Narrative synthesis of health service accreditation literature

Reece Hinchcliff,[1] David Greenfield,[1] Max Moldovan,[1] Johanna Irene Westbrook,[2] Marjorie Pawsey,[1] Virginia Mumford,[1] Jeffrey Braithwaite[1]

ABSTRACT

Aims: To systematically identify and synthesise health service accreditation literature.

Methods: A systematic identification and narrative synthesis of health service accreditation literature published prior to 2012 were conducted. The search identified 122 empirical studies that examined either the processes or impacts of accreditation programmes. Study components were recorded, including: dates of publication; research settings; levels of study evidence and quality using established rating frameworks; and key results. A content analysis was conducted to determine the frequency of key themes and subthemes examined in the literature and identify knowledge-gaps requiring research attention.

Results: The majority of studies (n=67) were published since 2006, occurred in the USA (n=60) and focused on acute care (n=79). Two thematic categories, that is, 'organisational impacts' and 'relationship to quality measures', were addressed 60 or more times in the literature. 'Financial impacts', 'consumer or patient satisfaction' and 'survey and surveyor issues' were each examined fewer than 15 times. The literature is limited in terms of the level of evidence and quality of studies, but highlights potential relationships among accreditation programmes, high quality organisational processes and safe clinical care.

Conclusions: Due to the limitations of the literature, it is not prudent to make strong claims about the effectiveness of health service accreditation. Nonetheless, several critical issues and knowledge-gaps were identified that may help stimulate and inform discussion among healthcare stakeholders. Ongoing effort is required to build upon the accreditation evidence-base by using high quality experimental study designs to examine the processes, effectiveness and financial value of accreditation programmes and their critical components in different healthcare domains.

INTRODUCTION

Health service accreditation has become ubiquitous in international healthcare as a putative driver of quality and safety.[1] The purpose of accreditation programmes is to monitor and promote, via self and external assessment, healthcare organisation performance against predetermined optimal standards.[2]

Health service accreditation is receiving substantial scrutiny from governments, healthcare professionals and consumers due to the considerable, yet largely unquantified, resources invested in it by governments, health service organisations and accreditation agencies.[3 4] Yet, the evidence supporting accreditation's capacity to promote high quality and safe organisational and clinical performance is contested.[5] This dichotomy has contributed to calls for further accreditation research and syntheses of published evidence to strengthen the evidence-base.[6 7]

The aim of this paper is to examine accreditation's evidence-base by providing a comprehensive, systematic identification and narrative synthesis[8] of all empirical research published prior to 2012, thereby examining the processes and effectiveness of health service accreditation programmes. In addition to reporting key features of the literature, critical knowledge-gaps are identified that have important implications for the healthcare industry, policy decision-makers and researchers regarding the effective development and evaluation of accreditation programmes.

We employed narrative rather than statistical methods for three reasons. First, a statistical meta-analysis was not possible due to the limited number of interventional or experimental studies, such as randomised controlled trials (RCTs).[9] Second, there is considerable complexity and variety in the accreditation phenomena assessed (ie, the organisational and clinical impacts of different accreditation processes in different healthcare domains and jurisdictional and legislative environments). This heterogeneity means that quantitative comparison of outcomes between studies is problematic. Third, there is substantial diversity within the accreditation literature in terms of the research methods employed (a broad

range of qualitative, quantitative and mixed-method studies) and theoretical positions adopted (eg, positivist or social constructionist). Our chosen review method is specifically designed to examine interventions that have been investigated in different ways.[8]

The paper extends previous reviews[2 5 9–13] in three important ways. First, a larger corpus of research is examined due to the use of a wider publication date range and broader inclusion criteria, facilitating assessment of a range of study types. This paper adopts the position that these disparate studies reveal important aspects of accreditation processes that can be carefully synthesised to produce a more complete understanding of the role and effects of accreditation across the diversity of health service settings globally. Second, the level of evidence and quality of included studies is examined to identify potential deficiencies limiting the strength of the accreditation evidence-base. Third, a content analysis[14] is conducted to determine the frequency of prominent themes and subthemes examined in the literature, and identify critical knowledge-gaps.

