995 would cover 20 years' work and would provide more up-to-date and relevant accounts. From this exercise, studies with qualitative and quantitative data that reported on cultural factors, views of staff and empirical outcomes were identified.

Systematic search

We searched two bibliographic databases (Medline and CINAHL) for research published in the English language only. We limited our search to studies published from January 1996, with a cut-off date of February 2015. January 1996 was chosen as the start date of the search as our initial screening of a sample of 200 articles showed that prior to 1996 the primary focus of published work was either economic or legal; moreover, they were mostly opinion pieces which were excluded from our review.

Medline and CINAHL were searched to find the most appropriate subject headings used to describe concepts of the subject of hospital mergers. In both databases the term *Health Facility Merger* (defined as 'the combining of administrative and organisational resources of two or more healthcare facilities') was available and considered to be the most appropriate. Keywords were not used as part of the search as their inclusion increased the number of search results (and the number of irrelevant results) to an amount that could not be reviewed within the given timeframe. We are confident that the broad nature of the Medical Subject Heading (MeSH) term used in the search compensates for the lack of keyword searching. The search results of both databases were restricted to published journal articles. Additional papers were identified by obtaining relevant references from the retrieved articles. The full details of the search strategy and search results can be found in Appendix 1.

Search results

The search yielded 2,916 papers. Having removed the duplicates (142), 2,774 articles remained for title and abstract screening. From these, 150 articles were retrieved for full text screening. EndNote and EPPI-Reviewer software packages were used for reference and data management. EPPI-Reviewer was also used for preliminary screening and coding of texts. Both the screening of title and abstract and the full text screening were performed independently by two of the authors (MK and MS) and any disagreements were resolved by discussion.

After full text screening, 89 articles remained; these were considered to be potentially useful to include in the synthesis. The exclusion criteria are outlined in Appendix 2. The papers obtained using reference harvesting yielded an additional 11 articles, giving a total of 100 research papers with potential for inclusion in the synthesis but requiring further in-depth screening. After this process, 49 research papers were included in the synthesis and 51 were excluded; the latter comprised overviews and non-research opinion-based papers as well as some articles that examined costs and management systems only. The included research papers were classified or grouped according to the type of research performed by the authors. The classifications were articles containing quantitative data (32) and qualitative data (18). One paper, Jones[8] contained both quantitative and qualitative data, and is counted in both groups. The quantitative research papers were further subdivided into studies which collected original primary data, i.e. data that are collected and analysed to answer a specific research question, and studies using secondary data, i.e. data routinely collected for a previous purpose and analysed in the present to address other questions. In this evidence review we included 17 primary quantitative papers, 15 secondary quantitative papers and 18 primary qualitative papers.

Data extraction and analysis

An agreed extraction form covering methods, context and findings was developed and is presented in Appendix 3. The extracted data are presented in four tables in Appendix 4 by study type: primary quantitative, secondary quantitative and qualitative studies.

The data extracted from the studies were:

- **Methods**: Study aims, sample selection, data collection, data analysis
- **Context**: Description of hospitals merging, estimated number of people affected (where provided) e.g. staff, citizens, location
- **Findings**:
    - Quantitative findings: successful mergers, quality of care, hospital performance, culture, staff experience/job satisfaction
    - Qualitative findings: study participants' views and study author interpretations

Quantitative analysis

The following headings are used to summarise the findings of the quantitative studies. These headings were reported in the literature as the most frequent measures used to evaluate hospital mergers.

- Successful mergers
- Hospital performance
- Quality of care
- Culture
- Job satisfaction
- Staff experience
- Interventions

Qualitative analysis

We used thematic synthesis to analyse the data extracted from primary qualitative studies; these are studies that used interviews and/or focus groups to collect primary data and where analysis of these data used a range of techniques such as induction (theory generation), deduction (theory testing) and abduction (a hybrid of both).

Thematic synthesis was developed by Thomas and Harden in 2008[23] to synthesise qualitative data on views and experiences. This approach contains three main stages which can overlap to some degree: (i) line-by-line coding, (ii) developing descriptive themes and (iii) generating analytical themes.

As few of the studies selected for inclusion in our synthesis addressed our review question, we decided that thematic synthesis was an appropriate method, as it had been used by Thomas and Harden[23] to overcome a similar obstacle in a similar type of review.

Thomas and Harden[23] too had planned to extract and synthesise data according to their review question, but reported that
'*…few study findings addressed these questions directly and it appeared that we were in danger of ending up with an empty synthesis. We were also concerned about imposing the a-priori framework implied by our review questions onto study findings without allowing for the possibility that a different or modified framework may be a better fit. We therefore temporarily put our review questions to one side and started from the study findings themselves to conduct a thematic analysis…*' p4

Eighteen primary qualitative studies were selected for inclusion in an evidence review. The criterion for selection of the qualitative studies was that the study needed to have used a qualitative approach to investigate the social and psychological characteristics of a hospital merger based on qualitative accounts from participants with experience of a hospital merger. Studies also needed to report on the study aims, sample selection, data collection and data analysis. A table describing the selected studies is presented in Appendix 4 (Table A).

One issue which is difficult to deal with when synthesising 'qualitative' studies is 'what counts as data' or 'findings'? We took study findings to be all of the text labelled as 'results' or 'findings' in study reports. We performed line-by-line coding on each of the studies, using both EPPI reviewer and free hand coding. The latter was used when we could not use the EPPI facility to transfer a PDF version of the study into EPPI. A full account of the outputs from the line-by-line coding is presented in Appendix 5.

Level and quality of evidence (Sub-question 4)

Quantitative

As the studies retrieved from the search had diverse study design, a mixed methods scoring system for assessing study quality, as described by Pluye *et al.*,[24] was utilised. The level of evidence was assessed by JL.

The evaluation criteria for quantitative observational studies were:

- appropriate sampling and sample
- justification of measurements (validity and standards)
- control of confounding variables.

The evaluation criteria for mixed methods studies were:

- justification of the mixed methods design
- combination of qualitative and quantitative data collection-analysis techniques or procedures
- integration of qualitative and quantitative data or results.

The primary quantitative studies provide a low to moderate level of evidence and the conduct of the studies was fair to good. The main details of each study used are presented in Appendix 4 (Table A).

The secondary data analysis, in general, focused on large-scale studies comparing before and after experiences or using control groups for comparison, and provided a moderate level of evidence. The conduct and analysis of these studies was satisfactory to very good and usually included attempts to minimise bias and controls for confounding (Appendix 4 Table B).

Qualitative

Appraising the quality of qualitative research is a contentious area, with over 100 sets of tools available for quality appraisal.[25,26] Checklists form the bulk of appraisal instruments used to assess qualitative research and they have their supporters[27] and their opponents.[28] Barbour[28] challenges the over-reliance on adhering to checklists without giving equal regard to the need to assess research on its capacity to remain true to the broader principles of qualitative research design and analysis. Nonetheless, we decided it was important to apply some level of quality assessment to the studies included in this synthesis. The purpose of assessing the quality of the studies was not to exclude studies, but to provide an overall picture of the 'quality' of the evidence that we use to support our synthesis. The level of evidence was assessed by MK. Table 1 provides an overview of quality assessment of the included studies. This assessment mainly relates to how well the execution of the study is reported and to what extent the findings from the studies are grounded in the data. A full description of relevant study characteristics is presented in Appendix 4 (Table C).

Table 1 Quality criteria assessment of 18 qualitative studies included in the synthesis

Question	Yes/Somewhat	No
Is this study qualitative research?	18	0
Is the study context clearly described?	14	4
Is there evidence of researcher reflexivity?	4	14
Is the sampling method clearly described and appropriate for the research question?	15	3
Is the method of data collection clearly described and appropriate for the research question?	18	0
Is the method of analysis clearly described and appropriate for the research question?	12	6
Are the claims made supported by sufficient evidence, i.e. did the data provide sufficient depth, detail and richness?	15	3

Source: Adapted from Glenton *et al.*[29]

Findings

This section of the report begins with the findings from the quantitative data, which are summarised in narrative form. We then report on the qualitative studies and outline the descriptive themes developed from these studies; this is followed by a synthesis of these themes into analytical themes. Together, these findings are used to address the question which is the subject of the review, and we compare and discuss the findings emanating from the different study types.

Context of mergers

The quantitative literature included in this review contains studies with primary data analysis and secondary data analysis. From this quantitative literature some important concepts emerged about the environment in which mergers take place, and these are included here to add context to the topic of hospital mergers. One such subject is the rationale for mergers. The dominant rationales described are:

1. Reduce overall costs of separate institutions[1-11]
2. Increase the market share[7-11]
3. Obtain access to capital investment and/or new technology[11]
4. Increase productivity[2, 3, 5, 8, 10-17]
5. Reduce service duplication[1, 4, 6, 11, 12, 15]
6. Save a failing institution[7, 17]
7. Expand access to care[2, 11, 16] or,
8. Provide adequate specialist care[11] and improve the quality of care.[1, 2, 7, 13, 14, 16, 18, 19]

The quantitative primary literature included reveals that there were two types of entities involved in a merger, the dominant (the acquiring, or largest) institution and the smaller (or acquired institution(s)), and employees' reactions varied depending on whether they were members of the larger or smaller institution.[20, 21] The employees in the larger institution (usually the acquiring institution) were more likely to be more positive about the merger.[9] These findings imply that the larger institution may dominate the new institution's culture unless proactive interventions are put in place to develop an agreed vision, values, processes and procedures (culture).

In the literature, the employees' reactions to a merger or takeover varied depending on the rationale. The employees at merging institutions were more likely to be predisposed to the planned merger if they perceived that the new institution provided job security or improved the quality of care. Employees were generally more negative towards mergers or takeovers with a commercial objective. These data imply that the rationale for a merger needs to be clearly stated and justified.

Wallace *et al.*[22] examined corporate culture in four main areas: performance, human resources, decision-making and relationships. They reported that prior to the merging of two hospitals there were 10 statistical differences between the two groups and one year after the merger there were four differences; this led them to conclude that there was some convergence of cultures one year after the merger in the two hospitals, but staff from the smaller hospital perceived some losses.

Quantitative studies

The quantitative literature includes two types of studies. The first type is studies with analysis of primary data which were collected specifically to examine some aspect of mergers. The second type is studies which undertake an analysis of routinely collected data to examine variables related to hospital mergers. This latter type is often referred to as secondary data analysis. The aspects of hospital mergers that are examined in the quantitative literature differ somewhat depending on whether the study uses primary or secondary data. The primary quantitative studies examined organisational culture and integration; the emotional and health impacts of the merger on staff; issues concerning job satisfaction; requirements for a successful merger; and issues relating to management procedures and change. The quantitative literature using secondary data analysis mainly examined topics such as hospital performance and efficiency, and quality of care. It is important to note that some of the indicators used to measure change in overall hospital function are described as indicators of 'quality of care' by some authors and 'hospital performance' by others, and indeed it is fair to say that some indicators measure both aspects, e.g. waiting times and cancellation of planned surgery. We have tried as much as possible to group similar indicators together, having read them in the context of the study. We will first summarise the findings from the quantitative studies, beginning with those from primary data analysis and followed by those from secondary data analysis.

Quantitative primary literature

The quantitative findings are summarised under six topics that were developed and identified from studies included in this review: successful merger, hospital performance, quality of care, culture, job satisfaction and staff experience.

Successful merger

One of the questions posed in this review is 'How are successful mergers between hospitals defined and evaluated in the research literature?' The studies included in the review do not provide a definition of a successful merger and there is a general lack of consensus between authors as to what constitutes success. However, it was possible to identify from the included studies the key reasons why mergers were initiated and, subsequently, the measures used to evaluate hospital mergers. We therefore infer from the studies that these variables can be treated as proxy indicators of a successful merger when they show positive results. These variables include reducing costs,[1-9] increasing efficiency,[1, 2, 5, 11, 12, 14, 15, 19] reducing duplication,[1, 4, 6, 11, 12] increasing productivity,[2, 3, 5, 11-16, 30] increasing quality of care,[1, 2, 7, 13, 14, 16, 18, 19, 30-32] increasing number of services and access to services.[2, 7, 16, 30-32] The quantitative literature also indicates that the most consistent staff requirements for successful mergers were clear communication, participation, autonomy in practice, respect, trust and parity in pay.[17, 31, 33, 34] The remainder of this section summarises data from the included studies that evaluated hospital mergers. The data are presented under the broad domains of hospital performance, quality of care, culture, job satisfaction and staff experience, which captures the variables outlined above as measures of success.

Hospital performance

There was only one primary quantitative study that reported on hospital performance. Gering *et al*.,[30] in a before-and-after study, examined three domains as measures of hospital performance improvement: quality, *access* to care and job satisfaction. Quality of care measures from this study are discussed under the heading *Quality of care,* below. As a measure of hospital performance, the authors examined access to care and this was

determined by measuring *outpatient waiting times and inpatient bed occupancy rates* during the six-month time periods before and after the merger. The average occupancy rate decreased marginally in the month of the integration and increased marginally in the six months after the move, leading the authors to report that the access to inpatient care of the merging institutions was maintained during and after integration. Also, no significant change in outpatient clinic volume or time to receive an appointment was identified post-integration.

Quality of care

There were three primary quantitative studies that used measures of quality of care. **Ahgren**[7] assessed the quality of care using the Donabedian model (structure, process and outcome) and reported only a moderate increase if the quality of care was experienced ten years after the merger. This finding was based on the opinions of the employees who were asked questions about quality of care in a postal survey ten years after the merger.

Kinn *et al*.[31] reported that there was no change in the high quality of the service provided, but this assessment is based on client and staff opinion.

Gering *et al*.[30] reported that the quality of care (as measured by the number of *falls* and the incidence of *hospital-acquired infections*) remained the same during the six-month time periods before and after the merger. However, there was an improvement in quality of care as measured by the rate of operating room (OR) procedures cancelled. The number of *cancelled cases* decreased significantly in the six months after the move compared with the number in the six months before the move. This is likely to be due to improved patient flow process management.

Culture

The primary quantitative literature indicates that staff culture in larger institutions differs from staff culture in smaller institutions. Smaller institutions tended to have better team work, a willingness to help each other out and a lesser focus on process and procedure.[21, 33] Larger institutions are more likely to specialise, work in silos and have highly developed processes and procedures.[21, 33] These findings imply that a newly merged institution may wish to use the combined strengths of both institution types.

Job satisfaction

Lim[35] identified nine mergers of acute and mental health hospitals during the financial years 2009/10 and 2011/12. The mergers in these cases were takeovers of failing institutions by NHS foundation trusts. The author identified independent variables contributing to staff job satisfaction during mergers, which were: autonomy (ability to contribute towards improvements and being trusted to do one's job); organisational staff support (support from supervisor and equal opportunities); perceived quality (satisfaction with quality of work); organisational staff support (good communication with managers and good quality appraisals); job clarity (having clear goals and objectives for one's job, and an awareness of one's own responsibilities); and working in a mental health hospital compared to working in acute general hospitals. The author also identified independent variables contributing to 'work tension', during mergers and all these variables were negative predictors of job satisfaction, with the strongest negative predictor being harassment from colleagues.[35] There was a transient increase in job satisfaction score among staff immediately before and after merger approval. In contrast, the scores in other time periods were not significantly different from the baseline three years earlier.

Another fact that emerged from the quantitative literature is that the staff's reaction to a merger situation is different before the merger (time 1), at the time of the merger (time 2), and sometime after the merger (time

3). Gulliver *et al.*[36] reported that there were significant decreases in role clarity and job satisfaction between times 1 and 2 and times 1 and 3. In addition, there were significant increases in some of the measures of burnout over the same two time periods. No significant differences were detected for the personal accomplishment and professional identification scales over the two time periods. Linear regression revealed that low team clarity, low team identification, emotional exhaustion and male gender explained or accounted for the decrease in job satisfaction.

A study by Idel *et al*.[37] showed that no differences in self-efficacy and emotional reactivity were found between the two groups of nurses at time point 1. At time point 2, there was no difference in burnout, feelings of stress, or lack of energy among the three groups of nurses (including one new group of controls), and there was no difference in feelings of growth or satisfaction between the two study groups (excluding the controls). However, the nurses who transferred to the agreed site showed a significantly higher level of emotional stress than the nurses who were already working at the agreed site.

Staff experience

Many of the quantitative primary studies examine staff experiences during a merger by the use of questionnaire surveys of staff, some of which were administered at one time point and some at two or more time points. Some have comparators and some use mixed methods. While the focus of the questions varied in the surveys, and different methods were employed, a number of issues emerged. The staff involved in mergers experienced a number of emotions including: a sense of loss for their former institution, a sense of loss of status, loss of autonomy and fear of the unknown.[20, 22, 34] They also experienced higher levels of stress[37] due to job insecurity, job pressure or work overload, lack of role clarity and lower job satisfaction.[8, 17, 22, 35-38] Staff expressed a wish for involvement, empowerment and participation during the merger process.[17, 20, 33, 34] The psychological effects of restructuring are linked with perceptions of low information and participation, and with negative outcomes.[17] The authors suggest that managers, therefore, need to communicate information and encourage staff to participate in decisions about restructuring events.[17] In another study,[8] findings indicate that nurses from the acquiring hospital demonstrated a significantly greater commitment to the new system than nurses from the acquired hospitals, and a moderate level of commitment reflected uncertainty of job status, work overload and feelings of lack of appreciation. The research notes that this can result in low commitment and loyalty to the acquiring or newly merged institution.[8] Other research studies indicate that two important merger implementation barriers are 'buffering' and 'loose coupling' due to professional bureaucracy.[10] Buffering is where senior clinical leaders appear to accept the merger but protect their health professional practice from the change by isolating the merger management or distancing their team from management. Loose coupling is where different health professional groups appear attached within a formal organisational structure but retain their own operational identity and separateness, in order to prevent general management intervention. These findings highlight some of the barriers or impediments to a merger that staff may put in place.

Quantitative secondary literature

Hospital performance

There were five secondary data analysis studies that examined the effect of a merger on hospital performance but monitored varying measures of hospital performance such as access (e.g. *bed occupancy, patient contacts*) or other outcomes (mean length of stay, technical efficiency, case mix severity, volume of discharges, services offered, productivity, cancellation of planned surgery and clinical complexity). These outcomes using secondary data were commonly examined using large study populations.

Alexander *et al*.[12] examined the occupancy rate before and after a merger and compared it with that of non-merged hospitals between 1980 and 1990. They found that the mean (average) *occupancy* decreased post-merger when compared to pre-merger, but mean occupancy was higher than in comparison non-merger hospitals.

Crawford *et al*.[13] reported on a number of hospitals involved in mergers in Philadelphia. Two of these hospitals (Medical College of Pennsylvania and Hahnemann University Hospital), which were acquired by a for-profit venture, experienced a steep decline in the *volume of discharges.* One hospital (Jefferson) in the area experienced a sharp increase in the volume of discharges and two other hospitals (Temple and Hospital of the University of Pennsylvania) showed a smaller increase in volume. *Case mix severity* increased for three of the hospitals (Medical College of Pennsylvania, Hospital of the University of Pennsylvania and Temple University Hospital) and the other two hospitals had no change (Hahnemann University Hospital and Thomas Jefferson University Hospital) in their case mix severity. Only the Hospital of the University of Pennsylvania had a significant reduction in *mean length of stay.*

Kjekshus and Hagen[3] defined *technical efficiency* as the cost of each staff person-year for physicians and other employees as well as the costs of medication and consumable medical equipment. They reported that, in general, mergers of acute general hospitals in the short and medium term showed no significant positive effect. However, positive effects on technical efficiency were found in one merger where more hospitals were involved, and where administration and acute services were centralised. The authors based their findings on seven hospital mergers between 1992 and 2000, and concluded that large mergers involving radical restructuring of the treatment process may improve efficiency as intended, but most mergers do not.

Sinay and Campbell[15] compared the operating performance of merged and non-merged local hospitals during the late 1980s and early 1990s and found that merged hospitals had a 40% lower number of *services offered* and an 8% higher *occupancy rate*.

Ingebrigtsen *et al*.[16] documented the experience of merging three hospitals into one university hospital under the health enterprise strategy in Norway between 2006 and 2011. Following this merger, in 2007 the board launched a major project for restructuring with specific aims for improvement. The study presents the analysis of prospectively collected data taken from several routinely collected data sources from the first four-month period of 2006 through the first four-month period of 2011. When exploring the indicators, Ingebrigsten *et al.* examined these in two patient groups in the mental health sector and the somatic (acute) health sector. They found that the number of *patient contacts* in the somatic sector remained relatively stable. In psychiatry and specialised cross-disciplinary addiction therapy, the number *of adult patient contacts* increased. *Productivity* (*based on diagnostic related groups points per employee-month*) also increased. Measures such as waiting times and cancellation of planned surgery, which can be seen as both indicators of performance and quality, are discussed under the heading '*quality of care'* below.

Harrison and McDowell[5] examined the operational performance of 66 hospital mergers between 2000 and 2002 prior to and after merger, and found that merged hospitals were *larger in size* and had *greater clinical complexity as measured by increased services*. In addition, the authors found that merged hospitals had higher *occupancy rates, lower return on assets, and older facilities.*

Kinn *et al*.[31] used both primary data and routinely collected data in a mixed methods study design to conduct a before-and-after study. As a measure of performance, they studied *patient contacts* with the service. They reported that there was a 6% increase in the number of new clients using the service following the merger and an increase in referrals between services involved in the merger.

Overall, the findings on the effect of a merger appear to be divided, with some of the research indicating some improvement in performance and some appearing to show deterioration in performance. It is possible that the reason for the merger influenced the outcomes from the merger.

Quality of care

There were a number of secondary data analysis studies that examined the quality of care in merged institutions compared with non-merged institutions on a before-and-after basis.

Crawford *et al.*[13] reported that there was no significant change in inpatient *mortality rate* at the five medical schools hospitals in Philadelphia and its surrounding counties in the United States following takeover of two of the medical schools by for-profit institutions in the late 1990s, even though illness severity had risen significantly in three of them. From this we could conclude that there were no adverse effects on mortality caused by the consolidations and acquisitions in the Philadelphia area.

Cuellar and Gertler[1] used longitudinal data to study how joining a system changes hospital behaviour and found that it had no effect on inpatient quality as measured by rate of *inpatient mortality, rates of procedures considered overused and patient safety indicators.* The study found little or no effect of systems on inpatient quality. They concluded that system formation in Arizona, Florida, Massachusetts and Wisconsin between 1995 and 2000 has primarily served to increase influence in the healthcare market and not improve quality of care or hospital efficiency, at least in the short term.

Ho and Hamilton[18] examined indicators of quality of patient care using *inpatient mortality* (heart attacks and strokes), *readmission rates* for heart attack patients and *early discharge of newborns*. They found that merging hospitals in California between 1991 and 1995 had no tangible effect on inpatient mortality for either heart attack or stroke, but when readmission for myocardial infarction was used as a quality measure, mergers do have a detrimental impact on quality. Hospital mergers increased the probability of early discharge for newborns.

Hayford[14] examined the inpatient statistics for all individuals with a chronic or acute diagnosis of ischaemic heart disease for 40 mergers in California between 1990 and 2006 in a before-and-after merger study. They found that treatment intensity (measured by the percentage of patients receiving bypass surgery or angioplasty) increased, but not quality of care (measured by the likelihood of receiving *treatment within one day*) and *inpatient mortality.*

Gaynor *et al.,*[2] in a more recent study-based experience of mergers in England, examined quality indicators pre- and post-merger, and reported that there was no evidence of improvement in quality in merged hospitals, but there were some signs of disimprovement. *Waiting times* increased, and there were poorer outcomes from stroke. In addition, there were higher fatality rates post-discharge, as well as higher rates of readmission.

Perez[19] examined the association between *readmissions* of pneumonia cases and acute myocardial infarction (AMI) patients to Ontario hospitals in 1998/99 and found that pneumonia patients in recently merged hospitals had a lower probability of dying compared with such patients in other hospitals; in addition, reductions in mean length of stay were not associated with in-hospital deaths.

Ingebrigsten *et al*.,[16] when exploring quality indicators, examined these in two patient groups, one in the mental health sector and the other in the somatic (acute) health sector. With regard to somatic disorders, the *waiting*

times increased over the time of the study period, but declined in the final measurement period. However, there is no comparator and no indication on the level of referrals versus patients seen. They also discuss a number of specific quality indicators, including *cancellation* of planned surgery, the proportion of patients with *fractured neck of femur* operated on within 48 hours, the *Caesarean section rate* and the proportion of *corridor patients*. The number of cancellations of planned surgery declined and it is reasonable to assume that this may be as a result of improved patient flow management. There were no clear-cut trends over time from the other indicators, with no evidence of improvement or disimprovement during the restructuring period. With respect to patients in psychiatric units, their waiting times were unchanged at approximately 50 days or shorter. The proportion of corridor patients perhaps reflects more on hospital performance that the quality of care, but the author has considered it as a measure of quality of care.

The combined findings of these studies indicate that quality of care, in many cases, remains the same before and after the merger. In a small number of cases quality of care improved, but usually the improvements were thought to be due to factors other than the merger. In a few cases the quality of care was judged to have declined.

Job satisfaction, staff levels and sickness leave

Ingebrigtsen *et al*.[16] documented the experience of merging three hospitals into one university hospital under the health enterprise strategy in Norway between 2006 and 2011, and found that 81% of the hospitals' employees were satisfied with their jobs after the restructuring. However, staff satisfaction before the merger was not reported and there was no comparison group.

Kjekshus *et al*.[39] examined the effect of mergers on long-term sickness absence among hospital employees in Norway between 2000 and 2008 and found that mergers have a significant negative effect on employee health that should be taken into consideration when deciding to merge hospitals.

Four studies examining mergers in England[2] and the United States[11, 12, 15] reported a reduction in permanent staff numbers and an increase in temporary staff numbers. The main categories of staff affected were administrators and nurses.

Qualitative studies

Synthesis: Descriptive themes

Figure 1 Three stages of thematic synthesis

The data extracted from the studies using line-by-line coding (Appendix 2) were analysed using cross-case comparison, similar to an approach used in Grounded Theory. This meant that we went through all the codes identified by line-by-line coding and sought out relationships between codes. From this exercise we developed six descriptive themes (Table 2). The next stage of the analysis (the third stage) involved developing these descriptive themes into analytical themes which will speak directly to the review questions and identify the barriers and facilitators of hospital mergers? The views expressed in the 18 studies included in this synthesis are overwhelmingly the views of nurses, physicians, clinicians, human resource personnel and allied health professionals. In some cases, individuals among these groups held management positions, i.e. managing a clinical department. The views they expressed regarding their experience of a merger were overwhelmingly about senior management or individuals in a senior position whose primary role was to implement the merger. We have elected to call the nurses, physicians, clinicians, human resource personnel and allied health professionals 'hospital staff' and in some cases we call them 'staff'; we refer to individuals in a more senior role as 'senior management'. We acknowledge that it is unlikely that both groups are completely homogeneous in profile, and that management and seniority may overlap in some cases, however small in number these may be. Nonetheless, what is clear from the studies in this synthesis is the distinct division of roles and responsibilities between both groups during a merger, and it is the nature of this distinction that underpins the data that form this synthesis.

Table 2 Output from second stage of thematic analysis: six descriptive themes

Descriptive theme	Number of studies contributing data to this theme
Staff participation	9
Management	14
Communication	12
Culture	13
Emotional impact	7
Professional impact	10

Theme 1: Staff participation

Hospital staff in nine studies criticised the nature and extent of participation in the merger process (Hendel;[40] Rosengren *et al*.;[41] Roald and Edgren;[42] Engstrom *et al*.;[43] Shaw;[44] Jones;[8] Cortvriend;[45] Mallon[46] and Choi *et al*.[47]). Staff were of the view that active participation in, and having influence on, the different stages of the change process were vital to engage and motivate staff during a merger. Staff who had experience of actively participating in a merger expressed faith in the process and talked about the positive opportunity that being involved in planning and developing new activities brought to them. On the other hand, staff who experienced less participation in the same merger were doubtful about achieving positive outcomes, were anxious about the outcomes, and expressed a lack of faith in the process.[41] The study by Choi *et al.*[47] provides a useful insight into the benefits of staff participation in a merger. This study compares and contrasts the different approaches taken by two different senior managers to clinical integration within the same hospital merger. Both managers were given the same mandate: develop new structures and reduce costs. However, only one of the managers encouraged active participation by their staff to develop their own proposal on how to implement the directives. In response to the invitation, the staff proposed an incremental approach, using a unified management structure which was formally approved and adopted by their manager; this meant they felt involved and valued, and were motivated to implement their plan, which eventually achieved clinical integration of their departments. In contrast, the other senior manager adopted a top-down approach and did not encourage active participation by clinical staff; this approach failed to achieve clinical integration.

Even when staff were invited by senior management to participate in the merger process, they believed this invitation was merely a tactic. They felt they had no real influence on the process and tended towards feigning acceptance and becoming indifferent.[42] Hospital staff in another study also spoke about being invited to meetings related to the merger, which they felt were a waste of time – decisions were made beforehand and any concerns voiced by staff were not heeded. This experience contributed to staff feeling disempowered and undervalued.[45] These staff were very vocal in their critique of what they perceived to be inadequate decision-making; they spoke about decisions made higher up in the organisation and in government, which they felt were merely arbitrary and lacked strategic thinking. They expressed the view that employees feel disempowered when not involved in decision-making and staff feedback should be listened to and acted upon; overall, they had seen little improvement in services since the changes – some had seen a slight deterioration in services. Hospital staff in another study were also critical about decisions pertaining to a merger being made behind closed doors. According to Mallon,[46] such secret negotiation was 'an affront to academic culture while accepted as part of the corporate mentality of confidentiality …' (p1101). This lack of involvement in the process of change led to many individuals among hospital staff feeling they were blindsided.

Staff in another study felt that senior management did not trust them or respect them during the merger process and their participation was not welcomed. They talked about feeling abandoned and invisible, with no opportunity to influence events. They expressed the view that human dignity and respect for each other would have made for a positive outcome and that if hospital staff are not acknowledged or given the chance to influence their work they could leave.[43]

Most members of staff in the studies reviewed here indicated their preference for active participation in the merger process; in the words of Jones[8] '… they do not want to be bystanders to the process of change; they want to be active participants in developing a new culture'.

Theme 2: Management

Criticism of senior management and the approach they took to implementing a merger featured in 14 studies (Hendel;[40] Rosengren *et al.*;[41] Engstrom *et al.*;[43] Shaw;[44] Fulop *et al*.;[48] Kitchener;[49] Mallon;[46] Jones;[8] Cortvriend;[45]

Fulop;[50] Goddard and Palmer;[51] Choi *et al.*;[52] Salmela *et al.*;[53] and Choi *et al*.[47]) In these studies, the authors did not always make explicit what the composition of the management team was. For example, the management team could have included personnel with a business background, a medical background or a health services background. However, what was clear in all of the studies was that reference to management meant reference to people in positions of either making or implementing key decisions pertaining to the merger, i.e. senior management. It was the nature and extent of these decisions that very often formed the basis of the criticism of senior management by other staff.

In the 2002 study by Engstrom *et al*.,[43] staff expressed a lack of trust in the competence and ability of senior managers to manage the merger and to make correct decisions. Senior managers were perceived to lack clear and strong strategies to carry through the merger and make the merger understandable; even though staff were willing to cooperate with the merger process, they felt this was not reciprocated or matched by managers' ability to coordinate personnel and resources. A lack of trust in senior management was also expressed by participants in the 2003 study by Jones,[8] as staff believed that management's priority was to save money; staff indicated that trust in management would improve if management showed interest in the staff. Participants in the 1999 study by Rosengren *et al*.[41] pointed out that senior management failed to encourage cooperation between the merging hospitals, which contributed to a 'them and us' way of thinking to emerge.

Members of hospital staff in two studies led by Fulop[48, 50] were critical of senior management for losing focus on delivering services; staff were of the view that this loss of focus compromised patient care. In particular, staff talked about service developments being delayed by up to 18 months as a result of senior management underestimating the timescale and effort involved in the merger process. Staff also talked about senior managers becoming remote from staff and cut off from the services they were managing; it was the experience of staff that managers did not devote enough time to their staff, an experience also expressed by participants in the 2010 study by Goddard and Palmer.[51]

Senior management was criticised in the 2002 study by Kitchener[49] for irrational decision-making and for relying on the influence of external consultants. Kitchener documents how initial discussions between senior executives of two financially troubled academic health centres began in secret, an activity frowned on by other hospital staff. Senior executives then hired a firm of management consultants to advise on possible options. Shortly afterwards, according to staff, the notion of merger developed a life of its own. When a second firm of management consultants was brought in to advise on the financial and legal implications of the merger, consideration of organisational barriers was omitted from the consultants' terms of reference. Members of staff who participated in the study pointed to the lack of consultation with physicians and other staff; consequently, when the merger was announced, it provoked anxiety and suspicion among physicians and other staff groups. The failure of senior management to consider organisational barriers to the merger, coupled with senior management's inadequate consultation with physicians and other staff, was seen as contributing to the eventual dissolution of the merger.

Staff in the 2002 study by Shaw[44] were also critical of what they regarded as a controlling, tight-knit management group at the top, and a gap between executive directors and operational managers. Symptomatic of this gap was a perception that decision-making was done very slowly, if at all. Senior management was perceived as being ultra-conservative, and staff talked about growing differences between operational divisions characterised by fragmentation and dysfunction. Some staff stated that they had witnessed a collision, not a merger.

In 2011 Choi *et al.*[52] provided a unique insight into the dynamics of managing a merger. The authors spoke with senior management representatives involved in the post-merger process of the Karolinska University Hospital

merger in Sweden. The purpose of this paper was to illuminate the interplay between the change efforts initiated by senior management and their understanding of the evolving process. Choi *et al.* argue that management can get trapped into a false sense of security when initial targets are achieved. For example, in this case, the director persuaded medical professionals to join with members of the corporate management team to form an executive team to lead the change process. However, this union did not last long, and what appeared to be an initial success came under pressure when resentment by clinical staff against cost-cutting exercises, and what was perceived as inadequate participation, began to emerge. Clinical heads soon expressed concern that the quality of patient care could be compromised, and they began to express their lack of faith in the economic goals of the merger. This unease among the clinical ranks filtered up to the physicians who were part of the management group; thus began the fracture of this group – between clinicians and those from a corporate administrative background. These changes in group dynamics among the executive management team reflected an increase in mistrust of executive management among clinicians in the wider workforce. However, it would appear that these changes were either not picked up on or they were ignored. Choi et al. point out that '…instead of adapting the working agenda to new conditions, management continued to implement planned changes using a top-down approach even though they met escalating resistance from the medical professionals…' p19.

Thus, subsequent efforts by senior management to proceed with further changes were prevented or delayed by the clinical staff. According to Choi et al. 'the division heads' support for activities and measures driven by business rationality began to crumble as they witnessed the frustration and disappointment of the clinical staff' p17. In the final analysis, Choi et al. conclude that '… the clash between professionalism and managerialism [the transfer of business practices into professional organisations] is a bigger issue in executive management than differences in organisational cultures…' p19. This leads the authors to conclude that '… a top-down approach by management is a risky strategy for achieving transformative change in the public healthcare sector…' p21

In another paper from the same study, Choi *et al.*[47] compare the approach taken by two different clinical managers to the integration of clinical departments during the merger. One manager adopted a top-down approach in which he used coercion and direct intervention with colleagues; the other manager adopted a bottom-up approach with staff, seeking their voluntary participation, and demonstrating respect for their operational autonomy. The clinical manager using the top-down approach failed to achieve clinical integration; in contrast, the bottom-up incremental approach was successful.

Resistance to top-down management style also featured in the 2004 study by Cortvriend[45]; staff members expressed the view that their experiences of autocratic management and leadership contributed to negative feelings and outcomes, whereas they felt that a more democratic management and leadership approach would produce positive feelings and outcomes. In addition, and reflecting the views in other studies cited in this section, staff were particularly critical when decisions which were seen as more arbitrary than strategic were made higher up in the organisation and in government.

Theme 3: Communication

Members of hospital staff complained about the poor levels of communication that they experienced in the merger process in 12 studies (Fulop *et al.*;[48] Cortvriend;[45] Lees and Taylor;[54] Choi *et al*.;[52] Jones;[8] Engstrom *et al.*;[43] Shaw;[44] Roald and Edgren;[42] Rosengren *et al.*;[41] Hendel;[40] Goddard and Palmer;[51] and Choi *et al.*[47]).

A lack of knowledge and of a clear understanding of the change process involved in the merger were experienced by hospital staff.[8, 41-45] This was mainly due to inadequate levels of communication between senior management and other hospital staff.[41, 42, 44, 45, 48, 51, 52] In cases where communication about the change process

in the merger was reported, there were mixed views on the quality of this engagement.[48, 54] Staff members in the 2004 study by Cortvriend[45] felt that the meetings they attended with management were a waste of time, as important decisions were made beforehand; they felt their concerns were not listened to, and this led to feelings of disempowerment. However, the nature and level of communication between different staff groupings within a merger can differ. For example, Choi *et al.*[52] report that communication between seniormanagement took place in face-to-face meetings whereas information communicated from top to middle-level management was through weekly newsletters, which was seen as inadequate.

The need for dialogue between parties to the merger featured in six studies (Jones;[8] Engstrom *et al.*;[43] Shaw;[44] Roald and Edgren;[42] Rosengren *et al.*;[41] and Hendel[40]). Staff expressed a clear desire to be kept informed about the change process involved in the merger through a form of dialogue and not through the didactic approach described in some of the studies.[40, 8, 43, 44] True and meaningful dialogue would secure active staff engagement in the merger; would contribute to a feeling of being respected and affirmed;[43] would help staff to feel more in touch with the change process;[8] would create genuine debate and more inclusivity;[44] would contribute to meaningful participation,[41] and would counter rumours and feelings of doubt and uncertainty.[42] The benefits of dialogue between senior management and staff are highlighted by Choi *et al.*[47] where they compare the different approaches taken by two different managers to clinical integration within a merger. One clinical manager felt that his ultimate responsibility was to comply with the directives of senior management in the hospital and pay less attention to the concerns and wishes of his clinical staff. In contrast, the other manager felt that he had equal responsibility towards senior management and the senior physicians within his clinical department. This meant that the latter manager who demonstrated equal responsibility, developed dialogue with his staff and worked towards a slow and gradual integration in tandem with their wishes; this approach proved successful in achieving clinical integration within a year, whereas the other manager failed to achieve clinical integration.

Theme 4: Culture

Hospital staff in 13 studies talked about matters pertaining to cultural differences in the mergers that they had experienced (Roald and Edgren;[42] Shaw;[44] Mallon;[46] Cortvriend;[45] Lees and Taylor;[55] Kastor;[56] and Fulop *et al*.[50]).

Staff spoke consistently about the differences in cultures between hospitals in a merger. In some cases, these were expressed as strong/sharp divisions and described as cultural collisions,[45, 56] parties fighting like "cats and dogs"[44] incompatible and impossible to change[42, 46] and a status clash.[56] These differences were manifested in different ways of working among staff and different relationships between senior managers,[45] different values and priorities, different attitudes to innovation and risk-taking and differences in preference to pursuing an outcome or process orientation,[50] differences in practices and policies,[54] differences in understanding each other's cultures[45, 56] and differences in organisational goals.[42] These differences would suggest that there are many layers/dimensions to the construct of culture. The 2003 paper by Mallon[46] is useful in helping to unpick the construct of culture. Mallon's position is that at the heart of cultural divisions between merging organisations is a fundamental lack of understanding of the different layers of culture in organisations. For example, in the study by Mallon, both organisations had similar mission statements but gave different priority status to different areas of their mission, e.g. prioritising research over patient care, and prioritising education over research. This position, according to Mallon, equates to different organisations having similar 'cultural artefacts' (mission statements), but does not equate to having similar underlying assumptions. Indeed, according to Mallon, the failure to identify underlying assumptions in both parties means that these taken-for-granted beliefs are rarely questioned, never debated and nearly impossible to change. These assumptions tend to be about self and the other; one entity can believe they are individualistic and see the other as conformist and rules driven. On another level, both organisations expressed similar values, with both claiming to value

participatory management, but enacting this value differently. Mallon points out that similar espoused values only predict what people will say are their values, but can be out of line with what they actually do.

The cultural clash that occurred between NYU faculty and Mount Sinai in the paper by Kastor[56] is a good example of how the underlying assumptions that Mallon[46] talked about can lead to a merger failure. According to Kastor, the NYU faculty saw themselves as superior academics to those of Mount Sinai, and the Dean of NYU saw merging with Mount Sinai as 'merging down'. Failure to merge the medical schools of Mount Sinai and NYU was announced after seven months of effort.

Staff members talked about the mutual suspicion that they experienced in the merger.[40, 41, 42, 44, 50] Staff from the merging hospitals expressed mutual fear that they would be taken over by the other hospital and talked about a 'them and us' culture emerging.[42, 44, 40, 41, 50] When the new senior management structure was dominated by parties from one former trust, this led to feelings among staff of being taken over,[44, 50] while in another case, management failed to make the case for cooperation between the hospitals.[41] Such cultural distance between the merging hospitals made it difficult for staff to establish new working relationships,[40] leading to insufficient solidarity among employees;[41] in some cases, staff worked hard to maintain their own cultural characteristics and their identity[40, 42] and others divided their loyalties between their old hospital culture and the merged entity.[8] Staff talked about there being no meeting of minds and how both sides acted to obstruct and prolong the change process.[40, 42] In the failed merger reported by Kitchener[49] in 2002, a senior member of staff was happy to proclaim that the separate identities of both entities to the failed merger had been maintained, indicating that little effort was made to bridge these cultural divisions during the attempt to merge both entities.

In one particular case study there was a failure by executive management to implement a merger, as mutual mistrust had developed between two CEOs coming together in a merger. Mallon[46] reports that the two CEOs failed to work together; there was a personality clash, as one CEO carried a presumption of academic superiority, whereas the other CEO was seen as more of a businessman than an academic by the clinical leaders and faculty in one system. Neither leader was accepted by the other campus, which led to dysfunctional leadership. Staff also talked about strong leadership being required and that weak leadership can contribute to incomplete integration.[40]

Theme 5: Emotional impact

Hospital staff in seven studies highlighted the emotional impact they experienced through the merger process (Hendel;[40] Roald and Edgren;[42] Engstrom *et al*.;[43] Shaw;[44] Fulop *et al*.;[48, 50] and Cortvriend[45]).

On a personal level, staff spoke about experiencing stress and separation,[40] individual insecurity,[42] not being trusted and not respected by senior management,[43]uncertainty and worry about new structures and appointments, and shock when unforeseen change occurred; grief and outrage when friends and colleagues were not retained in the roles they held prior to the merger and when staff from the 'other' hospital were placed in these roles; this was often perceived as a 'take over'.[44] Hospital staff involved in mergers in the UK expressed unease at the frequent threat of change that predominated in the NHS, which contributed to anxiety and resignation among staff. They also talked about the personal distress they experienced when not knowing where people would be placed in the new merger; they emphasised that the job itself of looking after patients can help staff to feel valued.[44, 45, 50, 48]

Theme 6: Professional impact

Hospital staff in 11 studies highlighted the professional concerns they experienced through the merger process (Hendel;[40] Rosengren *et al.*;[41] Roald and Edgren;[42] Engstrom *et al.*;[43] Shaw;[44] Fulop *et al*.;[48, 50] Cortvriend;[45] Lees and Taylor;[55] and Kastor[57]).

On a professional level, staff expressed concern at the increased workload that often accompanied a merger, frequently with a reduced workforce.[40, 41, 50, 48, 54] The threat to professional autonomy, status and identity during a merger concerned many members of staff in a number of the studies.[40, 42, 45, 48, 57] In the study by Kastor[57] the failure to merge the two hospitals of Mount Sinai and NYU was primarily attributed to forces on both sides forming intense opposition to the merger, as neither wanted to yield autonomy to the other side. In the case of the UK, some nurses and physicians were quite vocal about what they perceived to be the main impact on their professional autonomy and status arising from the merger. Their resistance to engaging in the merger was based on their belief that they were no longer regarded as medical professionals; they talked about detachment and seeking alternative employment and the following quote from one participant encapsulates this sense of being de-professionalised: *'the effect of the merger is indicative of the way the NHS is being run down, and staff are being forced to be civil servants and being told what to do...it is not what I expected from medicine.' p219*[44]

Nurses in the study by Engstrom *et al.*[43] talked about their commitment to the nursing profession, as this connection provides support and the motivation to continue working; they expressed the view that belonging to a profession bestows identity. However, nurses also said that prioritising professional interests could be an obstacle to cooperation in the merger.