METHODS

A similar multi-method search strategy was employed as in a previous review undertaken by members of the research team.[5] First, an interrogation of three

electronic bibliographic databases was undertaken between August 2011 and January 2012: Medline from 1950; EMBASE from 1980; and nursing and allied health literature through CINAHL from 1982. Based on the results of previous exploration and testing,[5] and their role as MeSH terms in the PubMed research database, 'accreditation', 'Joint Commission on Accreditation of Healthcare Organizations' and 'Joint Commission' were searched as keywords. The keywords were searched separately within each database. Broader keywords, such as 'quality' and 'quality assurance' produced a large number and wide range of references that were irrelevant for this review. When combined, 58 053 references were identified. Trial searches were undertaken using other research databases (eg, Scopus), but these did not yield additional articles and were excluded from the search.

In addition, 46 grey literature studies were found on the websites of national and jurisdictional government health agencies and healthcare accreditation agencies worldwide, as well as the International Society for Quality in Health Care. In total, 58 099 publications met the initial search criteria (see figure 1).

Within the obtained results, a further filter was applied by searching for references associated with 'research' (eg, 'accreditation AND research') (see online supplementary table S1). Titles and abstracts were independently reviewed by the first two named

Figure 1 Flowchart of search strategy and relevance screening.
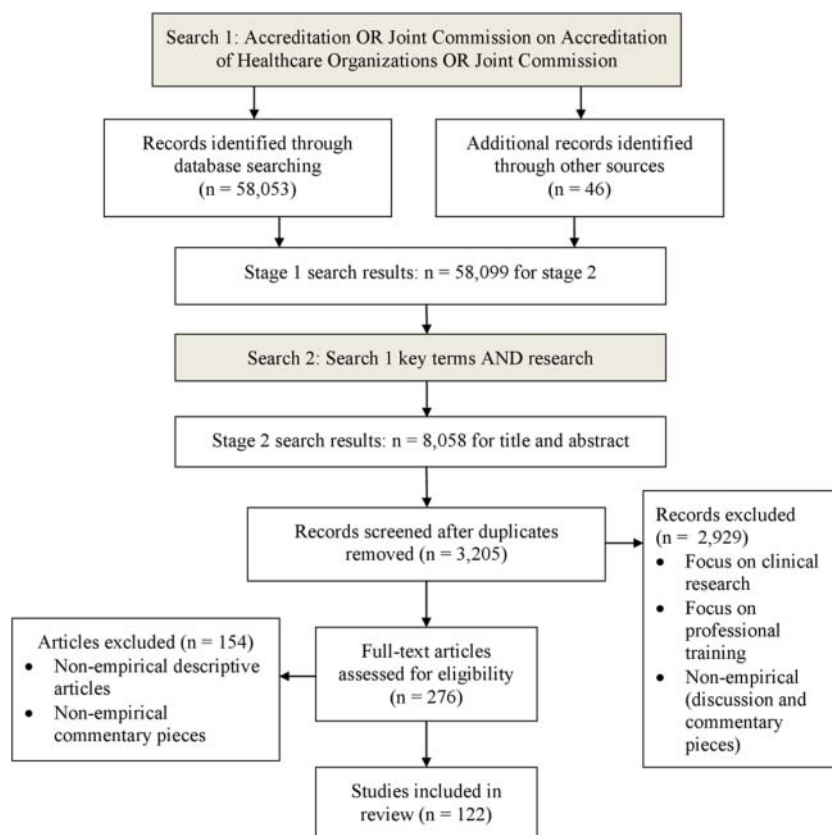
authors according to the inclusion and exclusion criteria. Under inclusion criteria, references had to focus on one or more aspect of health service accreditation programmes or processes; that is, mere mention of the term 'accreditation' was not sufficient. Additional inclusion criteria were: empirical research (ie, use of one or more research methods); English language; and full text available. Exclusion criteria were: research concerning professional development or medical credentialing programmes; non-systematic literature reviews; and commentaries. These procedures yielded 122 publications.