Hospital staff expressed strong feelings of obligation and loyalty to the primacy of patient care during the merger.[42, 43, 44, 45] They also recognised that the merger brought opportunities for developing new activities[41] to use staff knowledge to learn new ways of working[43] having a new challenge from work[44] and opportunities for learning and sharing good practice.[50]

Synthesis: New analytical themes

According to Thomas and Harden[23] 'The final stage of a thematic synthesis is generating analytical themes. These themes usually take the synthesis "beyond" the content of the primary studies, offering new conceptualisations and explanations…' p197

The six descriptive themes above capture the main areas of concern raised by participants in the studies arising from their experience of a merger. In describing these six themes we kept close to the data and the context of the studies. For the next stage of the process, developing analytical themes, we addressed each of these six themes with the following question: What does this theme say about the barriers and facilitators to merging hospitals?

Arising from this stage of analysis, we were able to develop five analytical themes which go some way to establishing a response to the review question (see Table 3). To assist in the interpretation of these themes, we also developed a 'line of argument' for each theme that helps to identify the barriers and facilitators to a hospital merger. In some cases, we were able to combine data from two descriptive themes to develop an analytical theme.

Table 3 A thematic synthesis of the views and experiences of hospital staff during a merger: descriptive to analytic themes

Descriptive theme	Analytic theme
Staff participation Communication	Excluded from active participation and dialogue
Management Communication	Distanced from decision-making
Emotional impact Professional impact	Occupational and professional limbo Prioritising the primacy of patient care
Culture	Conserving pre-merger culture

Exclusion from active participation and dialogue

[The implementation of hospital mergers is hindered when hospital staff are excluded from active participation and dialogue.]

Mergers between hospitals are hindered because hospital staff want real participation in decision-making during the implementation phase. In the studies reviewed in this synthesis, hospital staff resisted partial participation when they perceived it as a tactic,[42] a waste of time,[45] when they knew decisions were already made[46, 49] and when their views were not welcome or respected by senior management.[43] Partial participation was resisted and treated with indifference and feigned acceptance[42] and caused staff to feel disempowered and undervalued,[45] abandoned and invisible.[43] Partial participation led to doubts and anxiety about the nature of decisions taken by senior management, the impact on quality of care for patients, the distribution of work and resources, and the development of solidarity among employees.[41]

[Participatory dialogue between hospital staff and senior management can facilitate the implementation of a hospital merger.]

The merging of hospitals could be facilitated if hospital staff were better informed about the change process through dialogue.[8, 43, 44, 42, 41, 40] Dialogue would secure active staff engagement and a feeling of being respected;[43] would help staff to feel more in touch with the change process;[8] would create genuine debate and more inclusivity;[44] would contribute to meaningful participation[41, 47] and would counter rumours and feelings of doubt and uncertainty.[42]

Distanced from decision-making

[The implementation of hospital mergers is hindered when hospital staff are distanced from influencing decisions.]

Mergers between hospitals are hindered when hospital staff are kept at a distance from the decision-making pertaining to the implementation of a merger. According to the accounts of hospital staff in the studies included in this review, senior management prevented them from influencing the decision-making phases of a merger. This created mistrust on the part of staff and also created doubts that senior management would make the correct decisions for the merger.[43] Hospital staff indicated that senior management needed to encourage cooperation between the merging hospitals;[41] prioritise the quality of patient care;[48, 50] speed up the process of the merger;[44] identify organisational barriers to the merger,[49] and bring senior management and staff closer

together.[51, 48, 59, 8] If staff were included in decision-making, the issues presented above are the priorities they would want senior management to address. Hospital staff resisted the notion of a top-down management approach[45, 52, 44, 49] where key decisions were made at a distance and staff had little or no influence;[42,43] where staff concerns were ignored[45] and staff had no influence over their own work.[43]

[The implementation of hospital mergers is facilitated when senior management are less remote from hospital staff.]

The merging of hospitals could be improved if senior management were less remote from staff and instead displayed a genuine interest in using the views and experiences of staff.[41, 51, 48, 50, 8] Staff would prefer a more democratic management and leadership approach, which could ultimately improve the outcomes of a merger.[45, 47]

Occupational and professional limbo

[The implementation of hospital mergers is hindered when the emotional and professional pressures on hospital staff threaten their professional identity.]

The successful merging of hospitals is threatened when non-executive staff are under emotional and professional pressure. In this synthesis, hospital staff when engaged in a merger talked about experiencing stress and separation,[40] insecurity,[42] lack of trust,[43] uncertainty and worry,[44] with resignation a common experience.[44, 48, 50, 45] These emotions are closely related to the professional pressures raised by participants regarding their frustration with an increased workload and concomitant reduction in numbers of work colleagues;[40, 41, 48, 50, 55] management's dismissal of, or attack on, their professional autonomy, status and identity,[40, 42, 48, 45, 57] and the belief that they were being redefined as civil servants. These threats to professional identity and autonomy, whether perceived or real, are likely to engender feelings of insecurity, anxiety, stress and, ultimately, resignation. When taken together, these experiences indicate that, on the one hand, these are professional people but, on the other hand, they appear to lack sufficient status to exercise autonomy and implement professional standards. In essence, these people are suffering from occupational and professional limbo, a condition characterised by professional uncertainty and emotional turbulence.

Prioritising the primacy of patient care

[The implementation of hospital mergers is facilitated when the primacy of patient care is emphasised and hospital staff can reclaim their professional caregiver status.]

The occupational and professional limbo experienced by hospital staff during the merging of hospitals can be reversed, and the successful merging of hospitals facilitated, when the primacy of patient care is emphasised during a merger. Hospital staff want to encourage the primacy of high-quality patient care through maintaining their professional autonomy and their profession's standards of care. Despite the overwhelmingly negative experiences narrated by the staff in this synthesis regarding their experience of how mergers are implemented, they also pointed out that they still found meaning and value in their work when caring for patients during the process of merger implementation. For example, they emphasised that the task of looking after patients can help staff to feel they are valued.[44, 48, 50, 45] They expressed strong feelings of obligation and loyalty to the primacy of quality patient care during the merger.[42, 43, 44, 45] Staff had also seen potential in a merger to bring opportunities to develop new activities,[41] new working practices,[43] new challenges,[44] and new opportunities for learning and sharing good practice;[50, 51] these new innovations were intended to strengthen and improve the

quality of care delivered to patients. Taken together, these hopes and aspirations towards promoting the primacy of quality patient care during a merger can lay the foundations for meaningful staff involvement in facilitating the implementation of successful merger.

Conserving pre-merger culture

[The implementation of hospital mergers is hindered when parties to the merger fail to bridge the cultural divide.]

The merging of hospitals with different cultures can be hindered when there is an absence of organisational efforts to bridge the cultural divide or create a new agreed culture. When this occurs, hospital staff engage in conserving the parts of the culture they knew best prior to the merger – primarily in an effort to counter the fear of being taken over. Very often, they try to conserve the culture of the hospital they worked with immediately prior to merging. Efforts to conserve culture are manifest in a number of studies[40, 42] where staff worked hard to maintain their own cultural characteristics and their identity; in one study[8] staff talked about dividing their loyalties between their old hospital culture and the merged entity; in five studies[42, 44, 40, 41, 50] staff talked about a 'them and us' culture emerging, which would indicate that parties to the merger were keen to conserve their pre-merger culture.

Integration of findings to respond to the questions (Combined literature)

Definition and evaluation of 'successful' mergers (Sub-question 1)

One of the questions posed in this review is 'How are successful mergers between hospitals defined and evaluated in the research literature?' The studies included in the review do not provide a definition of a successful merger and there is a general lack of consensus between authors as to what constitutes success. However, it was possible to identify from the included studies the key reasons why mergers were initiated and, subsequently, the measures used to evaluate hospital mergers. We therefore infer from the studies that these variables can be treated as proxy indicators of a successful merger when they show positive results; for example, reduce costs,[1-9] increase efficiency,[1, 2, 5, 11, 12, 14, 15, 19] reduce duplication,[1, 4, 6, 11, 12] increase productivity,[2, 3, 5, 11-16, 30] increase quality of care,[1, 2, 7, 13, 14, 16, 18, 19, 30-32] increase the number of services as well as access to services.[2, 7, 16, 30-32] These are the measures used to evaluate mergers in the literature and can be considered the descriptors of a successful merger.

The quantitative literature, however, shows that the most consistent staff requirements for successful mergers were clear communication, participation, autonomy in practice, respect, trust and parity in pay.[17, 31, 33, 34] The staff referred to here are mainly medical doctors, nurses and pharmacists, and are considered professional staff. These findings mirror the findings of the qualitative analysis regarding the views of hospital staff who are not members of the senior management team. The overall staff experience of a successful merger is very different from senior management or corporate expectations of successful mergers. Efforts are required to design a merger process that can achieve better management outcomes while using the expertise of professional staff and maintaining their morale.

Table 4 presents managers' and staff's indicators of successful mergers and demonstrates the different viewpoints.

Table 4 Successful mergers as defined by managers and staff

Defined by managers	Defined by staff
Reduce costs	Clear communication
Increase efficiency	Participation
Reduce duplication	Autonomy in practice
Increase productivity	Respect
Increase quality of care	Trust
Increase services	Parity in pay
Increase access to services	

Integrative synthesis of the qualitative and quantitative data on barriers and facilitators to implementing a hospital merger (Sub-question 2)

This integrative synthesis combines the five qualitative analytical themes which were developed using thematic synthesis with the findings from the quantitative literature. Since our five analytical themes are derived from our synthesis of the qualitative studies, and from these themes we constructed barriers and facilitators to implementing a hospital merger, it was necessary to compare and contrast these five themes with the findings from the quantitative studies. In order to do this, we posed five questions to assess the convergence of the quantitative and qualitative findings.

Q1: Is there evidence in the quantitative data to support or dispute the theme that hospital staff are excluded from active participation and dialogue during a hospital merger?
Data from four primary quantitative studies included in this review support the theme 'staff exclusion from participation and dialogue' during a merger. Hospital staff expressed a wish for active involvement, empowerment and participation in all phases of the merger process. In addition, as reported in five quantitative studies, among the most consistent staff requirements for successful mergers were clear communication and participation. Good communication with managers was reported to contribute to job satisfaction during a merger.

Q2: Is there evidence in the quantitative data to support or dispute the theme that hospital staff are distanced from decision-making during a hospital merger?
Data from four primary quantitative studies support the theme that hospital staff are distanced from decision-making during a merger. Some authors in these studies suggest that senior management could be more proactive in encouraging staff to participate in the decision-making process.

Q3: Is there evidence in the quantitative data to support the theme that hospital staff experience occupational and professional limbo during a hospital merger?
Data from the primary quantitative studies indicate that hospital staff involved in a hospital merger experienced a loss of status, loss of autonomy and a fear of the unknown. They also experienced high levels of stress related to job insecurity, job pressure or work overload, a lack of role clarity, and low levels of job satisfaction. These data are reported in nine studies. One additional study reported that mergers have a significant negative effect on employee health, and four other studies reported a reduction in permanent staff numbers and an increase in temporary staff numbers in hospitals that had merged. One study reported that low team clarity, low team identification and emotional exhaustion explained or accounted for a decrease in job satisfaction among hospital staff.

Among the most consistent staff requirements for successful mergers was for staff to have autonomy in practice; this finding was reported in four studies. One study reports that autonomy – expressed as the ability to contribute towards improvements and being trusted to do one's job, organisational support, role clarity and satisfaction with quality of work – contributes to job satisfaction among staff during a merger.

Q4: Is there evidence in the quantitative data to support the theme that hospital staff want to promote the primacy of patient care during a hospital merger?
Data from two quantitative studies included in this review support the theme that hospital staff want to promote the primacy of patient care during a hospital merger. This priority status given to patient care is often trumps the economic imperatives of the merger. There are other studies which provide indirect data from which we can infer that staff are concerned about prioritising patient care. For example, staff want to retain and

reproduce their autonomy in practice for the benefit of improving patient care. It was reported in four studies that hospital staff require autonomy in practice in order to contribute to a successful merger. In addition, the findings of another study reported that 'autonomy expressed as the ability to contribute towards improvements and being satisfied with the quality of their work contributes to job satisfaction among staff during a merger'.

Q5: Is there evidence in the quantitative data to support the theme that hospital staff engage in preserving the pre-merger culture during a hospital merger?
There is evidence from three quantitative studies that staff expressed a sense of loss for their former institution. This experience of loss resonates with the data underpinning the theme of preserving the pre-merger culture and infers that in the absence of promoting a new culture, staff hang on to fragments of the old.

Conclusion
We found that information in the quantitative literature echoed the themes developed from the qualitative data and contributes further enrichment and understanding to the barriers to, and facilitators of, implementing hospital mergers.

Data collected via surveys with hospital staff engaged in mergers indicates that active participation, communication and dialogue, and having influence on the merger process are all important factors for staff. These findings corroborate the themes of active participation and distance from decision-making developed in the thematic synthesis.

Data reported from staff surveys highlights the impact of mergers on staff. For example, staff reported high levels of anxiety regarding loss of status and autonomy among many individual and professional concerns. These experiences resonate with the theme of occupational and professional limbo developed through the thematic synthesis, and they symbolise a position of powerlessness among professional staff engaged in the merger.

Staff reported in surveys that they wanted to do a good quality job and they wanted support from their managers to deliver high-quality work. Their desire to perform with competence in the workplace was linked with their desire to promote patient care over the economic imperatives of a merger. These data support the theme that hospital staff want to prioritise patient care in a merger, and management can use this opportunity to secure buy-in and commitment from staff to the merger.

Data from a small number of quantitative surveys support our theme that staff engage in preserving their old hospital culture in the absence of a new agreed culture in the newly merged entity.

Table 5 Agreement between quantitative findings and qualitative analytic themes

Quantitative findings	Qualitative analytic themes
Loss of status, loss of autonomy and fear of the unknown	Occupational and professional limbo
Job insecurity, job pressure or work overload, lack of role clarity and lower job satisfaction	Promoting the primacy of patient care
Exclusion from decision-making, lack of information	Excluded from active participation and dialogue
	Distanced from decision-making
Unequal treatment, lack of appreciation and respect, low commitment and loyalty	Conserving pre-merger culture

The barriers and facilitators are presented in Table 6. It is important to note that when a barrier is reversed it can become a facilitator, and when a facilitator is not employed it can become a barrier. Distanced from decision-making was the key theme and it influenced the other four themes.

Table 6 Analytic themes to barriers and facilitators

Analytic theme	Barriers	Facilitators
Excluded from active participation and dialogue	Implementation of hospital mergers is **hindered** when staff are excluded from active participation.	Participatory dialogue between staff and management can **facilitate** the implementation of a hospital merger.
Distanced from decision-making	Implementation of hospital mergers is **hindered** when staff are distanced from influencing decisions.	Implementation of hospital mergers is **facilitated** when senior management is less remote from staff.
Occupational and professional limbo	Implementation of hospital mergers is **hindered** when the emotional and professional pressures on staff threaten their professional identity.	
Promoting the primacy of patient care		Implementation of hospital mergers is **facilitated** when the primacy of patient care is emphasised, and staff can reclaim or maintain their professional caregiver status.
Conserving pre-merger culture	Implementation of hospital mergers is **hindered** when parties fail to bridge the cultural divide.	

Additional issues of note

Our main finding from the review of the literature related to the distance that arises between senior management and hospital staff. However, some studies highlight another dimension to this distance. For example, one study of hospital managers found that professional staff (managers of clinical departments) may introduce tactics termed as 'buffering' and 'loose coupling'.[10] Buffering is where senior clinical leaders appear to accept the merger, but protect their health professional practice from the change by isolating the merger management or distancing their team from management. Loose coupling is where different health professional groups appear attached within a formal organisational structure but retain their own operational identity and separateness to prevent general management intervention.

The secondary quantitative studies arose from data routinely collected on indicators of hospital performance and quality of patient care as measured by markers such as mortality, patient access to services, the number of patient falls, hospital-acquired infection, and cancellation of elective surgery and procedures. Overall, the effect of a merger on hospital performance (such as patient contacts and bed occupancy) appears to vary with some of the research indicating some improvement in performance and some appearing to show deterioration in performance. The combined findings on quality of patient care (such as mortality and falls) indicate that, in many cases, quality remains the same before and after the merger, with minor variations on either side of this effect in a small number of studies.

Interventions to facilitate hospital mergers (Sub-question 3)

In the quantitative primary literature, some of the studies described a small number of interventions designed to facilitate a merger by reducing fears and facilitating the integration of values, principles, processes and procedures.

Mercer[21] did a study to examine the effect of two activities identified to reduce the risk of failure: (i) a facilitated one-day meeting between the management teams at the two community care access centres to support a shift from controller to facilitator; (ii) the completion of a joint organisational readiness assessment.

The facilitated one-day meeting between the management teams identified the current values of each organisation, identified commonalities and differences between values, and facilitated the development of agreed values for the new merged organisation. Based on the new values, the employees developed a new leadership philosophy for the organisation which included the guiding principles: integrity, trust, transparency and inclusiveness.

The management then agreed to the completion of an organisational readiness assessment and subsequently completed the assessment tool and sent it to the accreditation institution. Nine meetings were held between the accreditation institution and 68 employees from the two centres. Initially, there were a number of emotional responses and these responses required attention. The final report contained 49 recommendations covering leadership, communication and culture, and these were to be used by the CEO and board in the change plan.

The results of the survey conducted after the facilitated meeting indicated that 82% of the participants reported that the meeting between management at the two centres, and the opportunity to develop a relationship, was very important. A sizeable proportion appreciated being able to learn about the similarities and differences between the two centres. The interventions made the merger a reality. The similarities between the organisations were that they were client focused and they valued their staff. The main difference was that the urban centre was policy, process and procedure oriented, whereas the rural centre was relationship oriented. Some of the suggestions included a blended steering group, more frequent contact between counterpart staff, and focusing dialogue on a shared approach and moving forward.

Porter *et al.*[32] studied four not-for-profit community healthcare agencies that were merged into Community Support Connections in 2007. Porter *et al.*[32] evaluated the progress of Community Support Connections towards its stated goal 'improvement of coordination and accessibility of health services through client-centred case management'.

All respondents knew the reasons for the merger, but the board expressed the reasons differently from employees and clients. The board's focus was on a better organisation, whereas employees and clients focused on better care and simpler access to care. The dominant organisation thought that their premises could have accommodated the four organisations while a new premises was found. They knew that their 'ministry of health and long-term care' funding would be compromised if they did not merge and they thought the merger happened too quickly. All agreed that the volume and content of work had increased and they enjoyed working with a larger group of people. However, long-term absence of the executive director meant that department managers had less time for their departments and this delayed approval for the merger.

All agreed that the new method of case management was resulting in better care planning and coordination, as demonstrated by the increased volume of service provided. Clients themselves felt well cared for.

Gering *et al.*[30] describe a number of structures used to achieve a successful integration. These tools included Failure Mode and Effects Analysis (FMEA) of the move process; process action teams (PATs) to bridge the differences in standard nursing unit operation, staff orientation, planned reduction of inpatient census and extensive move-day planning and an integration score card. The hospital conducted a mock move under the FMEA and identified three key areas of risk and in need of improvement – the pre-departure clinical assessment, communication systems and the interface between the hospitals' clinical staff and the ambulances' emergency medical technicians. The PATs took feedback from an assessment of nursing procedures and daily practices at each hospital and confirmed the presence of differences in a number of common clinical and administrative procedures relating to inpatient care. The PATs were charged with standardising patient care procedures. Orientation and integration of staff was assisted by the creation of an orientation and training programme that included nursing unit familiarisation tours, equipment training, hospital tours, mock cardiac drills and other relevant exercises. Staff from one hospital were paired up with peers at the other hospital as part of a buddy system. Buddies were instructed to accommodate and orient their peers from the other campus to their new work environment. The patient census was reduced by stopping all elective procedures and acute medical admissions.

There were three small-scale interventions to facilitate a merger reported in the literature. The approach to the interventions had similarities and differences. Two of the intervention teams carried out a literature review to identify possible interventions. All three intervention teams chose an intervention that brought people together and identified commonalities and differences in visions, values, processes and procedures. In addition, all three teams completed a facilitated approach to agree a single vision, and a set of common values, processes and procedures. In one case, the facilitator was an external person whose neutrality was appreciated by staff. A buddy system was used in two interventions. The three intervention teams completed post-intervention staff satisfaction surveys, but none collected baseline satisfaction scores. The staff satisfaction surveys indicated that they appreciated any well-thought-out intervention to facilitate a merger. Only one team examined patient satisfaction. Another team examined quality of care. Both showed that the interventions had some positive effects on patient care.

Strengths and weaknesses of this review and the robustness of the synthesis (Sub-question 4)

According to Popay *et al*.[58] '… robustness can be used to refer to the methodological qualities of the primary studies included in the review and/or the trustworthiness of the product of the synthesis process…' p15. We propose to discuss both elements of this suggestion in this section.

To our knowledge, this is the first systematic review that attempts to seek out, analyse and synthesise the findings from studies that contain the views of hospital staff relating to their experience of being involved in a hospital merger. Confidence in its findings is bolstered by the comprehensive searches undertaken, which included bibliographic databases and reference chasing. On the other hand, the review lacks input from grey literature and non-research material; however, these potential data sources were intentionally excluded as the review only focused on peer-reviewed published studies.

It is important to note that we were unable to locate any suitable study that reported the views of hospital staff involved in the merging of children's hospitals or paediatric units within hospitals. This is a notable omission from this review, and it raises the question as to the extent to which we could expect the experiences of hospital staff reported in this review to play out in the merging of children's hospitals. One of the strengths of this review is that the qualitative studies included were undertaken in a number of different countries including Sweden, Finland, Norway, Israel, England, Canada and the United States. This wide geographical spread of experiences of hospital staff involved in a merger may be representative of most mergers in the health sector where similar conditions pertain and the distance between management and staff is prevalent. A further strength of the review is that the inclusion of both qualitative and quantitative studies captures the views of a wide stratum of hospital personnel including nurses, physicians, both senior and junior management, human resources and allied health professionals. For example, 13 of the qualitative studies clearly described their method of sampling as purposive (recruiting participants based on pre-selected criteria) and supplemented by the use of snowballing (snowball sampling is a non-probability technique where existing study participants recruit other participants from their social network); these studies reported seeking out representatives of the different professions working in the hospital who were 'information rich' about the process of merging hospitals. We did not locate any studies that reported the views of hospital ancillary staff such as porters, cleaners or kitchen staff.