Key features of references were recorded in a table, including dates of publication, and countries and healthcare domains in which studies were situated. The levels of evidence of included publications was assessed by the first named author using Australian National Health and Medical Research Council (NHMRC) guidelines (see online supplementary table S2).[15] Separate classifications were used to assess the level of evidence of studies employing designs capable of producing evidence of causality (intervention group), as compared with studies incapable of producing such evidence (aetiology group). An additional level of evidence category, 'expert opinion without explicit critical appraisal' was included in the aetiology group to account for studies employing low level qualitative study designs, which could nonetheless provide valuable insights into important accreditation-related topics.

The quality of studies was determined using an adaptation of the assessment criteria of Cunningham et al[16] and NHMRC,[17] which were based on published checklists designed to facilitate critical appraisal of a range of study designs (see online supplementary table S3).[18] [19] As assessments of levels of evidence and quality accounted for potential risks of bias at study and outcome levels, these ratings can be used to critically interpret the findings of each study, which are summarised in the online supplementary appendix. To test

the validity of these assessments, a random subsample of 25 references were independently examined by two other coauthors. Differences in determinations of levels of evidence and quality were only found for two studies, and these divergences were resolved after discussion among the research team.

As only two RCTs or pseudo-RCTs were identified, we assessed that a formal systematic review such as that undertaken by Flodgren et al[9] would not provide a significant contribution to the field. We pursued an aim that could provide a meaningful contribution and stimulate discussion among interested healthcare stakeholders. That is, we aimed to identify key thematic concerns highlighted in the literature and critical knowledge-gaps requiring attention.

To synthesise the body of literature, a content analysis was performed by the first two named authors to determine the frequency with which eight thematic categories were examined, which were identified in a previous literature review:[5] organisational impacts; relationship to quality measures; change mechanisms; programme assessments; financial impacts; professionals' attitudes to accreditation; consumer views or patient satisfaction; and survey and surveyor issues (see table 1). Several categories were often examined within a single publication. These themes represent the main topics of health service accreditation literature, and each includes a variety of finely-graded subthemes that were distilled by the two lead authors. Due to the range of issues examined within each category, and the varied designs and quality of included studies, we did not aim to reach conclusions regarding the strength of evidence concerning each theme. Instead, by identifying the frequency that key themes and subthemes were explored, the content analysis was used to provide an overall picture of the main topics of investigation within the accreditation literature, including critical knowledge-gaps.

Table 1 Definitions of thematic categories emerging from the health service accreditation literature

Thematic categories	Definitions
Relationship to quality measures	Examination of the use and validity of quality measures within accreditation programmes or the impact of accreditation on different measures of clinical quality
Organisational impacts	Examination of the impact of accreditation programmes on health service organisations and units
Programme assessments	Assessment of the development and validity of accreditation programmes
Change mechanisms	Exploration of how the activity of preparing and undergoing accreditation promotes change in health service organisations
Professionals' attitudes towards accreditation	Analysis of the views of healthcare professionals concerning the processes, impacts and value of accreditation programmes
Financial impacts	Exploration of the financial costs of accreditation for different stakeholders
Consumer views or patient satisfaction	Assessment of the effects of accreditation on the views and satisfaction of patients or consumers
Survey and surveying issues	Assessments of the function and reliability of accreditation surveys and surveyors

To test the validity of this categorisation of publications, a kappa inter-rater reliability test[20] was conducted using a random subsample of 25 references independently coded into thematic categories by the first and second named authors. The authors recorded whether each reference did, or did not, include analysis or discussion regarding each of the eight categories (ie, 25×8=200 separate author assessments that were compared). The kappa inter-rater reliability test result of 0.7 indicates a high level of agreement between the lead authors in their assignment of references to these themes.[20]