The diversity of data collection methods reported in the studies also bolsters the robustness of this review. For example, eight qualitative studies reported using in-depth interviews to collect data, four used semi-structured interviews, two used focus groups, two reported interviews by telephone, and two reported unstructured interviews and group discussions. This work is bolstered by the data collected via staff opinion surveys. This diverse use of data collection methods means that the included studies contain a useful broad mix of data that allowed us to compare and contrast the views and experiences of hospital staff.

This review and synthesis could have been more robust if we had been able to locate a large set of studies that used a consistent approach to data collection and analysis; for example, additional studies using Grounded Theory might have provided richer data. Grounded Theory studies often provide a 'thick description' of the experiences of hospital staff involved in a merger, which may in turn have enabled us to develop a more grounded theoretical exposition of the key barriers and facilitators to a merger. In our qualitative synthesis, 13 studies clearly described the approach to data analysis and only three reported using the Grounded Theory approach. Only one of these studies[42] reported analysing the data in parallel with data collection, which is a necessary prerequisite of the Grounded Theory approach, and the reporting of reaching data saturation in these studies was sparse.

We classified the majority of the qualitative studies as using an abductive approach to data analysis; this approach combines an inductive data-driven element and a deductive theory testing element. This means that instead of generating 'new theory', as one would expect using Grounded Theory, the researcher is also testing the data to see if they fit with existing 'theory'. One example of this approach is in the study by Shaw[44] who uses Hofstede's six-dimensional model to analyse data on cultural characteristics of the two hospitals engaged in a merger. This means that we have included studies in our synthesis that reflect both the experiences of hospital staff and the interpretations of the researchers from the individual studies; this may reduce the strength of our synthesis, but is offset to some extent by our judgement that the findings and conclusions reported in each of the studies were supported by the data that were collected and analysed. These data provided sufficient depth and detail to allow us to undertake line-by-line coding of each study to address our review question. A potential weakness in the qualitative studies is the absence of the majority of researchers reporting reflexivity as part of their work; the reporting of reflexive practice is useful revealing any personal or political biases.

The reporting of the execution of the primary quantitative studies included in this review was assessed as fair to good, and the level of evidence provided by these studies was low to moderate based on the study design in the hierarchy of evidence. Despite the low to moderate level of evidence provided by these studies, they do contribute a useful and highly relevant source of data to address our overall review question, and are a key strength of this review. For example, these studies examined aspects of organisational culture and integration, the emotional and health impacts of the merger on hospital staff, levels of job satisfaction during and after a merger, perceived components of a successful merger, and issues related to management procedures and change. The findings from these studies provide overall support for the qualitative themes developed in this review. However, we recognise that we have used data from primary qualitative studies, primary quantitative studies supported by data from quantitative secondary data analysis studies, and mixed-methods studies. We recognise that these data come from different epistemological positions and, as such, represent diverse sources of evidence which may be a weakness in this review. However, we have sought to limit the potential for epistemological confusion by only including in our final synthesis studies that captured the 'views' of hospital staff; albeit these views are represented in surveys and in qualitative enquiry.

A key strength of this review and of the synthesis is the level of transparency that is displayed throughout the work. We have sought to document and illustrate the main steps we took and decisions we made throughout the review. This was necessary because, from the outset, we knew that this work would need to go beyond summarising the studies, as we could not locate sufficient suitable studies that had explored the barriers and facilitators to hospital mergers. We knew that undertaking a thematic synthesis of the qualitative literature would require a high level of transparency to illustrate to the reader how we built and developed our themes; as this thematic synthesis is open to the critique of being subjective, the importance of transparency is paramount.

Finally, we felt it necessary to scrutinise the quality of the studies that we included, and to do this we used three separate generic instruments, as appropriate, for examining differently designed studies. While providing some assessment of the quality of included studies is important for the overall value of this review, the absence of an overall 'weight of evidence' may be seen as reducing the confidence in the final analysis. However, although there are some embryonic examples that may assist in this process according to Pope *et al*.[59] '… No formally developed criteria of quality exist for reviews of diverse evidence as a whole…' p181.

Discussion

This review sought to identify the barriers and facilitators to hospital mergers. None of the studies identified by our search, either quantitative or qualitative, specifically addressed this topic. To our knowledge, this is the first systematic review that attempts to seek out, analyse and synthesise the findings from studies that contain the views of hospital staff relating to their experience of being involved in a hospital merger.

One of our main findings from the qualitative literature, and supported by the quantitative studies, focused on the distance between senior executive management and hospital staff during a merger. The data from the perspective of hospital staff suggest that this distancing is more of a deterrent to an effective merger than the cultural distance between merging institutions, and research indicates that it is driven by senior management. For example, Numerato *et al*.[60] undertook an extensive review of studies that examined the impact of management on the professional control of medical doctors. They cite a number of studies supporting the contention that the logic of managerialism has been internalised by physicians and become part of their identity. However, in contrast to these findings our work shows that hospital staff, including physicians, actively and cognitively engage in a rational resistance to managerial control. Numerato *et al*. go on to say that '…quantitative studies investigating doctors' perceptions indicate that doctors view financial accountability as opposed [contrary] to autonomy, and autonomy as correlated with quality of care…' p632. This supports our interpretation of the data in that a threat to autonomy is equated with a threat to patient care.

A useful indicator of the distance that exists between senior management and professional staff appears in the work by Bringselius[61] who reports that senior managers and physicians had contradictory perceptions of the outcome of a hospital merger; 80% of physicians considered the merger a failure, whereas 83% of managers considered it a success. Bringselius also reports that 64% of hospital physicians stated that employees could not express objections to the hospital management without risking sanctions, whereas the majority of managers stated the reverse. These findings suggest that this discord of ideas as to what managers and hospital staff consider a successful merger is indicative of the wide distance between senior managers and hospital staff, which concurs with the findings of the current review.

Dixon-Woods *et al*.[25] provide a useful narrative synthesis of data collected from interviews, surveys, ethnographic case studies, board minutes and publicly available datasets on culture and behaviour among managers and staff in the English National Health Service (NHS). The authors report that effective hospital staff support and effective management were variable, which directly influenced patient experience, patient safety and quality of care. According to Dixon-Woods *et al.* '…the wellbeing of [hospital] staff is closely linked to the wellbeing of patients, and staff engagement is a key predictor of a wide range of outcomes in NHS trusts. Achieving high levels of engagement is only possible in cultures that are generally positive, where staff feel valued, respected and supported, and when relationships are good between staff, managers, teams and departments and across institutional boundaries…' p9. These conclusions support our main contention that when the distance between senior management and hospital staff is reduced, and staff are encouraged to engage in active participation during the merger, then the outcome of the merger will be positive for all stakeholders.

The other key findings in the current review relate to issues regarding:

- occupational and professional limbo, such as loss of status for hospital staff, loss of autonomy and their fear of the unknown
- job role and responsibility, and job satisfaction which exert an influence on the quality of patient care
- leadership, decision-making and communication
- organisational culture, commitment and loyalty
- hospital performance and quality of patient care.

The same issues with similar conclusions arose in a number of papers we examined and are briefly outlined below. Blackstone and Fuhr[62] described problems encountered during a hospital merger to include an unstable and stressful environment, increased uncertainty, staff anxiety about their own jobs and loss of services, cultural incompatibility, ego clashes, and employee and physician dissension. In the same paper they also reported that developing a mission acceptable to both hospitals in a merger is difficult and likely to lead to conflict. A merger of equals can cause problems as each party may be reluctant to yield autonomy; conversely, if one partner is much larger, the other can feel they are being 'taken over'. Physician resistance to consolidating clinical services can arise and, according to Blackstone and Fuhr,[62] is a product of loyalty to their old entity; resistance can also occur when authority and status is perceived to be threatened. These findings reported by Blackstone and Fuhr arising from their review of a selection of studies correspond with similar issues and findings documented in this current review.

Jennings (2008) summarised 53 studies pertaining to mergers and restructuring in the hospital sector and reported that reduced job satisfaction among staff nurses was correlated with increased burnout, emotional exhaustion, and increased musculoskeletal injuries. Jennings went on to highlight that findings from three studies verified that the success of mergers was enhanced by engaging staff from the merging institutions in the process of change. These findings mirror the findings from quantitative studies included in this review.

A paper by Ahmadvand *et al*.[63] summarised the factors associated with the relative success of the clinical merger as: constant communication among the leadership and staff; flexibility in developing the leadership models; patience and lack of complaint in having activities advance over time; presence of a senior executive arrangement whose decision-making power and authority is accepted; and the principle that no clinical service should be integrated just for the sake of merging. All of this experience is reflected in the studies included in this current review. Thier *et al*.[64] also echoed the findings summarised in this current review and cite the four common themes which emerged in their overview as: establishing leadership and trust; managing uncertainties across the constituencies; stabilising the medical staff, particularly in the area of expectations; and bridging cultural divides.

Bazzoli *et al*.,[65] in a comprehensive review which included 38 studies, examined the contextual factors that may facilitate integrating clinical services, and identified the following influences which include 'creating a centralised decision-making authority that spans the integrating organisations and clinical departments… this centralised authority must develop shared values and vision with which the integrating organisations must identify… secure buy-in at the top of the organisation as well as bottom-up acceptance… minimise internal conflict…[encourage] constant communication within and across multiple levels of the consolidating [or merging] hospitals…' (P275-276).

In an earlier overview undertaken by Goldberg[66] it is claimed that although hospitals cite as their primary motives for merger improved efficiency (cost savings) and improving quality of care, the empirical evidence on whether hospitals achieve these outcomes is mixed. They also found that hospitals were able to consolidate and integrate administrative functions, but clinical consolidation and integration were harder to achieve. The indicators used to assess hospital performance and quality of patient care varied across the studies with no clear

trends of improvement evident for either area. Conclusions from the overviews[65, 63, 66,] that examined hospital performance or quality improvement in patient care during a merger, had a similar finding.

Conclusion

The quality of the literature was adequate to complete the narrative analysis which is based on experiences in United States, Canada, England, Finland, Israel, Norway and Sweden. Our overall conclusion is that 'the distance between management and hospital staff is a greater threat to a merger than any cultural differences between merging institutions' and this is supported by international reviews of research. We identified four specific barriers that impede and three potential facilitators that enable successful merging of hospitals in the qualitative literature.

The four barriers to implementing hospital mergers developed from the thematic synthesis and corroborated by the quantitative data comprise:

1. Excluding hospital staff from active participation and participatory dialogue
2. Distancing staff from influencing decision-making
3. Threatening staff's professional identity
4. Failing to bridge the cultural divide between merging institutions.

However, these barriers can be reversed and used to facilitate a merger.

The three facilitators of implementing hospital mergers identified in the thematic synthesis and corroborated by the quantitative data comprise:

1. Ensuring participatory dialogue between hospital staff and senior management
2. Encouraging better and closer relationships between hospital staff and senior management
3. Emphasising the primacy of patient care and allowing staff to reclaim their professional caregiver status.

The management concepts of successful mergers are quite different from those of staff. The staff concepts of clear communication, participation, autonomy in practice, respect, trust and parity in pay, concur to a large extent with the facilitators of successful mergers.

In the reviewed literature, only three small-scale interventions to facilitate a merger were described. All three describe an intervention that brought people together and identified commonalities and differences in visions, values, processes and procedures. In addition, all three intervention teams completed a facilitated approach to agree a single vision, and a common set of values, processes and procedures. The staff satisfaction surveys indicated that they appreciated any well-thought-out intervention that facilitates a merger.

We did not locate any studies which explored a relationship between the outcomes associated with hospital mergers and the factors associated with the successful implementation of hospital mergers as reported by hospital staff. Therefore, it is not feasible to say whether these factors identified as facilitators to implementing a merger would achieve the outcomes identified as measures of a successful merger. For example, in the studies included in this review, hospital staff (excluding senior management) report that communication, participation, autonomy, personal and professional respect, trust and a closer relationship between staff and senior management are key ingredients to successfully implementing a hospital merger. The extent to which these practices, if implemented during a merger, would contribute to achieving reduced costs, increased efficiency,

reduced duplication, increased productivity and increased services and access to services, is a question that requires further investigation.

However, the authors of this review argue that if the factors identified as facilitators to successfully implementing a merger are ignored, it is unlikely that the outcomes pursued in mergers will be achieved, as is evidenced by the many studies that report on failed mergers. Active staff participation in all phases of the merger appears to be key to successful implementation, and reducing the distance between senior management and hospital staff is a key mechanism in pursuing both successful implementation and achievement of outcomes.

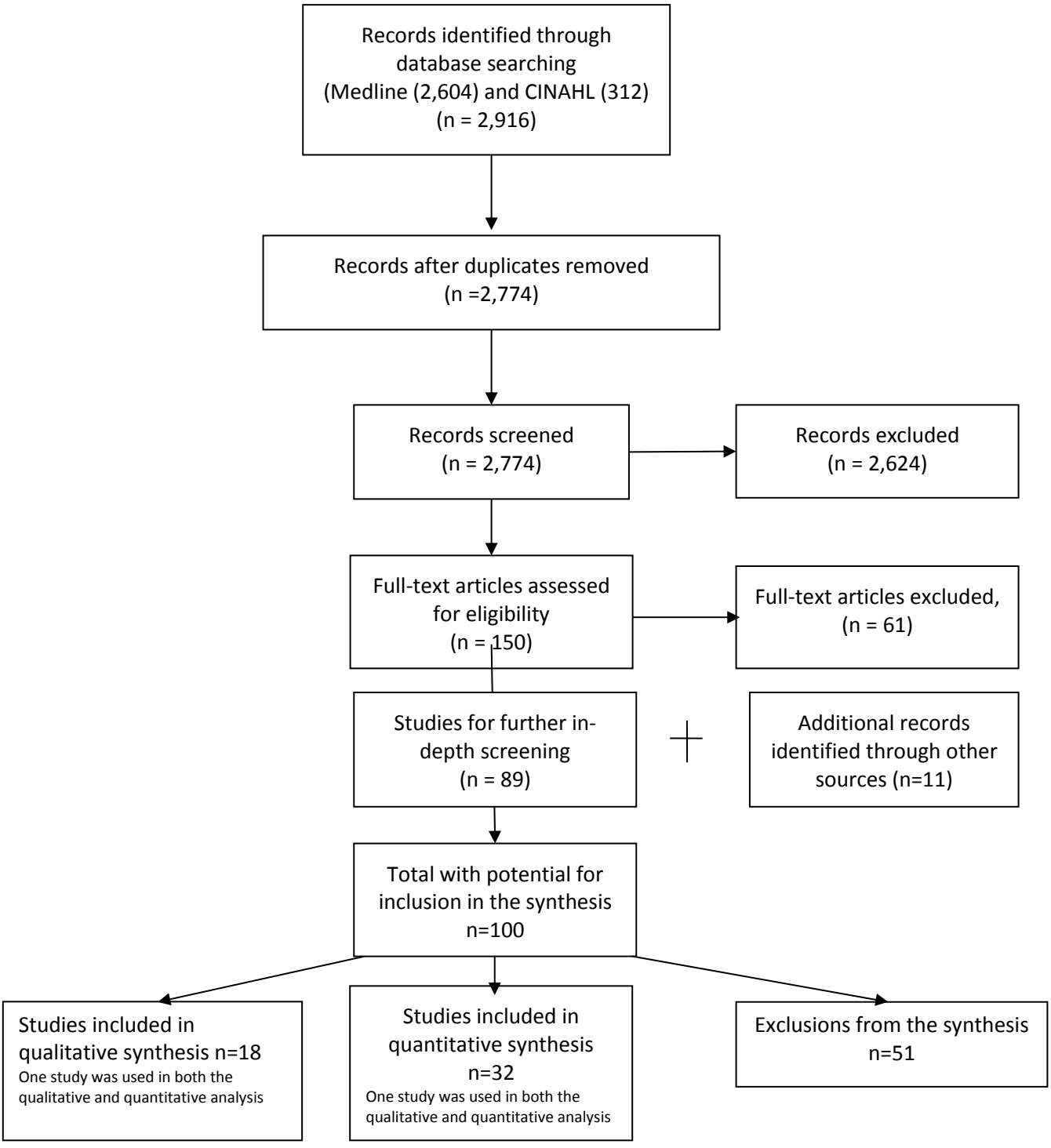
References

1. Cuellar AE and Gertler PJ (2005) How the expansion of hospital systems has affected consumers. *Health Affairs*, 24: 213–219.
2. Gaynor M, Laudicella M, and Propper C (2012) Can governments do it better? Merger mania and hospital outcomes in the English NHS. *Journal of Health Economics*, 31: 528–543.
3. Kjekshus L and Hagen T (2007) Do hospital mergers increase hospital efficiency? Evidence from a national health service country. *Journal of Health Services Research & Policy*, 12(4): 230–235.
4. Town RJ, Wholey D, Feldman R and Burns LR (2007) Revisiting the relationship between managed care and hospital consolidation. *Health Services Research*, 42: 219–238.
5. Harrison JP and McDowell GM (2005) A profile of US hospital mergers. *Journal of Health Care Finance*, 31(3): 15–24.
6. Dranove D and Lindrooth R (2003) Hospital consolidation and costs: another look at the evidence. *Journal of Health Economics*, 22: 983–997.
7. Ahgren B (2008) Is it better to be big? The reconfiguration of 21st century hospitals: responses to a hospital merger in Sweden. *Health Policy*, 87(1): 92–99.
8. Jones JM (2003) Dual or dueling culture and commitment: the impact of a tri-hospital merger. *Journal of Nursing Administration*, 33(4): 235–242.
9. Feldheim MA (2000) Administrators and mergers: a study of administrators' perceptions of health care mergers. *Journal of Health and Human Services Administration*, 23(3): 248–73.
10. Kitchener M and Gask L (2003) New public management merger mania. Lessons from an early case. *Public Management Review*, 5(1): 19–44.
11. Bazzoli GJ, LoSasso A, Arnould R and Shalowitz M (2002) Hospital reorganization and restructuring achieved through merger. *Health Care Management Review*, 27(1): 7–20.
12. Alexander JA, Halpern MT and Lee SY (1996) The short-term effects of merger on hospital operations. *Health Services Research*, 30(6): 827–847.
13. Crawford AG, *et al.,* (2002) Hospital organizational change and financial status: costs and outcomes of care in Philadelphia. *American Journal of Medical Quality*, 17: 236–41.
14. Hayford TB (2012) The impact of hospital mergers on treatment intensity and health outcomes. *Health Services Research*, 47(3): 1008–1029.
15. Sinay T and Campbell CR (2002) Strategies for more efficient performance through hospital merger. *Health Care Management Review*, 27: 33–49.
16. Ingebrigtsen T, Lind M, Krogh T, Lægland J, Andersen H, and Nerskogen E (2012) Merging of three hospitals into one university hospital. *Tidsskrift for Den Norske Laegeforening*, 132: 813–817.
17. Brown H, Zijlstra F and Lyons E (2006) The psychological effects of organizational restructuring on nurses. *Journal of Advanced Nursing*, 53(3): 344–357.
18. Ho V and Hamilton BH (2000) Hospital mergers and acquisitions: does market consolidation harm patients? *Journal of Health Economics*, 19: 767–791.
19. Perez CE (2002) Ontario hospitals – mergers, shorter stays and readmissions. *Health Reports*, 14: 25–36.
20. Fagerström L and Salmela S (2010) Leading change: a challenge for leaders in Nordic health care. *Journal of Nursing Management*, 18: 613–617.
21. Mercer K (2008) Facilitating organizational mergers: amalgamation of community care access centres. *Journal of Health Services Research & Policy*, 13: 46–51.
22. Wallace L, Granne A, and Boyle G, *Mergers. Question of attitude.* Health Service Journal, 2000. 110: 26–28.
23. Thomas J and Harden A (2008) Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8: 45.

24. Pluye P, *et al. Proposal: A mixed methods appraisal tool for systematic mixed studies reviews.* 2011.
25. Dixon-Woods M, Shaw RL, Agarwal S and Smith JA (2004)The problem of appraising qualitative research. *Quality and Safety in Health Care*, 13: 223–225.
26. Murphy E, Dingwall R, Greatbatch D, Parker S and Watson P (1998) Qualitative research methods in health technology assessment: a review of the literature. *Health Technology Assessment*, 2(16).
27. Attree P and Milton B (2006) Critically appraising qualitative research for systematic reviews: defusing the methodological cluster bombs. *Evidence and Policy*, 2(1): 109–126.
28. Barbour RS, Checklists for improving rigour in qualitative research: a case of the tail wagging the dog? *British Medical Journal,* 2001. 322: 1115–1117.
29. Glenton C, Colvin CJ, Carlsen B, Swartz A, Lewin S, Noyes J and Rashidian A (2013) Barriers and facilitators to the implementation of lay health worker programmes to improve access to maternal and child health: qualitative evidence synthesis. Cochrane Database of Systematic Reviews, (10).
30. Gering J, Schmitt B, Coe A, Leslie D, Pitts J, Ward T and Desai P (2005) Taking a patient safety approach to an integration of two hospitals. *Joint Commission Journal on Quality & Patient Safety*, 31: 258–266.
31. Kinn S, *et al.,* (2003) Client and staff views on facilities and services, before and after the convergence of sexual, reproductive and women's services. *European Journal of Contraception & Reproductive Health Care*, 8: 65–74.
32. Porter HB, Tindale JA, and Mark KP (2009) Process evaluation of the Community Support Connections merger. *Healthcare Management Forum*,22: 38–43.
33. Clark S and Leri P (1998) Bridging the gaps: an assessment of culture in an integrated system. *Journal of American Health Information Management Association*, 69: 26, 28, 30.
34. George VM, Burke LJ and Rodgers BL (1997) Research-based planning for change: assessing nurses' attitudes toward governance and professional practice autonomy after hospital acquisition. *Journal of Nursing Administration*, 27(5): 53–61.
35. Lim KK (2014) Impact of hospital mergers on staff job satisfaction: a quantitative study. *Human Resources for Health*, 12: 70.
36. Gulliver P, Towell D and Peck E (2003) Staff morale in the merger of mental health and social care organizations in England. *Journal of Psychiatric and Mental Health Nursing*, 10: 101–107.
37. Idel M, Melamed S, Merlob P, Yahav J, Hendel T and Kaplan B (2003) Influence of a merger on nurses' emotional well-being: the importance of self-efficacy and emotional reactivity. *Journal of Nursing Management*, 11(1): 59–63.
38. Dastani HB and Siganga WW, (2003) Hospital pharmacy directors' perceptions of hospital mergers and strategic alliances. *American Journal of Health-System Pharmacy*, 60(21): 2245–2245.
39. Kjekshus LE, Bernstrøm V, Dahl E and Lorentzen T (2014) The effect of hospital mergers on long-term sickness absence among hospital employees: a fixed effects multivariate regression analysis using panel data. *BMC Health Services Research*, 14: 50.
40. Hendel T (1998) Merger management: a challenge to nursing leadership. *Journal of Nursing Management*, 6(5): 281–284.
41. Rosengren K, Engstrom AK and Axelsson L (1999) The staff's experience of structural changes in the health and medical service in western Sweden. *Journal of Nursing Management*, 7: 289–298.
42. Roald J and Edgren L (2001) Employee experience of structural change in two Norwegian hospitals. *International Journal of Health Planning and Management*, 16(4): 311–324.
43. Engström AK, Rosengren K and Hallberg LR (2002) Balancing involvement: employees' experiences of merging hospitals in Sweden. *Journal of Advanced Nursing*, 38: 11–18.
44. Shaw J (2002) Tracking the merger: the human experience. *Health Services Management Research*, 15(4): 211–222.
45. Cortvriend P (2004) Change management of mergers: the impact on NHS staff and their psychological contracts. *Health Services Management Research*, 17(3): 177–187.