RESULTS

Changes in number of publications over time

There was an increase in publications per biannual interval from 1998 onwards, and in particular, after 2000 and then again 2006. These findings show that over the past decade, accreditation studies are increasing with further recent calls for additional accreditation research.[6 7]

Research settings

The 122 health service accreditation research studies were conducted in 29 countries. Approximately half (n=60) the research was situated in the USA, with Australia generating the next most frequent number of studies (n=16). Six publications assessed accreditation programmes implemented across several European countries.[21–26] There were 13 studies that examined programmes in low or middle income countries (LMICs),[27–39] classified according to World Bank definitions.[40] Hospitals represent the main setting of health service accreditation research (n=79). Other prominent settings include: general practices (n=11); laboratories (n=9); substance abuse clinics (n=7); and mental health facilities (n=7).

Key study features

The levels of evidence and quality ratings of included studies are reported in the online supplementary appendix and summarised in table 2. Intervention or experimental designs capable of producing evidence of causality were employed in 21 studies. A single level 1 study was identified which produced inconclusive results due to limited available evidence.[9] Two studies[27 36] used RCT or pseudo-RCT designs (levels 2 and 3a), and both were based in LMIC settings. In all, 48 studies in the aetiology group were classified as level 4 (ie, cross-sectional or case series studies), and 29 studies solely relied on expert opinion without critical appraisal. While lower level studies highlighted important accreditation issues and themes, their usefulness for evaluating accreditation effectiveness was limited.

Overall, 42 studies met all the assessment criteria relevant for their study design. Only five studies in the intervention group met all relevant criteria. A total of 43 studies met the majority of criteria, and those criteria that were not fulfilled were deemed unlikely to alter the study conclusions. Only some relevant criteria were fulfilled in the remaining studies. Explanations and examples of the main risks of bias within the health service accreditation literature are listed in table 3. Authors of the only RCT concluded that problematic sampling procedures and the types of indicators used for assessment may have biased the results.[36]

Thematic categories

The content analysis used eight thematic categories identified previously.[5] Multiple thematic categories were often explored in individual studies. In all, 21 key subthemes within thematic categories were distilled. Studies that best exemplify key subthemes related to the five

Table 2 Levels of evidence and quality assessment ratings of health service accreditation literature

Study design groups	Levels of evidence	Number of studies	Frequency of quality assessment ratings		
			1	2	3
Intervention group	1	1	0	0	1
	2	1	0	1	0
	3a	1	0	1	0
	3b	7	2	3	2
	3c	3	2	1	0
	4	8	3	3	2
Aetiology group	1	0	0	0	0
	2	1	0	0	1
	3a	0	0	0	0
	3b	19	0	3	16
	3c	4	1	3	0
	4	48	15	21	12
	5	29	14	7	8
Totals		122	37	43	42

Table 3 Explanations and examples of the main risks of bias within the health service accreditation literature

Main risks of bias	Explanations of main risks of bias	Exemplifying references
Non-randomised comparison	Direct causal relationships between accreditation programmes and measures of health service quality and safety cannot be easily inferred using descriptive study designs (eg, cross-sectional, matched cohort and case control studies)	41–43
Detection bias	A variety of indicators are often used within studies to evaluate the impact of accreditation on health service processes of care, patient outcomes and other aspects of quality, such as financial sustainability. The validity and reliability of employed measures is infrequently justified and often debatable	28 44–46
Performance bias	Proposed accreditation effects may be due to other factors, such as leadership or quality management activities concurrently undertaken by health services. Evaluation studies seldom account for factors that may potentially confound the relationship between accreditation programmes and outcomes measured	6 24 27 38
Limited reporting and use of rigorous qualitative methodologies	Insufficient reporting of employed data collection and analysis methodologies impacts the credibility of qualitative studies. There is also limited use of rigorous methodologies, such as triangulation, to enhance the credibility and complexity of findings	47–50

most common thematic categories are provided in table 4. To provide greater depth to the content analysis, key issues related to each thematic category are provided below, including indices that have been commonly used for evaluation studies, and examples of the different types of findings produced.

Relationship to quality measures

Quality measures incorporate items defined as indicators of organisational performance rates and patient or healthcare consumer outcomes. Overall, 65 studies examined the relationship between accreditation and different quality measures.[6 21–23 25 26 29–31 36 37 39 42 44–46 51–80 83 84 88 90 95 96 101–103 105 106 109 118–125] Only 28 studies involved comparisons of accredited and non-accredited health services or health service units. Examples of positive findings concerning the relationship between accreditation and organisational performance levels include: a trend between accreditation outcomes and clinical indicator performance in hospitals;[6] an association between chest pain centre accreditation and compliance with quality measures regarding acute myocardial infarction;[70] and a relationship between accreditation and hospital performance on publicly reported evidence-based processes of care measures.[51] Negative findings were also identified, including a study which found that accreditation of health plans was positively associated with some measures of Health Plan and Employer Data Information Set quality, but did not assure a minimal level of performance.[118]

In contrast with organisational process indicators, quality measures concerning patient outcomes were only examined in nine studies, highlighting a critical knowledge-gap. Examples of patient outcome measures used to examine accreditation impacts include survival rates[22] and falls.[61] Of the nine studies, six found positive associations between accreditation and patient outcome measures. For example, hospitals with accredited primary stroke centres had lower 30-day risk-standardised patient mortality compared with non-accredited hospitals.[78] Other studies produced inconsistent results (ie, associations were found between accreditation and some outcomes but not others) or identified no associations. The varied findings produced using different quality measures for assessment highlight the need for critical examination of the types of healthcare quality information collected, and if it is appropriate to be correlated against accreditation outcomes.[78 79]

Organisational impacts

The impacts of accreditation on organisational processes, policies and environments were examined in 62 studies.[3 6 21 23 25 26 28–33 36–39 41–44 46 49 51 53–57 59–61 63–66 71 73 75 81–99 106 111 112 122 126 127] As listed in table 4, several key subthemes were explored in these studies, including the extent to which accreditation programmes promote: standardisation of care processes; increased compliance with external programmes or guidelines (eg, clinical best-practice); development of organisational cultures conducive to quality and safety;

Table 4 Examples of key subthemes regarding the five most common thematic categories explored within the health service accreditation literature

Thematic categories (n)	Key subthemes (n)	Examples	Relevant references
Relationship to quality measures (n=65)	Performance levels (n=34)	Accredited hospitals already outperformed non-accredited hospitals on publicly reported quality measures, but these differences were found to have become more significant over the 5 years observed in this study[51]	25 36 37 39 42 44 45 51–77
	Effects on patient outcomes (n=9)	Patient outcome was systematically better when the transplantation centre was at a more advanced phase of accreditation[22]	22 44 58 61 74 76 78–80
Organisational impacts (n=62)	Standardisation of care processes (n=25)	Hospital accreditation was found to have had a significant impact on the infection control infrastructure and performance of hospitals in Japan[42]	3 28 37 42 44 51 54–57 59 61 63 71 73 81–90
	Compliance with external programmes or guidelines (n=22)	Accreditation helped encourage staff to conform to evidence-based stroke care delivery practices[71]	23 25 26 30 36 39 42 43 51 56 60 64 71 75 89–96
	Organisational cultures conducive to quality and safety (n=18)	A mental health accreditation process was perceived as having improved communication, increased staff power to negotiate for resources and rewarded good practice[81]	3 6 21 28 30 32 33 38 39 49 75 81 90 94–98
	Continuous quality improvement activities (n=17)	Accreditation was found to confer a greater likelihood that health centres have integrated specific quality improvement activities into their daily operations[82]	3 25 38 39 41 57 59 65 66 82 84 89 92 95 97–99
	Leadership (n=8)	Accreditation results predicted greater organisational leadership[6]	6 38 39 41 49 53 95 98
Accreditation programme assessments (n=42)	Positive assessments (n=29)	Accreditation is perceived to have had a positive impact on the quality of care and the quality of life for residents in Australian Government subsidised aged care homes[84]	3 21 25 26 30 31 51 54 55 57 59–61 64 66 70 71 73 75 80–82 84 86 88 93 98 100 101
	Negative assessments (n=8)	Experienced surveyors failed to detect an error-prone medication usage system that was identified in an independent audit of a mental health institute, raising questions about the validity of accreditation survey scores as a measure of safety[102]	3 6 54 66 86 100–102
	Neutral impacts (n=6)	Accreditation of a facility was not associated with a lower or higher medication error rate[103]	6 29 81 103–105