46. Mallon WT (2003) The alchemists: a case study of a failed merger in academic medicine. *Academic Medicine*, 78: 1090–1104.
47. Choi S, Löwstedt J, Holmberg I and Brommels M (2012) Managing clinical integration: a comparative case study in a merged university hospital. *Journal of Health Organization and Management*, 26(4): 486–507.
48. Fulop N, *et al.*, (2002) Process and impact of mergers of NHS trusts: multicentre case study and management cost analysis. *British Medical Journal*, 325: 246.
49. Kitchener M (2002) Mobilizing the logic of managerialism in professional fields: the case of academic health centre mergers. *Organization Studies*, 23(3): 391–420
50. Fulop N, *et al.,* (2005) Changing organisations: a study of the context and processes of mergers of health care providers in England. *Social Science & Medicine*, 60(1): 119–130.
51. Goddard S and Palmer A (2010) An evaluation of the effects of a National Health Service trust merger on the learning and development of staff. *Human Resource Development International*, 13(5): 557–573.
52. Choi S, Holmberg I, Löwstedt J and Brommels M (2011) Executive management in radical change – The case of the Karolinska University Hospital merger. *Scandinavian Journal of Management*, 27(1): 11–23.
53. Salmela S, Eriksson K, and Fagerstrom L (2012) Leading change: a three-dimensional model of nurse leaders' main tasks and roles during a change process. *Journal of Advanced Nursing*, 68: 423–433.
54. *Merger of Royal Free London NHS Foundation Trust with Barnet and Chase Farm Hospitals NHS Trust*. 2013, Monitor: London. p. 106.
55. Lees M and Taylor G (2004) Mergers and the new workplace: the effects of a merger of two emergency departments on nursing staff. *Journal of Health and Human Services Administration*, 26(4): 470–484.
56. Kastor JA (2010a) Failure of the merger of the Mount Sinai and New York University hospitals and medical schools: part 1. *Academic Medicine*, 85(12): 1823–1827.
57. Kastor JA (2010b) Failure of the merger of the Mount Sinai and New York University hospitals and medical schools: part 2. *Academic Medicine*, 85(12): 1828–1832.
58. Popay J, Roberts H, Sowden A, Petticrew M, Arai L, Rodgers M, Britten N, Roen K and Duffy S (2006) *Guidance on the conduct of Narrative Synthesis in Systematic Reviews. A product from the ESRC methods programme.*
59. Pope C, Mays N and Popay J (2007) *Synthesising qualitative and quantitative health evidence: A guide to methods.* England: Open University Press.
60. Numerato D, Salvatore D and Fattore G (2012) The impact of management on medical professionalism: a review. *Sociology of Health and Illness*, 34(4): 626–644.
61. Bringselius L, *The policy process in hospital mergers: The physicians' perspective*, in Conference paper to the International Research Society for Public Management*, 2012, Track no. 25*. 2012: Fudan University, Shanghai, China.
62. Blackstone EA and Fuhr JP (2003) Failed hospital mergers. *Journal of Health Law*, 36: 301–324.
Jennings, B., *Restructuring and mergers*, in *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. 2008.
63. Ahmadvand A, Heidari K, Hosseini H and Majdzadeh R (2012) Challenges and success factors in university mergers and academic integrations. *Archives of Iranian Medicine*, 15: 736–740.
64. Thier SO, *et al.,* (2014) Success factors in merging teaching hospitals. *Academic Medicine*, 89(2): 219–223.
65. Bazzoli GJ, *et al.*, (2004) Two decades of organizational change in health care: what have we learned? *Medical Care Research and Review*, 61: 247–331.
66. Goldberg LG (1999) *Health care consolidation and the changing health care marketplace: A review of the literature and issues*, in *Employee Benefit Research Institute Issue Brief*, 214: 1–15.

Appendix 1: Flowchart of searches and screening process to identify literature to include in the synthesis



Appendix 2: Exclusion criteria

Reasons for exclusions:

- Not about hospital mergers (other mergers, e.g. universities and medical schools)
- Not about hospital mergers but concerned with implementing a programme in hospitals that have merged, e.g. safety/quality of care
- Descriptive account/commentary, not research
- Costs, economic performance, financial
- Descriptive overviews
- Stakeholder analysis before implementing a merger
- Reasons to merge/reasons and logic behind mergers
- Merger but mainly concerned with status conversion, e.g. non-profit to profit
- Theoretical papers, e.g. on failed mergers
- Trends in mergers
- Leadership strategy in healthcare/management styles/organisational development
- Social workers in merged hospitals
- Effect of managed care on hospital systems
- Quality assurance
- IT systems
- Merger of family practices
- Legal issues
- Scale efficiencies
- Non-research/opinion pieces
- No methods outlined
- Review protocols

Appendix 3: Extraction form

The extraction criteria were:

- Study and quality assessment
- Aim of study
- Sample selection and size
- Data collection
- Data analysis
- Merging units
- Estimated number affected by the merger
- Location
- Findings or participants' views and experiences

Appendix 4a: Tables of extracted data

Table A Primary quantitative research studies of the effects of mergers on staff and patient outcomes

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
1. Ahgren B Is it better to be big? 2008 **Quality Assessment Quantitative:** Appropriate sampling (AS) =1 Justification of measurement (JM) =1 Control for confounding (CC) =0 Total =2/3 **Mixed methods:** Justification of methods (JM) =1 Combine	Describe employees' experience of the merging of two hospitals	Primary study: survey guided by philosophy of triangulation. Questionnaire developed from literature review and interviews with 16 decision-makers. The questionnaire had 23 questions and was sent to 597 randomly selected employees (24% of staff); 498 responded (83% response rate). The results of the survey formed the basis for interviews with 23 stakeholders (politicians, policy-makers, hospital managers, representatives from patient organisations and senior citizens).	Survey questions developed from documents about the merger and 16 in-depth interviews with politicians, policy-makers, and managers. Survey questions related to the impact of the merger on quality of care: under the headings structure (meet basic and complex needs), process (equal access and patient experience) and results (patient outcomes and well-being), (known as the Donabedian model to assess quality of healthcare). Survey conducted 2006.	Results of survey used to interview 23 stakeholders by semi-structured interviews	A county and a general hospital in Sweden into a multi-sited hospital in 1996	Bleckinge county council area approximately 151,500 inhabitants	Sweden	60% of employees believed that economic incentives were the reason for the 1996 merger, and of these employees, 10% believed the merger achieved economic benefits. 15% of employees believed that healthcare quality interventions were the reason for the merger. 15% of employees believed that health service access was the reason for the merger. Asked about the current situation: 46% of employees believed that new reasons had evolved to sustain the merged hospital that did not exist in 1996. 25% of employees believed that the quality of care had improved since the merger. However, the combined survey results indicate that most of the improvements in quality were due to non-merger-related interventions. 8% of employees believed that the merger helped different specialities to work in a collaborative manner. No clear evidence of costs being lowered after merger. The results show a variety of intrafunctional levels of integration between departments described as an act of pragmatism. Only minor improvements in the quality of care.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
quantitative and quantitative analysis (CQQ) = ½ Interpretation of analysis = ½ Total = 2/3								
2. Brown H, Zijlstra F and Lyons E The psychological effects of organizational restructuring on nurses 2006 **Quality Assessment Quantitative** AS =0.5 JM =1 CC =0.5 Total =2/3	Comparison of nurses affected by the restructuring associated with healthcare organisation mergers in the UK (1998-2000) with those nurses not affected by mergers or restructuring. The emphasis of the research was on the management of change factors and psychological stress.	Primary study N = 351. Aimed to recruit two equal groups of affected and non-affected. Groups to be recruited directly from NHS trusts. Due to low response rate, further recruitment through the Royal College of Nursing. The authors sent out 2,369 questionnaires, received 1,900 completed questionnaires, and used 351 questionnaires in the analysis. It is not clear why some questionnaires were not used.	Questionnaire devised to measure restructuring initiatives, information and participation, coping action and coping effectiveness.	Quasi-experimental study. Both affected (cases) and non-affected (controls) nurses interviewed at two time points between 1998 and 2000 Data tested by MANOVA and ANOVA using SPSS.	Mergers during 1998-2000	Not reported	UK	The nurses involved in mergers were older, less qualified, but had more years' experience. A higher proportion of nurses involved in mergers (affected nurses) reported that they were involved in restructuring initiatives before and after the merger than nurses not involved in mergers (non-affected nurses). Up to 12 months afterwards, some affected nurses reported lower information and participation, and coping effectiveness (i.e. higher job insecurity, job stress, job pressure, lower job satisfaction, physical, psychological, and environmental quality of life than non-affected nurses. However, there was no difference between affected and non-affected nurses' coping action (measured through group, union and organisational support). Psychological effects of restructuring were linked with perceptions of low information and participation and with negative outcomes for nurses. The authors suggest that managers need to communicate information and encourage staff to participate in decisions about restructuring events.
3.Clark S and Leri P	In 1995 two Sisters of	Primary study	Questionnaires developed for use in	Percentages derived from	Two Sisters of Charity	Not reported	Colorado	Study of four Colorado facilities in one delivery system.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Bridging the gaps: an assessment of culture in an integrated system. 1998 **Quality Assessment Quantitative** AS =1 JM =0.5 CC =0 Total =1.5/3	Charity hospitals merged with two PorterCare facilities. The aim was to assess the culture of two health information management departments following the merger.	64 employees and 11 managers were interviewed in sessions lasting between 15 and 90 minutes.	face-to-face interviews. The questions were open-ended and covered physical environment, relationships and perceptions within health information management departments. There were 22 questions for staff and 16 for managers. A few of the staff questions have a negative bias.	the responses	hospitals merged with two PorterCare facilities.			Most employees expressed resentment at how change was presented, not of change itself. A small number of employees were willing to initiate change and a similar number verbalised total resistance to change. The vast majority of employees wanted managers to keep them informed and involved as change occurred. The majority of employees were willing to make decisions and to participate in projects. There was universal agreement that people made the department successful. However, there was indifference or animosity towards people in other work groups. Most employees were keenly aware of identity and felt a loss when the name of the organisation changed on their payslip. In addition, staff from smaller organisations felt the loss more acutely. Employees' perception of work life varied between the departments of larger and smaller facilities. Smaller teams worked more closely together and helped each other, whereas larger departments had more specialised staff who tended to work in an isolated manner. Larger departments tended to impose their processes and procedures on smaller departments. All employees agreed on what was required for job satisfaction. The most consistent suggestions were: autonomy, location, interest, parity in pay, respect and trust. The managers said that their employees were dedicated, were interested in empowering staff and participation by staff. The management were constrained by lack of resources available to them.
4. Dastani HN and Siganga WW Hospital pharmacy	To evaluate hospital pharmacy directors' perceptions of changes in	Primary study Pharmacy directors at all hospitals that were involved in mergers and strategic alliances	Postal survey. 41-item questionnaire collected information on demographic characteristics of respondents, perceived	Data analysed with SPSS. The internal consistency of the final questionnaire	All hospitals involved in mergers and strategic alliances in	Not reported	United States	The greatest effects that mergers and strategic alliances were expected to have on pharmacists' duties and responsibilities were an increase in clinical duties (109/139 [79%]), an increase in administrative duties (106/139 [76%]), and an increase in patient-monitoring duties (99/139

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
directors' perceptions of hospital mergers and strategic alliances 2003 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.0 Total =2/3	pharmaceutical services and in the duties and responsibilities of pharmacists resulting from mergers and strategic alliances.	in 1997 or 1998. The list of these hospitals was compiled from information in issues of *Modern Healthcare*, specifically the 12 January 1998, and 11 January, 1999 issues. All 400 hospitals listed were included in the study. Hospital addresses were obtained from the American Health Association. 139 (35%) responded.	trends in mergers and strategic alliances, changes in pharmacists' duties after a merger or strategic alliance, perceptions of changes in pharmacist staffing , the influence of factors on pharmacist positions, and perceptions of which skills improve pharmacists' chances of job retention in the event of downsizing.	estimated with Cronbach's α. Reliability coefficients for measuring changes in pharmacist duties and responsibilities, factors influencing positions, and factors affecting job security were 0.6, 0.8, and 0.8, respectively. The instrument was tested for content validity. X^2 analysis investigated the relationship between changes in the number of full time equivalent positions and trends in Mergers and Strategic Alliances with changes in pharmacist duties and responsibilities.	1997 and 1998.			[72%]). Mergers and strategic alliances changed the delivery of pharmaceutical services and pharmacist job duties and responsibilities. The authors conclude that mergers and strategic alliances may improve pharmacists' ability to participate in clinical services and contribute to patient outcomes.
5. Fagerström L and Salmela	To describe personnel's	Baseline survey in 2003	Questionnaire contained 48 Likert-	The data were described using	A regional hospital and	Not provided	Finland	Over two-fifths agreed that the merger was necessary.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
S Leading change: a challenge for leaders in Nordic healthcare. 2010 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.0 Total =2/3	attitudes to a merger between a regional hospital and the primary healthcare centre.	N=899, which was a census of all staff in a regional hospital and a primary healthcare centre Response rate: 69%. The response rate for the hospital was 58% and for the primary care centre was 80%.	type statements (from strongly disagree = 1 to strongly agree = 5) and eight open-ended questions. This paper presents an analysis of 10 Likert-type statements which covered the attitude towards the merger and the proposed new organisation.	frequencies and cross-tabulations.	a primary healthcare centre			Only one-third expressed that they had received sufficient information regarding the merger. Approximately 64% of the respondents understood why the merger was taking place. 35% agreed that the vision for the merger was clear. Over three-fifths agreed with the merger. Just (24%) were committed to the merger. In total, 67% felt that the merger would create conflict, whereas approximately one-quarter did not know whether it would cause conflict or not. 38% were concerned for the future. 63% felt that there were advantages to the merger. 44% wanted to play an active role in the merger. Equal proportions of staff in both institutions agreed that the merger would cause conflict, and agreed that they wanted to play a part in the merger. In all other major respects, the primary healthcare centre staff were more negative towards the merger than were the hospital staff.
6. Feldheim MA Administrators and mergers: a study of administrators' perceptions	To ascertain the impact of healthcare mergers on employees, patients and the industry. The perception of administrators	Primary study Administrators of hospitals, health maintenance organisations, home health agencies and physician groups. Stratified random	Cross-sectional survey (case-sectional in paper) March and April 1999. Self-administered questionnaire and structured telephone interviews.	Descriptive analysis using proportions. 73% of respondents worked at for-profit (FP) organisations, and of these,	Merged and non-merged organisations in Florida, US	Not reported	Florida, US	94% of respondents reported that the merger had achieved the desired financial effect. Respondents who worked in hospitals reported that the overall employee impact was positive, based on turnover, salary, benefit changes, sick leave, incident reports, promotional opportunity and number of registered nurse (RN) FTEs. The home care agencies reported few promotional opportunities and a decrease in the number of RN FTEs. 50% of

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
2000 **Quality Assessment Quantitative** AS =1 JM =0.5 CC =0.5 Total =2/3	regarding the economic, employee and industry impacts of the merger.	sample of population, of hospitals and of physician groups. All health maintenance organisations and home health agencies included.		26% had undergone a merger in the previous five years. 27% of respondents worked at not-for-profit organisations. Of these, 57% had undergone a merger in the previous five years. 78% of all mergers were for financial reasons.				administrators in merged organisations indicated that mergers were helping the industry; this compared to 6% of administrators in non-merged hospitals. Administrators from merged organisations were more favourably inclined towards regulation. Administrators from merged hospitals (48%) were less likely to say that physicians saw more patients compared to five years previously, and compared to administrators in non-merged organisations (70%). The vast majority of administrators agreed that the cost of healthcare had increased in the previous five years.
7. George V M, Burke LJ, and Rodgers BL Research-based planning for change: assessing nurses' attitudes towards governance and professional practice autonomy after hospital acquisition	Describes one medical centre's experience in using research to plan for nursing staff integration after hospital acquisition.	Primary study: 141 registered nurses of the acquired medical centre. 66 (47%) completed the survey.	Quantitative and qualitative data collected using a self-completed questionnaire. Data were collected on nurses' perceptions of the advantages and concerns following an acquisition. In addition, nurses were asked to suggest actions to ensure a smooth transition.	Nursing activity scores and nursing autonomy scores were calculated for each responder and compared using statistical measures.	One medical centre involved in an acquisition	Not reported	US	The survey results described nurses' perceptions of the advantages, concerns and suggestions for a smooth transition after acquisition. The reported advantages of the merger were: job security, increased resources, opportunity for development, improved quality of care, enhanced reputation and better pay and benefits. The main concerns were the negative equivalent of the advantages (loss of jobs, pay and benefits, decreased quality of care). However three other disadvantages or fears were raised: loss of autonomy, unequal treatment and not being involved. The suggestions were: keep staff informed, increase involvement and empowerment, be honest and respectful, and move slowly. Nurses had a preference for a decentralised

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
1997 **Quality Assessment Quantitative** AS =1 JM =0.5 CC =0.5 Total =2/3 **Mixed methods** JM=0.5 CQQ = 0.75 Interpretation of analysis = 0.75 Total = 2/3								structure for nursing governance and governance shared by management and staff. Staff nurses wanted a voice in all governance activities. The acquired nurses were similar to the acquiring nurses with respect to autonomy and both were, or wanted to be, highly autonomous.
8. Gering J, Schmitt B, Coe A, Leslie D, Pitts J, Ward T and Desai P Taking a patient safety approach to integration of two hospitals 2005 **Quality Assessment**	Several patient safety-related tools used for safe transfer of patients when two acute medical-surgical facilities were integrated. Three areas measured: patient transfer quality, access to care and staff satisfaction.	Primary study Process evaluation using patient safety tools and data from indicators of access, occupancy, and quality	Integration scorecard was used, which consisted of indicators for three domains of performance improvement: quality, access to care and staff satisfaction. Staff satisfaction results are not presented.	Pre- and post-changes in the measures were analysed. Differences in proportions calculated and tested using the Z score or student t-test.	Two acute hospitals merged in 1996	Treat 43,000 veterans per year	Chicago, US	All patients were transferred safely. The performance remained constant for most indicators and improved significantly for one indicator for the predefined measures of continued access, occupancy and quality. The number of cancelled cases decreased significantly in the six months after the move when compared with the number of cancelled cases in the six months before the move. The number of falls and incidence of hospital-acquired infections remained the same during the two six-month time periods. The average occupancy rate increased marginally in the six months after the move, whereas the average number of primary care appointments decreased marginally and wait times for appointments did not change.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Quantitative AS =1 JM =1 CC =0.5 Total =2.5/3								
9. Gulliver P, Towell D and Peck E Staff morale in the merger of mental health and social care organisations in England 2003 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	To apply the Bedian and Armenakis model to aid in the explanation of changes in job satisfaction and morale during an integration of mental health and social services in a large rural county (Somerset).	Primary study	Questionnaire sent to all staff involved in mental health services provision. The questionnaire used for the survey was developed by Onyett *et al*. (1994), and has been used in the current investigation to measure variables in the Bedeian and Armenakis model. Questionnaire sent at three time periods: prior to integration, at 10 months after integration and at 22 months following integration.	Role clarity, team identification and emotional exhaustion used in place of role conflict, role ambiguity and job-related tension. Job satisfaction was retained as in original model. SPSS, ANOVA to detect differences in continuous variables across the three time periods and regression analysis to examine the differences in job satisfaction.	Avalon Trust mental health services merged with social services staff in mental health care	Not reported	Somerset, UK	Between time 1 and 2 and time 1 and 3, there were significant decreases in all role clarity measures and total job satisfaction measure. In addition, there were significant decreases in some of the measures of burnout. No significant differences were detected between time periods for the personal accomplishment and professional identification scales. Linear regression revealed that team clarity, team identification, emotional exhaustion and male gender explained or accounted for the decrease in job satisfaction.
10. Idel M, Melamed S, Merlob P, Yahav J, Hendel T and Kaplan B	To investigate the influence of the merger of two medical centres in Israel on the	Primary study A prospective study design was used. The study sample comprised 93 nurses	A questionnaire was administered at two time points: at the announcement of the prospective merger (about six weeks before	ANOVA with Pearsons correlation or Spearmans rank, t-test and Wilcoxan rank.	Merger of two medical centres in Israel	Not reported	Israel	At time point 1, no differences in self-efficacy and emotional reactivity were found between the two groups of nurses, so for the remainder of the time point 1, the two groups were combined for analysis.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Influence of a merger on nurses' emotional well-being: importance of self-efficacy and emotional reactivity 2003 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.25 Total =2.25/3	emotional well-being of the nurses employed at these facilities.	from the maternity ward, the neonatal ward and the delivery suites of two medical centres, which were combined into a single Women's Health Centre on the site of a larger centre. The nurses were divided into two groups, i.e. the nurses who were transferring, and the nurses already employed in the centre.	it took place) and six months after its completion. All items were rated on a Likert scale. In addition, at the first time point, the questionnaire included additional questions on emotional distress, threat perception, self-efficacy and emotional reactivity.					At time point 1, a significant positive correlation was found between threat perception and emotional reactivity, as well as between threat perception and emotional distress in the total sample. There was a significant negative correlation between threat perception and self-efficacy and between self-efficacy and emotional distress. At time point 2, there was no difference in burnout, feelings of stress, or lack of energy among the three groups (including one new group of controls), and there was no difference in feelings of growth or satisfaction between the two study groups (excluding the controls). The transferring nurses showed a significantly higher level of emotional stress than did the non-transferring nurses affected by the change.
11. Jones JM Dual or dueling culture and commitment: The impact of a tri-hospital merger 2003 **Quality Assessment**	To investigate the construct of dual commitment in healthcare organisations and RNs' commitment to their employing hospital versus the umbrella corporate organisation, and the role of organisational	RNs employed on general nursing units at three hospitals involved in a merger process completed two versions of Mowday's, Steer's and Porter's Organizational Commitment Questionnaire. 31% of bedside nurses returned completed questionnaires (n=98) between November	Two versions of Mowday's, Steer's and Porter's Organizational Commitment Questionnaire. One version deals with commitment to the employing hospital and the second version deals with commitment to the corporate organisation that owns the employing hospital. Semi-structured interviews, participant	Commitment to hospital and corporate system were examined using mean differences.	Three unidentified acute hospitals known as A (741 beds), B (440 beds), C (188 beds). A was the acquiring hospital, while B and C were acquired	Not provided	New York State, US	Fiscal restraints, decreasing reimbursement, and increasing competition have made organisational mergers and acquisitions prevalent. As corporate culture changes, organisational variables previously related to organisational commitment may no longer apply. Overall commitment by nurses to all three hospitals was low. The RNs at all three hospitals showed significantly greater commitment to their own particular hospital than to the umbrella corporate system. However Hospital B's RNs commitment to own hospital was significantly higher than commitment to the corporate system. RNs from the acquiring hospital (A) demonstrated

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Quantitative AS =1 JM =1 CC =0.25 Total =2.25/3	culture during a tri-hospital merger.	1999 and January 2000; 9 out of 12 invited participated in semi-structured interviews.	observation, and analysis of company documents assessed the organisational culture changes that have occurred since the merger.		hospitals. A and B provided similar services in the same area, whereas C provided similar services in a different and expanding area.			a significantly stronger commitment to the corporate system than the nurses from the acquired Hospital C. Hospital C results were similar to Hospital A, although marginally lower. The qualitative data supported the findings of the quantitative data. Moderate level of commitment reflected uncertainty of job status, work overload, and feelings of unappreciation.
12. Kinn S, Macdonald C, Hinks S, Nandwani R, Ilett R, Shields N, Carr S and Brigrigg A. Client and staff views on facilities and services before and after the convergence of sexual, reproductive and women's services. 2003	To evaluate client and staff views on existing facilities and services before and after the convergence of sexual, reproductive and women's services, 2000-1	Primary study. Clients survey before merger N =1031. After merger N=533. Staff survey N=88, after N= 77. Staff opinions on levels of integration N = 100. Semi-structured interviews of staff N= 83 before and 89 after.	Survey questionnaire of clients and staff, interviews of staff and review of routinely collected clinical activity data.	Qualitative (content analyses) plus quantitative (descriptive summaries).	Merging of three services: genito-urinary medicine, family planning, and the centre for women's health to provide integrated services	Not reported	Scotland	The integration of the three services led to a reduction of the stigma associated with attending sexual health services. The number of men attending did not decrease. There was a 6% increase in the total number of clients. There was increased satisfaction with the new service, especially the quality of the facilities. There was no change in the high quality of the service provided. There was an increase in referrals between the services. Staff were satisfied with the quality of the service provided at both time points. Staff thought that integration and communications could be improved in the merged services.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Quality Assessment Quantitative AS =1 JM =1 CC =0 Total =2/3 **Mixed methods** JM=1 CQQ = 0.75 Interpretation of analysis = 0.5 Total = 2.25/3								
13. Kitchener M and Gask L New public management (NPM) merger mania. Lessons from an early case. 2003 Merger of two NHS health trusts NPM is the adoption of	Consider the prospects for improving collaboration and services coordination through New Public Management mergers by combining concepts of organisational theory and international research evidence. Two barriers to implementation	This article includes: Review of merger mania and its implementation barriers. Five preliminary interviews of senior trust staff for background information on the merger. Documentary evidence of the case (public records and internal reports). Quantitative and qualitative primary	For quantitative questionnaire a snowball sampling technique Questionnaire survey. N =54/90 (response rate 60%)	The Sainsbury Centre for Mental Health Questionnaire was analysed in Excel, providing a percentage who agreed or disagreed with statements. The qualitative data were coded using key words. All of the data were analysed together to	Merger of a specialist mental health provider (Derwent NHS Trust with an acute NHS trust	The merger and de-merger of a Primary Care Trust (PCT) in North England	UK	This article considers the prospects for improving collaboration and service coordination through new public management mergers. There are six main sections: 1. The literature locates merger mania within the New Public Management mergers project and outlines two implementation barriers (loose coupling and buffering) that are rooted in professional organisations. 2. Describes the problem of collaboration and service coordination in mental healthcare and its ties with loose coupling and buffering in the literature. 3. Describes the study design combining qualitative and quantitative methods to analyse an early NPM merger in Wales mental healthcare. 4. Uses evidence from the case to illustrate how loose coupling and buffering produced unintended

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
commercial management techniques to address the espoused goals of saving money, improving collaboration and service coordination. **Quality Assessment Quantitative** AS =1 JM =1 CC =0.25 Total =2.25/3 **Mixed methods** JM=1 CQQ = 0.75 Interpretation of analysis = 0.75 Total = 2.5/3	. Loose coupling (LC) + Buffering (B) = professional bureaucracy. LC is when groups of health professionals seem attached within formal organisational structures, but retain operational identity and separateness in order to prevent management incursion. B is where senior clinical leaders appear to accept the merger but protect their professional practice from the change by isolating the merger management or themselves.	study. Quantitative survey used an adapted version of Sainsbury Centre for Mental Health Questionnaire and a five-point Likert scale – strongly disagree to strongly agree. 10 semi-structured taped interviews were conducted and transcribed. Two focus groups were held after data analysis, in order to validate findings.		determine if this merger experienced the two implementation barriers: loose coupling + buffering = professional bureaucracy Both existed. Buffering (the developments of a mental health trust within the newly merged trust) and loose coupling (the maintenance of two separate identities) while delivery of mental health services and the continuation of original practices prevailed.				outcomes in terms of service integration and its effectiveness. 5. Draws lessons from the analysis. Despite the merger, acute care, mental health and disability care continue to be delivered through two loosely coupled structures. Loose coupling helped to maintain distinctive identities within the merger organisation. The distinct communities of practice maintained differences in targeting, different financial mechanisms, separate budgets, and still had separate auditing exercises. The merger did little to enhance coordination among wider networks of health, local authority and voluntary providers. In addition, the mental health team within the newly merged trust persuaded the trust board to ring-fence their funding and keep them as a separate unit – classic buffering.
14. Lim KK	To assess the impact of NHS	Primary research based on multiple	NHS staff surveys	Study analysed data on staff	There were 20 hospitals	The population	England	This study identified nine mergers of acute and mental health hospitals between the financial

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Impact of hospital mergers on staff job satisfaction: a quantitative study 2014 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3	hospital mergers between financial years 2009/10 and 2011/12 on staff job satisfaction (outcome) and to identify factors contributing to satisfaction.	sources of secondary data using an econometric method called difference-in-difference. There were nine mergers between April 2009 and March 2012 and the nine mergers comprised 20 hospitals. Merged hospitals had 30,995 completed staff surveys. Control hospitals had 152,409 completed staff surveys.	List of completed acute and mental health hospital mergers between April 2009 and March 2012. Full list of acute and mental health hospitals to identify control hospitals. The list included bed numbers, annual financial surplus or deficit, mortality rate for each hospital's catchment area and commissioner records to verify catchment population. Propensity scores were used to identify three control hospitals for each merged hospital.	satisfaction at four time points: three years before, and year of merger; first year and three years after merger. The regression model used the composite score of job satisfaction from NHS staff survey as the dependent variable and captured the impact of mergers on job satisfaction. The **composite job satisfaction** was an average of satisfaction scores in eight areas. Each area rated based on a five-point Likert scale ranging from very high dissatisfaction to very high satisfaction. The	merged into nine NHS acute or mental health hospitals in England between April 2009 and March 2012.	served by the merged hospitals was used to identify the controls but the population figures were not presented in the paper.		years 2009/10 and 2011/12. There was a transient increase in staff job satisfaction score immediately before and after merger approval. The scores in other time periods were not significantly different from the baseline. Selection of control hospitals was shown to be robust. The analysis also identified independent variables contributing to staff job satisfaction during mergers, which were autonomy (ability to contribute towards improvements and being trusted to do one's job), and organisational staff support (support from supervisor and equal opportunities). Holding all other variables constant, an increase in one unit for either one of these variables is associated with a 0.2 point rise in job satisfaction score. Other significant positive predictors of job satisfaction were perceived quality (satisfaction with quality of work), organisational staff support (good communication with managers and good quality appraisals), job clarity (having clear goals and objectives for one's job, and an awareness of one's own responsibilities) and working in a mental health hospital. On the other hand, all variables related to work tension, with the exception of working extra hours, were negative predictors of job satisfaction, with the strongest being harassment from colleagues.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
				independent variables: work environment (autonomy, perceived quality of workplace, team work, organisational support for staff), drivers of job satisfaction (job clarity, tension) and dummy variables (data year, mental health hospital and occupation group).				
15. Mercer K (2008) Facilitating organizational mergers: amalgamation of community care access centres **Quality Assessment Quantitative** AS =1 JM =1	The study was completed in two parts: One, literature review to identify why change has failed in merged healthcare settings and experience of how to reduce risk of failure. Two, a study to examine the effect of two activities	All management teams at both centres attended the one-day facilitated session, and the Canadian Council on Health Services Accreditation completed an organisational readiness assessment in partnership with the two centres. The managers at the two centres completed an organisational readiness assessment tool or questionnaire.	The research team searched PubMed, EBSCO, Business Elite and ABI Inform. In addition, they searched for grey literature. They searched for intervention strategies that focused on organisational design published in the previous 10 years in North America and the UK. The management team attended a facilitated one-day meeting. The group also agreed to	Descriptive analysis of experiences	Waterloo community care access centre and the Wellington part of community care access centre into one local health integration network	Waterloo: 190 staff Wellington-Dufferin: 110 staff	Ontario in Canada	The facilitated one-day meeting between the management teams identified the current values of each organisation, identified commonalities and differences between values, and facilitated the development of agreed values for the new merged organisation. Based on the new values, they developed a new leadership philosophy for the organisation, which included the guiding principles integrity, trust, transparency and inclusiveness. The management then agreed to the completion of an organisational readiness assessment, and subsequently completed the assessment tool and sent it to the accreditation institution. Nine meetings were held between the accreditation institution and 68 staff from the two centres. Initially, there were a number of emotional responses and these responses required attention. The final report contained 49 recommendations

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
CC =0 Total =2/3	identified to reduce the risk of failure, one, a facilitated one-day meeting between the management teams at the two community care access centres to support a shift from controller to facilitator, and two, the completion of a joint organisational readiness assessment Data on management's priorities for the change plan were collected by survey.	The accreditation institution examined the self-completed assessment and supporting documentation, and discussed these with the integrated management team. 68 staff were interviewed. The participants at the one-day meeting completed a survey (n= 17/30 or 57%).	support and prepare for an organisational readiness assessment. In addition, the participants at the one-day meeting completed a survey.					covering leadership, communication and culture, and these were to be used by the CEO and the board in the change plan. The results of the survey indicated that 82% of the participants reported that meeting and developing a relationship between management at the two centres was very important. A sizeable proportion appreciated being able to learn about the similarities and differences between the two centres. The interventions made mergers a reality that they needed to get on with. The similarities between the organisations were that they were client focused and they also valued their staff. The main difference was that the urban centre was policy, process and procedure oriented whereas the rural centre was relationship oriented. Some of the suggestions included a blended steering group, more frequent contact between counterpart staff, and focusing dialogue on a shared approach and moving forward.
16. Porter HB, Tindale JA and Mark KP Process evaluation of the Community	Evaluate the progress of community support connections towards its stated goal 'improvement of coordination	Process evaluation using semi-structured interviews with seven categories of staff (qualitative methodology)	Key informants from seven categories: board members (former and current), management, staff (former and current), volunteers and clients participated in taped semi-structured	The interviews were coded using constant comparison coding to identify emerging themes.	Four not-for-profit community healthcare agencies in 2007		Ontario, Canada	All respondents knew the reasons for the merger but the board expressed the reasons differently from staff and clients. The board's focus was on a better organisation, whereas staff and clients were focused on better care and simpler access. The dominant organisation believed that their premises could have accommodated all organisations while a new premises was found.

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Support Connections Merger 2009 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3 **Mixed methods** JM=1 CQQ = 0. 5 Interpretation of analysis = 0.5 Total = 2/3	and accessibility of health services through client-centred case management'		interviews which were transcribed. The informants were asked to assess the goals of the merger, merger process, and progress towards goals. Clients were asked about differences in how the services are acquired and delivered. Staff were asked about changes in jobs and job descriptions. Board members were asked about the process to create a new board.					They knew that Ministry of health funding would be compromised if they did not merge and they thought the merger happened too quickly. All agreed that the volume and content of work had increased and they enjoyed working with a larger group of people. However, long-term absence of the executive director meant that department managers had less time for their departments, and also delayed approval for the merger. All agreed that the new method of case management was resulting in better care planning and coordination, as demonstrated by the increased volume of service provided. Clients felt well cared for.
17. Wallace L, Granne A and Boyle G A question of attitude 2000 **Quality Assessment Quantitative**	To evaluate the impact of Trust takeover (Horton, Banbury) on the corporate culture of the merger hospital and compare with the corporate culture of the acquiring hospital (Oxford	Primary study of before and after the amalgamation, April 1998 and April 1999. 70 staff randomly selected each time.	Staff were sent the corporate culture questionnaire with 150 questions. Covered 21 aspects of corporate culture in four main areas: performance, human resources, decision-making and relationships. Likert scale.	Responses were scored and the scores divided into broad bands. Detectable differences in the scores tested for statistical significance.	The takeover of Horton General Hospital Trust by Oxford Radcliffe Hospital Trust	Not reported	UK	Before the merger there were 10 statistical differences between the two groups, and one year after the merger there were four differences. Some convergence of cultures one year after the merger in the two organisations, but staff in the smaller organisations perceived some losses. Staff in the smaller hospital were more concerned about quality and less concerned about commercial orientation than their counterparts in the larger hospital. Staff in the smaller hospital were more involved in decision-making, though they found it hard to cope with the rate of change. Staff from both organisations felt poorly rewarded for their

Study and quality assessment	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
AS =1 JM =1 CC =0.5 Total =2.5/3	Radcliffe)							work. Staff in the smaller hospital perceived relationships in the organisation more positively than those in the larger hospital before and after the merger. Staff saw their employers as very concerned with their safety before and after the merger.

Table B Quantitative secondary data analysis of the effects of mergers on hospital, patient and staff outcomes

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
1. Alexander JA, Halpern MT and Lee SY The short-term effects of merger on hospital operations 1996 Hospital merger is defined as a combination of previously independent hospitals formed by either the	To examine the short-term effect of mergers on three areas of hospitals' operations: scale of activity, personnel or staffing practices, and operating efficiency	Secondary data from American Health Association annual surveys, 1980 to 1990. Used to analyse 92 hospital mergers between 1982 and 1989.	Secondary data. Pooled cross-sectional data files were constructed. Operating characteristics: changes in hospital operating characteristics before and after merger were assessed using six variables representing three areas of hospital operations: scale of operation, operating efficiency, and staffing practices. Scale of operation: this was measured by (i) statistical beds, i.e. the average number of beds set up and staffed	Employed a multiple time-series design involving a six-year longitudinal assessment of change in hospital operating characteristics before and after merger, and a parallel analysis of change in a randomly selected group of non-merging hospitals. Partial control for historical	92 merged hospitals Compared over time, and compared with 276 non-merging hospitals	Not reported	United States	Study period 1982–1989 General merger effects occurred primarily in areas related to operating efficiency. Merger resulted in slowing rates of pre-existing trends, rather than dramatic improvements in operating practices. The short-term impact of merger was generally modest but differed by the conditions under which the merger occurred. Mergers occurring later in the study period and mergers between similarly sized hospitals displayed greater change in operating characteristics than those occurring earlier in the study period and those between hospitals of dissimilar size. Such differences are attributed, respectively, to increased competitive pressures after prospective payment scheme and to greater opportunities for consolidation and efficiencies in mergers involving similarly sized hospitals. Mean bed occupancy decreased post-merger when compared with pre-merger mean occupancy, but mean bed occupancy was higher than in

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
dissolution of one hospital and its absorption by another, or the creation of a new hospital from the dissolution of all participating hospitals. Starkweather points out that mergers are unique forms of consolidation that bring all hospital activities under the full control of the merged entity (single licence), including support services, management, patient care activities, and professional services. Hospitals engage in merger to introduce			for use; and (ii) adjusted admissions – the sum of hospital inpatient admissions and equivalent admissions attributed to outpatient services based on revenue generation. Operating efficiency: this was measured by occupancy rate and total expenses per adjusted admission. Occupancy rate is the average proportion of inpatient capacity in use, calculated as the ratio of average daily census to statistical beds. Total expenses per adjusted admission was examined in order to gauge changes in expenses as a function of differences in patient volume. Staffing practices: these were assessed using (i) the number of total personnel, to examine global personnel changes before and after merger, and (ii) the number of nurses, in order to examine changes in clinical	effects. Comparisons were evaluated using paired and two-sample t-tests. Only two hospital mergers included. A comparison group of 276 non-merging hospitals selected.				comparison non-merger hospitals. The mean cost of each bed occupied was significantly higher post-merger when compared with pre-merger mean cost. However, mean bed cost was lower than in comparison non-merger hospitals. The mean number of nurses and other staff per average daily census was significantly lower post-merger when compared with pre-merger, and similar to mean number of nurses and other staff per average daily census.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
efficiencies and consolidate operations in order to remain viable and competitive in their markets. **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3			staffing. Also examined were rates of change for hospital operating characteristics both before and after merger. Stratifying variables: we therefore stratified hospital mergers in the study sample by three categories: size similarity, ownership similarity, and period of merger.					
2. Bazzoli GJ, LoSasso A, Arnould R and Shalowitz M Hospital reorganizatio n and restructuring achieved through merger 2002 **Quality**	Two periods of mergers: 1983–88 and 1989–96. Reasons for merging and the consequences of merger in terms of service, operational and staffing changes.	Secondary data from a previous survey. Brogue and colleagues covering rationale for the merger and its consequences. New survey using Brogue's instrument in 1998 for the second round of mergers. American Health Association annual surveys.	Secondary data for first period taken from Bogue and colleagues survey 1995. Bogue 66.2% response rate. Second period data from American Health Association annual surveys. All 153 mergers involving two hospitals in the period 1989–96.	Figures compared between both periods. Two periods of mergers: 1983–88 and 1989–96. Reasons for merging and the consequences of merger in terms of service,	Two periods of mergers: 1983–88 and 1989–96 in US	Not known	United States	Service configuration: eliminate duplication Administrative staffing levels: staff reductions Findings: This article examines hospital reorganisation and restructuring activities following merger for two study periods: 1983–1988 and 1989–1996. In both periods, hospitals rated strengthening hospital financial position as the most important reason for merger. A high proportion of acquirer hospitals retained their original acute care focus. Retention of acute care in acquired hospitals varied by urban-rural divide. As an alternative to closure or service conversion, acute care services may be retained in merging hospitals, but with substantial change to the service offered, and the rearrangement of services was analysed pre- and post-merger.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Assessment Quantitative AS =1 JM =1 CC =0.5 Total =2.5/3			AHA response rate 52.3% (80) response rate. Bazzoli GJ and colleagues	operational and staffing changes. Identified hospital mergers from AHA data. Used Bogue and colleagues survey instrument to survey the merged hospitals identified. 52% response rate. Survey collected information on demographic characteristics of hospitals pre-merger, reasons for merger, rearrangement of services in the merged hospitals and consolidation of patient care departments, programmes and staffing.				Also, specific actions were taken by merging hospitals to restructure patient care, medical care support units and administration through the merger. There were also similarities in reorganising actions, especially reductions in service duplication, consolidation of departments and programmes. There were reductions in medical and support FTEs, and reductions in administrative staffing. Mergers during 1989–1996, however, when compared with hospital mergers during 1983--1988, focused increasingly on reducing nursing FTEs and less on converting acquired hospitals to new service lines. Reductions in administrative staffing were almost universal. All mergers, regardless of the degree of service similarity, reported substantial reductions in chief executive officer/chief operating officer (CEO/COO) staffing. Other administrative categories: mergers involving similar hospitals experienced average administrative staff reductions ranging from 18% to 36%, depending on the staff category, and those involving dissimilar hospitals averaged reductions of 12% to 37%, again depending on the specific category of staff. Most reductions were in general accounting staff, purchasing, credit and collection, and PR.
3. Crawford A G, Goldfarb N, May R, Moyer K, Jones J and Nash DB	The study addressed two questions: whether, as hospitals consolidate into	Secondary data 49 hospitals with 1,617,581 discharges	Data from the state-wide hospital discharge database All discharges in 1997, 1998 and 1999 in	Length of stay, severity and mortality were examined for each hospital over the three-	Five medical school hospitals (49 actual hospitals) in Philadelphia	Not known	Philadelphia in the United Stated	Hospital performance (volume of discharges, length of stay, case mix, mortality rates) for patients with any condition, as no findings for patients with circulatory conditions. Volume of discharges: Two hospitals experienced a