Continued

Table 4 Continued

Thematic categories (n)	Key subthemes (n)	Examples	Relevant references
Change mechanisms (n=41)	Programme development (n=7)	Serious deficiencies of financial and human resources had undermined the ongoing viability of the Zambia Hospital Accreditation Program[30]	21 30 31 106–109
	Commitment to implementing evidence-based quality systems of care (n=20)	Commitment to meeting national guidelines through the accreditation process appeared to be associated with improved patient outcomes after injuries[43]	3 22 25 28 31 41–43 56 59 60 71 73 81 84 87 90 93 110 111
	Engagement of staff in quality improvement (n=15)	Positive changes produced by accreditation were achieved through increased staff motivation and positive attitudes toward the use of continuous improvement processes[39]	28 37–39 41 42 71 81 84 85 89 90 111–113
	Collation and use of data for internal and external benchmarking (n=12)	Accreditation reporting influenced how hospitals prioritised quality improvement goals and honed feedback and accountability mechanisms[89]	28 31 37 38 46 73 85 87 89 93 99 113
Professionals' attitudes towards accreditation (n=38)	Improved processes of care (n=20)	Accreditation had a statistically significant improvement on the quality of patient care as perceived by hospital staff[28]	21 23 28 33 39 41 42 46 71 81 84 86 92 97 100 105 106 111 114 115
	Overly expensive bureaucratic burden (n=10)	Staff experienced that accreditation increased their paperwork and overall workload[24]	23 24 41 47 66 86 100 115–117
	Improved patient safety (n=9)	Hospital administrators viewed accreditation as an effective intervention to reduce adverse events[92]	28 39 46 47 71 84 92 97 115
	Impact on staff satisfaction (n=8)	Accreditation status was significantly positively associated with nurses' intent to remain in their jobs[32]	21 27 32 39 41 97 114 115
	Distraction from authentic quality improvement activities (n=4)	Mental health professionals believed that the focus on meeting a large number of accreditation and other regulatory standards can deter indepth efforts to fundamentally improve critical problems[66]	24 41 47 66

implementation of continuous quality improvement activities; and superior leadership. A total of 21 studies examined organisational impacts by comparing accredited and non-accredited health services or health service units.

The only RCT showed no observed improvement on organisational quality indicators, for example, accessibility and completeness of medical records.[36] Other examples of organisational indices used to examine accreditation impacts within the literature include: provision of family counselling;[55] leadership and staff involvement;[38] staff to patient ratios and waiting times;[57] and information management and leadership.[30]

Accreditation programme assessment

A total of 42 studies examined the development and impacts of accreditation programmes.[3] [6] [21] [25] [26] [29–31] [51] [54] [55] [57] [59–61] [64] [66] [70] [71] [73] [75] [80–82] [84] [86] [88] [93] [96] [98] [100–109] [122] [128] A combination of positive, negative and neutral impacts were identified (see table 4). Several notable concerns are identified in the literature, including the perceived low quality of some programme standards,[29] and discrepancies between accreditation findings and the results of quality or practice audits.[26] In addition, it was noted that while certain adverse events, such as infection rates, may be reduced by preventive protocols that are reflected in accreditation standards, other more complex events may require multifaceted strategies that are less easily translatable into standards.[101]