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Hospital organizational change and financial status: costs and outcomes of care in Philadelphia 2002 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	medical school hospital-based systems, volume, severity, length of stay, and mortality increase in those hospitals; and whether for-profit conversion redistributes complex, high-cost admissions to non-profit hospitals.		Philadelphia and its surrounding counties in the US. Over 1.5 million discharges from 49 hospitals. Longitudinal analysis of time series data with trend analysis. Analysis focused on five major medical school hospitals in Philadelphia. Examined (i) volume of discharges over time; (ii) case mix; (iii) length of stay and (iv) in-hospital mortality. Additionally examined whether for-profit conversions redistribute high-cost admissions to non-profit hospitals.	year time period and ANOVA was used to detect differences over time.	and its surrounding counties in US			steep decline in the volume of discharges (Medical College of Pennsylvania hospital and Hahnemann University Hospital (acquired by a for-profit venture following failure in a state system), one hospital experienced a sharp increase (Thomas Jefferson University Hospital) and two hospitals (Temple University Hospital and Hospital of the University of Pennsylvania showed a smaller increase in volume. Resource utilisation was also examined and there was a sharp drop in mean resource utilisation for two hospitals (Medical College of Pennsylvania and Hahnemann University Hospital , which also showed decline in volume; mean resource utilisation was exacerbated by decreases in reimbursement. The other three hospitals increased volume and two hospitals (Thomas Jefferson University Hospital and Hospital of the University of Pennsylvania) had increased reimbursement also. Case mix: Case mix severity, measured by Atlas severity or the probability at admission, increased for three hospitals (Medical College of Pennsylvania, Hospital of the University of Pennsylvania and Temple) and the other two hospitals had no change. Length of stay: Only Hospital of the University of Pennsylvania hospital has a significant reduction in mean length of stay. Mortality rates: There was no significant change in mortality rate at the five medical school hospitals.
4. Cuellar AE and Gertler PJ	This study examined which individual and market-level	Secondary data used longitudinal data on hospitals to study how joining a system	Relied on three major sources: (i) The American Health Association annual	Used multivariate regression methods that	Arizona, Florida, Massachusetts,	Not known	US	Between 1996 and 2005 there have been profound changes in how the hospital industry has organised itself, including the rising importance of hospital systems. Theoretically, system consolidation can

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
How the expansion of hospital systems has affected consumers 2005 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	factors help to explain whether hospitals join a system in a local area, and to understand what motivates these transactions. We then examined changes in hospital performance subsequent to joining a system.	changes hospital behaviour.	surveys of Hospitals, (ii) hospital-level annual financial data collected by each state agency, and (iii) patient-level annual hospital discharge data.	take advantage of the longitudinal nature of the data to identify which hospitals join a system, and to determine the system's impact on performance.	Wisconsin, US 1995 to 2000			have positive effects from improved efficiency and quality, or negative effects from greater market power. This study examines which hospitals consolidate, and finds that hospitals were more likely to join systems if they were for-profit institutions, were located in urban areas, or had high managed care loads. The analysis indicates that spending per day in hospitals that were part of systems was 2.8% higher per patient than in non-system hospitals, and remained higher after joining the system. System hospitals reduced the rate of over-used procedures for managed care patients by 1.2%. Other quality indicators (inpatient mortality and inadequate patient safety) did not change. The findings suggest that system formation has primarily served to increase market power, not to improve patient care quality or hospital efficiency, at least in the short term.
5. Gaynor M, Laudicella M and Propper C Can governments do it better? Merger mania and hospital outcomes in the English NHS 2012	To estimate the causal effect of mergers on performance. To examine the variation over time in hospital outcomes for merged hospitals pre- and post-merger with that of a control group	Secondary data Administrative data sources (i) Activity and financial performance including staffing. (ii) Quality waiting times and clinical outcomes. Acute care hospitals in the UK. Hospitals before and after merger. Also compared with	Database from hospital-level panel derived from administrative data sources information. Mergers occurring from 1999 or later.	Event study design with matching	England 1997 and 2006	Not known	England	Hospital performance (hospital activity, money staff) Quality (NHS clinical outcomes, waiting times) Findings: No evidence of gains in merged hospitals. Staff numbers fell by 11-12% each year, as did admissions. Labour productivity did not rise. There was a decrease in numbers of permanent staff, but increased staff overall. No evidence of improvement in quality in merged hospitals and some signs of disimprovements. Waiting times increased while there are poorer outcomes from stroke. In addition, there were higher fatality rates post-discharge as well as higher rates of readmission.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Quality Assessment Quantitative AS =1 JM =1 CC =0.75 Total =2.75/3		matched control hospitals (no merger).						
6. Hayford TB The impact of hospital mergers on treatment intensity and health outcomes 2012 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	To analyse the impact of hospital mergers on treatment intensity and health outcomes	Secondary data	Hospital inpatient data from California 1990 to 2006, encompassing 40 mergers. Focused on patients with ischaemic heart disease. Examines the impact of merger on treatment intensity, likelihood of receiving treatment within one day and inpatient mortality. The primary intensity measure is percentage of patients receiving bypass surgery or angioplasty. The number of procedures is another measure of treatment intensity. The likelihood of receiving treatment within one day and inpatient mortality reflect quality.	Patient-level data on demographic characteristics, payment, diagnoses, and procedures performed for every inpatient discharge. Analysis restricted to patients with heart disease. Outcomes analysed within geographical area. Regression analysis for each of the five dependent variables.	California from 1990 to 2006, encompassing 40 mergers.	Not known	California, United States	Treatment intensity (number of procedures) Quality (treatment within one day, mortality) Findings: The unadjusted findings indicate that the percentage of patients receiving bypass surgery or angioplasty increased by 3.7%. Patients in merged facilities were not more likely to receive treatment within one day. There were minimal and marginally significant increases in mortality and average length of stay in merged hospitals. A 1.7% increase in inpatient mortality above averages. When isolating the effect of competition, the treatment intensity is reduced and the inpatient mortality is increased to 3.9%. Overall treatment intensity increased, but quality did not.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
			Controlled for demographic characteristics.					
7. Ho V and Hamilton BH Hospital mergers and acquisitions: does market consolidation harm patients? 2000 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3	To determine whether the quality of patient care declines after a hospital is merged or acquired.	Secondary data American Health Association annual survey data	American Health Association (AHA) annual survey data on Californian hospital mergers 1991 to 1995. Quality measures are: inpatient mortality, readmission rates and early discharge of newborns. Data from the AHA's annual survey of hospitals and the Office of State-wide Health Planning and Development (OSHPD). California 1991–95. Stratifying variables were whether treated in a hospital that merged, a dependant hospital that was acquired by a hospital system, or a hospital belonging to a system that was acquired by another system.	Quality measures are: inpatient mortality, readmission rates, and early discharge of newborns. Regression models to determine the impact of mergers on these variables.	Californian hospital mergers 1991 to 1995 where two or more corporations came together into a single entity.	Not known	California, United States	Quality of inpatient care (mortality, readmission rates and early discharge of newborns) Findings: Consolidation has no tangible effect on inpatient mortality for either heart attack or stroke. Larger patient volume is associated with a lower probability of inpatient death for heart attack patients as well as lower comorbidities. Hospital volume does not affect stroke mortality. Overall, mergers and acquisitions do not affect inpatient mortality (may be due to small sample size). When readmission for myocardial infarction was used as a quality measure, mergers and most acquisitions do have a detrimental impact on quality. Mergers and acquisitions increased the probability of early discharge of newborns.
8. Kjekshus LE, Bernstrøm VH, Dahl E and Lorentzen E	To analyse the effect of mergers on long-term sickness absence among hospital	Secondary data analysis. Hospital employees (N = 107,209) in 57 hospitals involved in mergers	Data were drawn from two sources: (i) hospital data were provided by the research institute, SINTEF [40-45]; (ii) individual-level data were provided by	Variation in long-term sickness absence was explained through a fixed-effects	57 hospitals into 23 merged hospitals in Norway between 2002 and	Not known	Norway	Staff long-term sickness leave Findings: A significant but modest effect of mergers on long-term sickness absence in the year of the merger, and in years 2, 3 and 4; analysed by gender there was a significant effect for women, also for these years, but only in year 4 for men.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
The effect of hospital mergers on long-term sickness absence among hospital employees: a fixed effects multivariate regression analysis using panel data 2014 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	employees.	Norway 2000 to 2008. To analyse the effect of mergers on long-term sickness absence among hospital employees. Data from two sources: (i) hospital data provided by the research institute, SINTEF (ii) individual-level data were provided by Statistics Norway.	Statistics Norway's register-based longitudinal "Events Database". Using Registry-based employee statistics from Statistics Norway, data on individual employees were merged with hospital-level data.	multivariate regression analysis using panel data with years-since-merger as the independent variable.	2009.			However, men are less represented among the hospital workforce; this could explain the lack of significance for men in other years. Mergers have a significant effect on employee health that should be taken into consideration when deciding to merge hospitals. This study illustrates the importance of analysing the effects of mergers over several years and the need for more detailed analyses of merger processes and of the changes that may occur as a result of such mergers.
9. Kjekshus L and Hagen T Do hospital mergers increase hospital efficiency? Evidence from a National Health	To analyse the effects on technical and cost efficiency of seven hospital mergers over the period 1992–2000 in Norway.	Secondary data analysis. Effects on technical and cost efficiency of seven hospital mergers 1992–2000 in Norway. The mergers involved 17 hospitals. Measures of	Norwegian non-psychiatric acute hospitals with diagnostic-related group output data for the period 1992–2000. This produced a panel dataset comprising 53 units over a period of nine years, totalling 477 observations.	Efficiency scores were generated using Data Envelopment Analysis for 53 merged and non-merged hospitals over the nine years, and the effect of mergers was	17 hospitals in Norway merged between 1992 and 2000.	Not known	Norway	Hospital performance includes measures of number of inpatients adjusted for DRG and outpatient consultations, length of stay (costs), and number of outpatient consultations Findings: Increases in budget per bed reduced efficiency through an increase in 'slack resources'. This hypothesis was supported for cost efficiency while the effects were mixed for technical efficiency. A negative effect of budget size on hospital efficiency and a positive effect of budget size on quality.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Service country 2007 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3		efficiency were: cost efficiency (primary input was total costs) and technical efficiency (primary input was staff person-years). Outputs described in similar ways in both efficiency measures: the number of inpatient hospital stays adjusted using DRG-(diagnostic-related group) based cost weights and outpatient consultations. Unusually long inpatient stays were given a specific cost weight estimated by the relationship between mean cost per long stay and mean cost per normal stay. Outpatient consultations, including day surgery, measured as the total sum of outpatient reimbursement based on fixed rates per unit of activity related to the amount of resources used.		estimated through panel data analysis.				Overall, mergers of acute general hospitals in the short and medium term showed no significant positive effect on technical efficiency and a significant negative effect of between 2% and 2.8% on cost efficiency. However, positive effects on both cost and technical efficiency were found in one merger where more hospitals were involved, and where administration and acute services were centralised. Large mergers involving radical restructuring of the treatment process may improve efficiency as intended, but most mergers do not.
10. Perez CE	This article examines	Secondary data analysis.	Data from the 1998/99 Discharge Abstract	Cross-tabulations	Ontario	Not known	Ontario, Canada	Hospital efficiency (readmission rates)

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
Ontario hospitals – mergers, shorter stays and readmissions 2002 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3	reductions in length of stay and readmissions with either pneumonia and acute myocardial infarction (AMI) in recent hospital mergers in Ontario hospitals in 1998/99,.	Ontario hospitals in 1998/99. Calculate odds of readmission, adjusting for hospital and patient characteristics. Readmissions of pneumonia and acute myocardial infarction patients and reductions in length of stay and recent hospital administrative mergers. Data from the Canadian Institute for Health Information (CIHI).	Database, maintained by the CIHI.	were used to assess unadjusted associations between hospital and patient characteristics and readmission risk. Hierarchical non-linear models were used to calculate odds of readmission, adjusting for hospital and patient characteristics.				Findings: Hospital characteristics that may indicate restructuring, i.e. a decrease in mean length of stay or a recent administrative merger – were not associated with readmission of pneumonia or acute myocardial infarction patients within 30 days of discharge. On a positive note, one restructuring factor significantly lowered the odds of dying from pneumonia, i.e. pneumonia patients in recently merged hospitals had a lower probability of dying compared with such patients in other hospitals. Changes in mean length of stay were not associated with in-hospital deaths.
11. Town RJ, Wholey D, Feldman R, and Burns LR Revisiting the relationship between managed care and hospital consolidation 2007	To examine whether the rise in managed care during the 1990s caused the increase in hospital concentration.	Secondary data analysis.	Data from the American Hospital Association, InterStudy and government censuses from 1990 to 2000. All data are from secondary sources merged at the level of the healthcare services area.	Linear regression analyses on long-differenced data to estimate the impact of managed care penetration on hospital consolidation. Instrumental variable analogs of these regressions are also analysed to			United States	In 1990, the mean population-weighted hospital Herfindahl–Hirschman index (HHI) in a Health Services Area was .19. By 2000, the HHI had risen to .26. Most of this increase in hospital concentration is due to hospital consolidation. Over the same time frame, health maintenance organisation (HMO) penetration increased threefold. However, our regression analysis strongly implies that the rise of managed care did not cause the hospital consolidation wave. This finding is robust to a number of different specifications.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
				control for potential endogeneity.				
12. Sinay T and Campbell CR Strategies for more efficient performance through hospital merger. 2002 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	Compares the operating performance of merged and non-merged local hospitals during the late 1980s and early 1990s.	A matched case-control design is employed to create 'synthetically' merged hospitals – to represent them as if they had effected a merger – and compares their performance to a group of similar hospitals that did merge. The merged hospitals were matched with two or three synthetically merged hospitals in the same, or a nearby, geographical area.	Hospitals that were members of the American Hospital Association Survey between 1986 and 1992. The mergers that occurred between 1987 and 2000. Data on inputs, outputs and costs of each merging and control hospital were collected FTE. Full-time hospital personnel. Part-time hospital personnel. FTEs per bed. Average compensation (labour) per FTE. Average supply (other than labour) costs. Total costs. Staffed beds by service. Outputs measured by inpatient days and visits	Comparison over time for merged hospitals Comparison over time for non-merged hospitals Comparison between merged and non-merged hospitals at end of year 2	Merged local hospitals during the late 1980s and early 1990s	Not known	United States	Overall, the merged hospitals and the pseudo-merged controls were similar two years after the matched true merger with respect to average bed numbers, total employees, inpatient volumes and outpatient volumes. There were some significant differences between the merged hospitals and the pseudo-merged controls two years after the matched true merger. These included: 40% lower number of services offered by the merged hospitals; lower number of full-time FTEs (reduced by 9%) at merged hospitals and higher number of part-time FTEs; merged hospitals had an 8% higher occupancy rate.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
13. Ingebrigtsen T, Lind M, Krogh T, Lægland J, Andersen H and Nerskogen E. Merging of three hospitals into one university hospital. 2012 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.5 Total =2.5/3	To document the experience of merging three hospitals into one university hospital under the health enterprise strategy.	Clinical activities were reorganised into fewer and larger units (divisions) and changed from inpatient to day treatment. Leadership was established across geographical units, and a programme for improving patient care pathways was launched. The experience gained is described by means of activity data from January 2006 to April 2011.	The electronic patient records and the patient administrative system were combined to provide data on patient pathways. Data from the Norwegian patient registry were also collected. In addition, prospective enterprise data were collected for the first four months of 2006 and 2011 to describe activity, waiting times and national quality waiting times. Employee satisfaction was measured in the third quarter of 2009 and first quarter of 2011 using a cross-sectional survey via email with a 62% response rate. The accounts provided costs, but could not provide cost reductions. Cost reductions were estimated using a shadow accounting approach.	Data were described using trends over time.	Three hospitals merged into one university hospital in Norway.	Not provided	University Hospital North Norway	The number of patient contacts in the somatic sector temporarily reduced by 7% in 2009. Mean waiting period in the somatic sector increased from 80 days in 2006 to 108 days in 2010, but fell to 85 days in 2011. In psychiatry and specialised cross-disciplinary addiction therapy, the number of adult patient contacts increased, and waits were unchanged at approximately 50 days or shorter. National quality indicators showed unchanged or improved results. The number of scientific publications increased by 62%. Productivity (DRG points per employee-month) also increased from 0.73 to 0.79. 14 clinical pathways were improved and 15 are in process. The annual financial outcome improved by NOK 537 million (12% of the 2006 budget). 81 % of the employees were satisfied with their jobs after the restructuring. Quality indicators – somatic disorders; the proportion of case histories dispatched within seven days remained stable at 50-60% from 2006 to 2010, but increased to 76% in the first four-month period of 2011. The number of cancellations of planned surgery declined from 14% in the first four-month period of 2006 to 5% in the first four-month period of 2011. The proportion of patients with fracture of the femoral neck operated on within 48 hours varied from 89% to 97% and the proportion of emergency Caesarean sections varied from 2% to 17%, both without any clear trend over time. The percentage of corridor patients remained stable at approximately 2%. The percentage of patients with an individual plan within the child rehabilitation programme fluctuated within a range from 11% to 100% during the period 2006 to 2008, but stabilised at more than 80% from the second four month period of 2009.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
								Maintained activity and the quality of patient treatment at a high level through the change. Hospital's financial position improved. The methods used do not allow conclusions on possible causal relationships between the change process and the results achieved in core activities.
14. Harrison, Jeffrey P. and McDowell, Geoffrey M "A Profile of U.S. Hospital Mergers" 2005 **Quality Assessment Quantitative** AS =1 JM =1 CC =0.75 Total =2.75/3	This study evaluated market characteristics, organisational factors and the operational performance of these hospitals prior to and after merger. The three research questions were: Do merged hospitals: 1. Have lower profitability and less efficient operations than non-merged? 2. Own ageing plant and equipment and lack money for replacement? 3. Have facilities located in favourable markets with less	Mergers 2000–2 from the Modern Healthcare's annual article on hospital mergers and acquisitions	Individual hospital data from the American Hospital Association Survey, including bed numbers, hospital services, utilisation, and ownership. Data from the area's resource file on the hospital environment, economics and demography. Data from the Centres for Medicare and Medicaid minimum dataset on hospital finances.	Description and correlations Modelling using multivariate logistic regression	US Mergers 2000–2 n=66 merged hospitals compared to n= 198 non-merged hospitals (random sample)	Not provided	US	According to Modern Healthcare's Annual Report on Mergers and Acquisitions the number of hospital mergers has declined significantly since the Balanced Budget Act of 1997. This study evaluated market characteristics, organisational factors and the operational performance of these hospitals prior to merger. We found that merged hospitals were more likely to be located in markets with higher per capital income and higher health maintenance organisation penetration. Merged hospitals were larger in size and had greater clinical complexity as measured by increased services. Finally, we found that merged hospitals had higher occupancy rates, lower return on assets, and older facilities. From a managerial perspective, merged hospitals display many of the characteristics of an organisation in financial distress. From a policy standpoint, the decline in hospital mergers subsequent to the Balanced Budget Act of 1997 may affect the long-term survivability of many US hospitals.

Study	Aim of study	Sample selection and size	Data collection	Data analysis	Merging units	Estimated number affected by the merger	Location	Findings
	competition? 4. Do merged hospitals have larger facilities and provide a wider range of clinical services?							
15. Dranove D and Lindrooth R Hospital consolidation and costs: another look at the evidence 2003	Investigate whether pairwise hospital consolidation leads to cost savings.	Use a unified empirical methodology to assess both systems and mergers. Our comparison group for each consolidation comprises 10 'pseudo-mergers' chosen based on propensity scores.						Cost function estimates reveal that consolidation into systems does not generate savings, even after four years. Mergers in which hospitals consolidate financial reporting and licences generate savings of approximately 14% two, three and four years after merger. The system consolidation and merger results are very robust to changes in the specification and the sample.

Appendix 4b: Design characteristics of 18 qualitative studies included in this review

No	Study	Aim of study	Sample selection and size of 'data source'	Data collection	Data analysis
1	Salmela, Eriksson and Fagerstrom (2012)	Explore how nurse leaders describe and understand their main tasks and roles prior to a merger of a hospital and healthcare centre.	Purposive sampling; 14 head nurses and three nurse directors recruited from a total of 30 nurse leaders	In-depth interviews	A phenomenological hermeneutical approach using three stages; naïve reading, structural analysis and comprehensive understanding.
2	Engstrom, Rosengren and Hallberg (2002)	Describe employees' experience of a two-hospital merger five months afterwards.	31 employees recruited and stratified across professional categories; 31 employees	In-depth interviews	Grounded Theory using constant comparison, open coding, axial coding and selective coding; data saturation is reported. Looks like analysis was done post-data collection.
3	Roald and Edgren (2001)	Describe employees' reactions following a merger between two orthopaedic hospitals.	14 employees recruited and stratified across professional categories; snowballing used in recruitment	In-depth interviews	Grounded Theory using constant comparison, open coding, axial coding and selective coding; data saturation is reported. Looks like analysis was done in parallel with data collection.
4	Rosengren, Engstrom and Axelsson (1999)	Describe and analyse the experience of staff involved in a merger in Sweden.	31 employees recruited and stratified across professional categories. A mix of gate-keeper and snowballing used to recruit.	In-depth interviews	A Grounded Theory approach using constant comparison, open coding, axial coding and selective coding.
5	Cortvriend (2004)	Explore how NHS employees experience changes and what they perceive as the most salient aspects of change.	31 participants recruited and stratified across professional categories.	Five focus groups with between four and eight participants in each.	A mix of deduction (data driven) and induction (theory testing) was combined (abduction).
6	Fulop *et al.* (2005)	Analyse the 'drivers' of mergers, both stated and unstated, and examine the second and third year after a merger.	130 semi-structured interviews with a purposive sample of internal and external stakeholders	Semi-structured interviews	A mix of deduction (data driven) and induction (theory testing) was combined (abduction).
7	Choi, Holmberg, Lowstedt and Brommels (2012)	Analyse the work of executive management in the post-merger processes.	A purposive sample of 22 participants recruited; 18 from the new post-merger management group and four from the non-executive board.	In-depth Interviews using an open theme topic guide; plus observations of management meetings and relevant documents.	An 'abductive' approach combining induction (data driven) and deduction (theory-driven exploration). Using triangulation, data were cross-checked to ensure internal validity. Respondent validation also used to verify findings.
8	Shaw (2002)	Study the effects of merger on staff and on the organisational culture of the hospitals.	42 interviews were undertaken with a purposive sample of senior trust managers and professional staff.	In-depth interviews	An 'abductive' approach combining induction (data driven) and deduction (theory driven exploration) was used.
9	Mallon WT (2003)	This case study examines six aspects of a merger and de-merger.	13 individuals interviewed face-to-face and five by phone; sampling and recruitment strategy not reported.	Face-to-face semi-structured interviews, semi-structured interviews by phone and documentary analysis.	Not reported
10	Lees and Taylor (2004)	Examine what aspects of change are associated with	17 nurses were randomly selected for interview;	Semi-structured interviews and a review	Not reported

		the effects of a merger.	random selection not described.	of organisational records	
11	Jones JM (2003)	Assess the effects of a tri-hospital merger on registered nurses in acute care settings.	All full-time and part-time nurses were invited to participate in the study; 98 (31%) responded to the survey. Nine consented to be interviewed. Data were collected approximately 3.5 years after the merger was initiated.	Semi-structured interviews, participant observation and analysis of relevant documents to study each hospital as a cultural setting.	Not explicitly reported
12	Hendel T (1998)	Review the merger process of two obstetric divisions.	No information	Data collected from administrative decisions, feelings expressed by staff, author observations.	Data analysed through the nurses' perspective using the abductive approach.
13	Fulop, Protopsaltis, Hutchings, King, Allen, Normand and Walters (2002)	Study the processes involved in, and impact of, mergers between NHS trusts.	Purposive sampling and snowballing used to recruit 96 participants including board members, senior managers, clinicians, service managers and external stakeholders.	In-depth interviews and documentary analysis	Abductive analysis; respondent validation was reported.
14	Choi, Holmberg, Lowstedt and Brommels (2011)	Explore critical factors that obstruct or advance integration efforts by clinical management after a hospital merger. Focus of study, three-year period following the merger.	53 participants were purposively sampled; these comprised 22 clinicians, 18 managers and 13 external stakeholders.	In-depth interviews and documentary analysis	Analysis was done by thematic development and theoretical exploration (abduction).
15	Kastor JA (2010a)	This article focuses on attempts to merge the medical schools and hospitals of Mount Sinai and NYU and the failure of that attempt.	42 participants were interviewed by telephone and email; some interviewed more than once.	Interviews via face-to-face, telephone, email	Not reported
16	Kastor JA (2010b)	This article focuses on attempts to merge the hospitals of Mount Sinai and NYU.	42 participants were interviewed by telephone and email; some interviewed more than once.	Interviews via face-to-face, telephone, email	Not reported
17	Kitchener M (2002)	Develop theoretical and empirical understanding of the adoption of a merger between two academic health centres.	The UCSF/Stanford merger case was purposively sampled. Participants recruited included 11 key informants; four senior executives, three physicians, one nurse, two non-medical academics, one labour representative.	Data were collected through informal meetings and formal interviews; sessions lasting 1-2 hours. Internal documents, press reports, relevant literature	A mix of inductive and deductive analysis; abductive analysis; very clear account of how the analyses were performed.
18	Goddard S and Palmer A (2010)	What impact has the merger had on the delivery of learning and development within the new structure?	Purposive sampling used to select professionals with a good knowledge of, and involvement in, employee development.	Individual unstructured interviews (n=21) Group discussions (n=9) Focus groups (n=2)	A descriptive narrative analysis has been used to address four *a priori* questions.

Appendix 5: First stage of thematic synthesis; line-by-line coding of 18 qualitative studies

Codes (Hendel; 1998)[40]	Codes (Rosengren, Engstrom, Axelsson; 1999)[41]	Codes (Roald and Edgren; 2001)[42]
Opposition to the merger by staff and unions.	To engage and motivate staff – participation was vital.	Goal uncertainty
Active involvement in process demanded.	Deficient participation led to doubts, anxiety and lack of faith.	No real influence on the process of merging.
Planning committees established.	Doubts about positive outcomes	Invitation by management to participate was seen as a tactic.
Continued resistance to work new operating procedures, e.g. protocols.	Wanted to participate in phases of planning and decision-making.	No coherent perception of the goals of the merger.
Reduction in nursing positions	Wanted to actively participate in and influence the different stages of the change process.	Staff frustrated with inadequate and lack of information.
Increased workload; fewer staff	No distinct purpose for the change was made evident.	Rumours were prevalent.
Real threat to nurse and physician positions.	Keeping staff members informed would contribute to participation.	Feelings of doubt and uncertainty expressed.
Staff fear threat to their positions.	Lack of information was evident.	Frustration at lack of focus on the main production goals.
Difficult to establish new working relationships.	Management failed to make the case for cooperation between the hospitals.	Both sides had opposing goals.
Difficult to establish mutual trust in new working relationship.	A 'them and us' way of thinking emerged.	Organisational culture
Continued conflict in the absence of mutual trust.	Respondents who were participating displayed faith in the process.	Strong differences in cultures
Continued resistance to change	Respondents who were participating seeing a positive challenge where new activities could be developed.	Conflict between the two hospital cultures.
Wanting to protect tradition, rely on what they knew.	Anxiety about resources coming from one larger hospital which may dominate the other hospital in the merger.	Cultures considered impossible to change.
Maintain the status quo.	Anxiety over insufficient solidarity among employees in the new entity.	Staff from one entity feared the other would become dominant.
Experiencing stress and separation.	Anxiety about a feeling of 'them and us' between the two hospitals.	Staff worked hard to maintain their own cultural characteristics.
Experiencing painful psycho-social distress.	Management did little to help merge both cultures.	No meeting of minds on each other's thinking or behaviour.
Experiencing loss of status and identity.	Absence of information on terms of employment led to rumours.	Both sides acted to obstruct and prolong change process.
Lack of knowledge and understanding of change process.	Anxiety over the amount of work.	Individual insecurity
Some social activities among staff were promoted.	Active support was needed to deal with increased pressure.	Professional and personal insecurity
Supportive resources to deal with emotional legacy and gaining work autonomy were suggested.	Anxiety over geographical dispersion – the two hospitals remained separate entities under one centralised control	Staff afraid of losing autonomy and status.

	system.	
Change was seen as threatening.	Anxiety over moving between both buildings – 20 km distance.	Manipulation to bring about change was the argument from the other side.
Autonomy to design physical lay-out provides opportunity to feel actively involved.	Faith in the future was expressed – despite the trying experiences outlined.	Employees less involved tended towards acceptance and indifference.
Strong leadership needed.	Important to see opportunities and not just obstacles.	Strong feelings of obligations and loyalty to the patients remained.
Extensive dialogue needed.	A belief that increased opportunities for specialisation may arise	

Codes (Engstrom, Rosengren and Hallberg (2002)[43]	**Codes (Shaw; 2002)[44]**	**Fulop *et al.* (2002)[48]**
Balancing involvement	Two strongly contrasting cultures	Stated and unstated drivers for mergers
All respondents wanted to be involved in the merger.	They fought like cats and dogs	Impact of merger on service delivery
Staff experienced a lack of trust and respect which led to low involvement in the merger.	Mutual suspicion	Loss of managerial focus on services had some detrimental effect on patient care.
Importance of information and true dialogue	Each assumed a takeover by the other.	Service developments delayed by 18 months.
Employees' experience of trust, respect, challenge and commitment can balance involvement in the change process.	Assumption was if appointments from one entity dominated, their culture would prevail.	Senior management underestimated timescale and effort involved.
Lack of trust in managers' competence to manage the merger	Managers said they were striving to create a new culture.	Additional clinicians in smaller service in order to run them effectively
Lack of trust in managers' ability to make correct decisions	Elements of new culture; meet patient needs, provide high-quality healthcare, make best use of resources, deliver against key objectives, look after staff.	Proposed changes to services in pathology, accident and emergency, and maternity departments still not implemented two years after merger.
Political vision not matched with clear and strong strategies to carry through the merger.	Professional autonomy being eroded by government initiatives (expressed as a constant source of pressure).	The hoped-for fusion of clinical and management strengths did not materialise.
Management lacked competence in handling and making the merger understandable.	Need to communicate well.	Impatience over delay in implementing actions after service reviews
Participants felt neither respected nor affirmed during the merger.	Allow people to feel they have a right to make a contribution.	Awareness of bureaucratic barriers to change
No opportunity to influence – felt abandoned and invisible.	Dialogue was encouraged in new trust.	Professional supervision and staff development policy introduced enhanced service delivery.
Human dignity and respect for each other would have made for a positive outcome.	Vision included devolved management.	Senior managers had become remote.

If employees are not affirmed or given a chance to influence their work, they could leave.	Certain people high up do not believe in devolution.	Service managers felt cut off from the services they were managing.
Achieving staff involvement requires shared information, meetings and a dialogue between equals.	Staff wanted openness and tolerance.	Senior managers did not devote enough time to staff.
Receiving information leads to feeling respected and affirmed – human dignity.	Be clear about objectives and goals.	A loss of informality and familiarity from previous organisation.
Staff cooperation with merger not matched by managers' ability to coordinate personnel and resources.	Two massive institutions locked in a futile war dating back at least 30 years.	A decrease in the autonomy of services and local decision-making.
Merger brought opportunity to use staff knowledge to learn new ways of working.	Hospital B was perceived as aggressive, results oriented, devolved management.	Large trusts unresponsive and slow to make decisions.
Merger brought opportunity to use staff knowledge to learn new ways of working.	Hospital A perceived as tightly controlled, centralised and paternalistic, concerned for its staff and open to dialogue.	Large teams of specialists created in a merger can pursue clinical excellence
Commitment to the citizen-patient	Initially, staff expecting improved patient outcomes.	No evidence of substantial improvement in recruitment or retention.
Healthcare should have quality and be accessible for citizens.	When consultation on new structure and appointment process commenced, staff felt uncertain and worried.	Improved system of clinical supervision.
Inform citizens how healthcare will be organised after the merger.	Some staff took the position to influence the process and secure an advantage. Other staff denied involvement and withdrew from unwelcome pressure.	More coherent professional management. Programmes of appraisal, training and career development.
Fear of inappropriate care for patients after the merger.	Staff experienced shock when unforeseen change occurred.	Stress caused by uncertainties and changes. Increase in workload.
Expressed commitment towards patient care despite downsizing.	Staff interpreted appointments from the 'other side' as being taken over	Different attitudes to innovation and risk. Different attitudes to outcome or process orientation. Different attitudes to patterns of communication.
Commitment to their profession, e.g. nurses	Staff talked about the search for meaning (from work) and progression – having a new	

	challenge from work.
Prioritising professional interests could be an obstacle to cooperation in the merger.	Others were more sceptical and talked about detachment or alternative employment.
Belonging to a profession provides support and the power to continue working.	Climate of the wider NHS as part of the problems experienced in the merger.
Belonging to a profession bestows identity.	Still a lot of 'them and us', but less so.
Commitment to citizens and their profession affects experience of the merger.	A controlling, tight-knit group at the top. Distance between executive directors and operational managers.
	Managers' talk about devolving not matched by action.
	Inadequate information being provided.
	Staff ambiguous about competency of management.
	Absence of decision-making by management.
	Too much hierarchy.
	Divisions becoming fragmented, dysfunctional.
	Collision rather than merger.

Mallon (2003)[46]	Kitchener (2002)[49]	Jones (2003)[8]
Merger failure due to failure of executive leadership	Executives were unable to implement merger in the face of the barriers presented by enduring aspects of the institutional logic and structures of professionalism.	Organisational identity
Underlying lack of trust between CEOs	Enduring aspects of the institutional logic and structures of professionalism cause dysfunctional outcomes to emerge	Make people feel they belong.
Presumption of academic superiority of one CEO by clinical leaders and faculty of one system	Loose coupling is an approach to interconnecting the components in a system or network so that those components, also called elements, depend on each other to the least extent practicable.	Camaraderie not visible.
Neither CEO accepted by the other campus.	Background to the merger characterised by weakening financial position of both entities, a long history of competing with	Divided loyalties to 'old hospitals'

	each other on the basis of prestige for staff, patients and research funding.	
Board of merged entity remained partisan to their own prior entities.	Senior executives of the two merging entities began secret discussions about the nature and extent of future links. A firm of management consultants engaged to advise on possible options. Shortly afterwards, the notion of merger developed a life of its own. Management agreed to delay discussion of barriers to implementing a merger. A second firm of management consultants was brought in to advise on the financial and legal implications of the merger. A consideration of organisational barriers to a possible merger was omitted from the consultants' terms of reference. The proclaimed managerial rationality for the merger was 'it makes straightforward economic and operational sense. It reduces administrative overheads.' There was lack of consultation with physicians and other staff. The announcement of the merger provoked anxiety and suspicion among physicians and other staff groups.	Nostalgic stories about 'previous CEO hero'
No common identity or vision for new entity	A further management consultants' assessment projected a profit of $152 million between 1997 and 2000 if the AMCs merged; it was noted that each of the expert opinions conveyed so far contained no discussion of the relative merits of the merger against other options, any analysis of previous healthcare mergers, limited examination of issues	Lack of trust in management if staff perceive money (layoffs) to be bottom line.

	surrounding clinical integration and little consideration of possible barriers to implementation.	
Incompatibility of organisational cultures	'…the core clinical and teaching activities of each institution were buffered from the rationalising spectre of the merger…' p408. In effect, both institutions remained in 'traditional operational mode' with little attempt to come together in a new entity.	Potential trust in management if staff perceive them as pro-staff interest (people orientation).
Lack of understanding of the different layers of cultures in organisations	The merger was formally dissolved on 1 April 2000. It cost $176 million to dissolve the merger, thus prompting one party to ask: 'Have you ever seen a divorce that was cheaper than the wedding?' p410	Want input into the process of cultural change.
Both had similar mission statements, but gave different priority to different areas, e.g. research over patient care.	'…the dysfunctional outcomes of uncritical conformance to the merger myth, reported here, are consistent with those in accounts of other hospital mergers and other early AHC mergers…' p411	Do not want to be bystanders to the process of cultural change.
Each held different underlying assumptions about each other.		Want to be active participants in developing a strong culture.
Secret negotiations by management were an affront to academic culture		Wanted additional information to feel more in touch
Lack of involvement in process of change for majority of staff.		

Cortvriend (2004)[45]	Lees and Taylor (2004)[55]	Fulop (2005)[50]
Management and leadership style	Mixed views on whether the merger was necessary.	Perceived differences in organisational culture
Autocratic style – negative feelings and outcomes	Mixed views on being treated fairly during the merger.	Conflicts of values and priorities
Democratic style – positive feelings and outcomes	Quality of worklife deteriorated since the merger.	Different attitudes to innovation and risk-taking
Merger can be viewed as a takeover.	Positive features of nursing practice emphasised.	Different attitudes to outcome or process orientations (between merging entities)
Merger can be seen as rarely a union of equals.	Pace of work and physical structure of new department	Staff in all case studies felt taken over by another trust's

	warranted negative views.	management.
The personal and involved style of the chief executive – positive	Mixed views on quality of communication	Senior management dominated by bodies from one former trust; led to feeling among staff members of takeover.
Employees who feel supported and valued can humanise the workplace.	Previous cultures had not merged into one.	Implications of perceived takeover if management structures and approaches of one former trust were imposed on the new entity.
Culture was significant.	More interaction between two groups needed prior to the merger in order to improve cultural integration.	Staff from former organisations whose management now ran the new trust complained of getting little attention from their managers.
Culture – the relationship of one organisation's culture merging with the other	Difficulties with differences of practice, policies and procedures	Opportunities for learning and sharing good practice
Culture – the geographical areas merging		Sharing good practice and learning were sporadic. Sharing good practice and learning was viewed by some as long term.
The conflict and problems of cultures merging		Agreement that the merger had made services worse.
Different cultures among staff – different ways of working		Loss of managerial focus during mergers harmed patients.
Cultural differences – different relationships even with managers		Service developments were delayed.
Merging two different cultures can be seen as a disaster from the start.		Creation of critical mass of clinicians in smaller services
Culture affected every day and led to coping difficulties – stress and strain.		Delays in middle management appointments led to delays in service development.
Merger described as something that happened and wasn't managed.		Senior management lost control over strategic direction and daily operations early in the merger.
Little was done pre-merger to prepare for cultural changes.		Underestimated the timescale involved.
Participants not involved in the management of change or the decisions leading up to it.		Impact on staff; the emotional cost of merger
Decisions made higher up in the organisation and in government questioned by participants.		Benefits to staff: • improved clinical supervision • coherent professional management • appraisal training and career development • increased autonomy in roles • having a voice in plans for innovation and change

Decisions seen as lacking strategic thinking and arbitrary.	Negative impact on staff: • stress caused by uncertainties and changes • increase in workload • anxiety of having to work alongside 'rivals' • staff left their jobs • staff found it difficult to relate to management if they were from a 'rival' organisation.
Employees feel disempowered when not involved in decision-making.	
Staff feedback should be listened to and acted on.	
Little improvement in services since the changes – slight deterioration in services	
Main findings the importance of management style – and the merging of two cultures	
The psychological contract	
During the merger, consultation and communication were non-existent.	
Meetings were a waste of time – decisions made beforehand.	
A feeling that concerns not listened to, led to feelings of disempowerment.	
Job satisfaction related to pay and working conditions	
Organisational support was seen as mediocre – lip service.	
During the merger, people left (in droves), people intended to leave, and people wished they had left.	
Participants felt more loyal and committed since the de-merger.	
Others felt the team spirit went during the merger and hadn't returned post the merger.	
Commitment to the organisation had declined post-merger.	
Motivation levels dropped.	
Unmet expectations during the merger led to exit.	
The fast and continuous change was difficult to adapt to.	
The psychological contract changed over time, with strong evidence of exit as a violation	

response.
Distress caused by placement procedures
Placements undertaken by HR – unclear who was responsible for decisions
Constant change and threat for future led to anxiety and resignation – there was a background of constant change in the NHS, and staff were resigned to this.
Not knowing where people would be placed in the merger caused uncertainty – not knowing how long change would last caused uncertainty.
Increased motivation was experienced in team who received extra resources and support.
Demotivation was common among those who did participate in new services after the de-merger.
The job itself (looking after patients) can help staff to feel valued.
The organisational change (without involvement by staff) can lead to staff feeling undervalued.
Participants did not have time to adjust between changes.
There were no periods of stabilisation for participants.

Kastor (2010; a)[56]	Kastor (2010; b)[57]	Goddard and Palmer (2010)[51]
Merger of medical schools and hospitals failed.	Failure to merge the two hospitals of Mount Sinai and NYU	Merger's impact on learning and development functions – four years after the merger there was no 'training strategy, policy, plans or central training records'.
One side considered themselves superior, as they had been around much longer.	Poisoned air from merger 1 prevented the merger.	'uneven spread of resources' – Trust B allocated lion's share of resources; Trust A feels it's being 'taken over'.
One side feared losing status and salaries if medical schools combined.	Forces on both sides resisted yielding autonomy.	Staff feeling 'forgotten and unsupported'.
Dean of one side secretly opposed the merger – displayed no enthusiasm and encouraged no one in the faculty to participate; was silent on the matter.	Intense opposition to merger. NYU faculty took its board of trustees to court in order to prevent the merger.	Power differentials in knowledge sharing
Dean of one side feared losing his status and power if medical schools combined.		Gap between clinical and non-clinical staff
One side seeing themselves as superior academics		Need to close the gap.
Younger side feared being taken over by older side.		Doctors can learn from the ideas of other staff groups.
One side saw merging with other side as merging down.		Clinical and cross-team best practice development is widespread among senior and junior medical grades.
One side felt the other didn't understand their culture.		Clinical forums set up to share practice and develop ideas.
Failure to merge medical schools was announced after seven months of efforts.		Limited choice and investment in development for staff below band 7
		Negative impacts on employees' 'psychological contract'
		Feeling disempowered
		Staff removing trust and support
		Trusts A and B continue to use their own policies.
		Absence of common policies
		Employees feeling disconnected and unsupported by senior managers and directors.
		Problems with managers'

		performance management skills and stress management
		Lack of communicative support from senior management; increasing tensions and barriers to staff
		Isolated approaches to the provision of training
		Senior managers and directors remote and uncommunicative
		Professional groups, e.g. clinicians, have strong management structures with facilitated clinical and cross-team best practice development.
		Inconsistent management competencies
		Inadequate coordination of training in the new trust highlighting unequal allocation of resources
		Nursing and other staff groups have variable approaches without clear policy guidance to provide structure, creating inconsistent development plans and opportunities.

Salmela, Eriksson and Fagerstrom (2012)[53]	**Choi *et al.* (2012)[47]**	**Choi, Holmberg, Lowstedt and Brommels (2011)[52]**
Improving culture • How nurse leaders perceive their tasks and roles during the change process – these serve their mission to serve the patient.	Individual versus shared leadership[47]	Formation of executive management group
Creating an open atmosphere • Creating a confirming atmosphere • How nurse leaders perceive their tasks and roles during the change process – these serve their mission to serve the patient.	Manager X complied with an executive management top-down directive to save costs (mandate).	Leaving medical role for management role
Improving nursing in a merger	Manager X pursued cost saving via rapid efforts to integrate clinical departments; this did not work.	Former medical personnel committing fully to executive management role
Being a team player and	Manager Y seeing his responsibility	Director demands loyalty of

interactive • Being a coach • Being a parental figure	as equal to executive management and senior physicians	executive management team.
Being a coordinator • Weaving a tapestry • Being a conductor	Manager Y consulted with senior physicians and used a gradual integration of clinical departments; this worked.	Director demands commitment to the strategic goals of the merged entity (mainly cost savings).
	Manager X was externally recruited and assumed full strategic and operational leadership.	Executive management sent weekly newsletters to clinical heads about change process.
	Manager Y formed a team of three.	Executive management met and made decisions behind closed doors.
	Manager X took a top-down planned approach in which he exercised coercive control and practised direct intervention.	Key decision on how to merge 125 clinical departments into 74.
	Manager Y took a bottom-up emergent approach; he secured voluntary participation of staff members in the integration activities and respected their need for occupational autonomy.	Only limited discussion with clinical heads
		Disrupted implementation
		Increase in mistrust of management among clinicians
		Clinicians expressed a lack of faith in the cost-saving mission.
		Clinicians worried at compromise of quality of patient care.
		Divisions emerge in executive management team on clinical and managerial lines.
		Clinicians use the media to criticise management.
		Political opposition criticised the director for pursuing cost saving ahead of patient safety and care.
		Clinical staff prevent and delay implementation of new organisational structure.
		Receding support for cost saving.
		Clinical staff are disappointed and frustrated at economic priorities.
		Clinical heads support clinical staff against economic measures.
		Merger beset by competing goals; research excellence vs. cost

	savings
	Merger beset by competing logics; managerialism versus professionalism
	A top-down management approach appears to be a risky strategy