Seven studies explored the development of accreditation programmes, identifying a number of common barriers (eg, lack of stable funding source) and facilitators (eg, engagement of key stakeholders). Additionally, two studies compared aspects of different international accreditation programmes. In one, Canadian and French accreditation systems were found to be converging towards a model based on similar philosophies.[96] In the other, patient survey data were seen to be increasingly integral in programmes worldwide.[104] These findings may reflect the increasing global transfer of knowledge in the accreditation field, which may be leading to the homogenisation and standardisation of accreditation programmes.

Change mechanisms

Overall, 41 studies explored how the activity of preparing and undergoing accreditation promotes change in health service organisations.[3] [21–23] [25] [28] [31] [37–39] [41–43] [46] [51] [54] [56] [59] [60] [65] [71] [73] [81] [84] [85] [87] [89–91] [93] [97] [99] [110–113] [118] [119] [121] [122] [126] As shown in table 4, four main mechanisms responsible for organisational changes promoted by accreditation programmes were identified: engagement of staff in quality improvement activities, such as self-assessment; promotion of quality systems of care; documentation, collation and use of data for internal and external benchmarking; and implementation of best-practice guidelines. In one study, staff participation in an accreditation process was found to have promoted a quality and safety culture that crossed organisational and professional boundaries.[97]

Professionals' attitudes towards accreditation

There were 38 studies that assessed health professionals' attitudes towards accreditation using multiple methods.[21] [23] [24] [27] [28] [32–35] [38] [39] [41] [42] [46] [47] [61] [66] [71] [81] [84] [86] [89] [92] [97] [99] [100] [105] [106] [109] [111] [114–117] [129–132] As illustrated in table 4, the literature highlights that health professionals view accreditation

as an effective method of promoting high quality organisational processes and patient safety, and are more likely to remain satisfied and employed in accredited organisations. In a pseudo-RCT based on survey data, accredited Egyptian primary healthcare unit providers and their patients believed that accreditation had a positive effect on patient satisfaction and performance.[27]

Conversely, other studies found that health professionals have concerns regarding the human and financial resources required for organisations to participate successfully in accreditation programmes,[99] and that the focus on meeting a large number of accreditation and other regulatory standards may deter more substantial organisational and system-level efforts to fundamentally improve critical problems.[66] The two contrasting messages from these papers highlight the need for additional research to examine why some professionals perceive a disconnection between their efforts to address organisational quality and safety problems, and the perceived aims of accreditation programmes.

Financial impacts of accreditation

Fifteen studies examined or included some work on aspects of the financial impacts of accreditation.[3] [4] [30] [31] [47] [65] [83] [84] [99] [115] [116] [119] [133–135] However, potential financial benefits were not specifically examined, highlighting a crucial issue requiring additional research. Participation in accreditation programmes was considered to require considerable financial resources, and the return on this investment is questioned.[47] The overlap and duplication that can occur among accreditation, regulatory and contractual requirements is identified as a source of financial pressure.[4] The costs required to administer accreditation programmes—particularly in LMICs—are described as a threat to their ongoing sustainability.[30] [31] A study that attempted to calculate accreditation costs identified that both health service organisations and accrediting bodies were concerned about the issue.[3] While some studies provided detailed costs in relation to specific health services,[133] [135] only one publication attempted to assess accreditation costs from the perspective of a national health system.[4] Additional research is required to examine a key issue within the literature: that is, why healthcare managers and practitioners separate accounting for resources they dedicate to their ongoing efforts to improve quality and safety from those resources they invest to demonstrate compliance to standards assessed by an external authority.

Consumer views or patient satisfaction

Despite the increasing role of patients or consumers within contemporary healthcare systems, only 13 studies considered the relationship between accreditation and

consumer views or patient satisfaction.[6 27 46 84 88 104 106 114 118 122 123 136 137] The literature indicates that accreditation has an undefined impact on the views or satisfaction of consumers or patients. For example, while a quasi-RCT found that accreditation had a positive effect on patient satisfaction and performance,[27] accreditation was not linked to measurably better quality of care as perceived by patients and reflected by their recommendation rates of institutions.[122 123] Similarly, accredited health plans had equivalent or lower performance on patient-reported measures of health plan quality and satisfaction,[118] and no relationships were identified between hospital accreditation scores and patient satisfaction ratings.[136] These findings suggest that accreditation may target or influence aspects of health service function and delivery that are less visible to patients or consumers.

Surveyors and surveying issues

Only 12 papers explored the topics of surveyor conduct and surveying.[30 31 48–50 97 100 120 127 129 138 139] The research regarding surveyors includes: their common features worldwide concerning careers, training, work history and expectations;[120] the identification of a typology of surveyor styles;[48] and the benefits derived from their surveying activities, including exposure to new methods and innovations.[49]

Key findings regarding surveying include: visits by independent surveyors are valued by health service staff;[100] the introduction of consumer surveyors has been successful, although their role and level of involvement needs clarification;[50] and the short notice and patient journey survey methods can complement traditional advanced notification surveys.[138 139] In addition, accreditation stakeholders report reliability in surveying to be promoted by: the accreditation programme; members' relationship to the accrediting agency and survey team; accreditation agency personnel; and surveyor workforce management.[129] While a key aspect of accreditation programmes, there is relatively little research focused on the topics of surveyor conduct and surveying. As part of examining the validity of accreditation programmes, these issues require further investigation.

DISCUSSION

This paper reviewed the empirical literature investigating the processes and impacts of health service accreditation: a complex organisational intervention used in diverse contexts and researched in multiple ways. Our aim was to identify and condense meaningful research findings with practical implications. In all, 122 empirical studies were located that met the inclusion criteria. The research evidence generally presents health service accreditation as a useful tool to stimulate improvement in health service organisations and promote high quality organisational processes. However, as the quality of studies was moderate and few studies used designs capable of producing strong evidence, a statistical meta-analysis is not feasible and it is not possible to evaluate the effectiveness of accreditation to the level sought in clinical trials. Despite these limitations, our comprehensive synthesis provides an up to date overview of the main themes and subthemes examined in the literature and highlights critical knowledge-gaps that have implications for healthcare stakeholders regarding the effective development and evaluation of accreditation programmes. The use of a broader date range, more detailed synthesis, critical assessment of the quality of included studies and more rigorous inclusion criteria helped extend the findings of a previous review.[5]

While it appears commentator calls for additional accreditation research are being answered to some extent, the methodological quality and total amount of accreditation research remains modest relative to global investment. In particular, the limited use of clinical outcome measures for evaluation restricts understanding of whether accreditation is associated with improved patient and consumer health outcomes. Therefore, in addition to organisational process and patient and consumer satisfaction measures, greater use of objective clinical outcome indicators would strengthen the evidence-base and provide a greater understanding of the benefits accrued through accreditation. Nonetheless, the possibility of establishing causal links between accreditation and the patient and consumer outcomes emerging from complex, adaptive health service organisations requires careful consideration. The available evidence does not justify a rejection of the validity of accreditation programmes. Absence of evidence is not evidence of absence. While quantitative, outcome-based data can provide a useful summative assessment of the value of health service accreditation processes, exploratory qualitative data can help highlight problematic consequences of accreditation that are difficult to measure objectively, or are infrequently considered in evaluation studies. In this way, qualitative studies can contribute to theoretical developments in this field by uncovering factors which drive, or fail to drive, change in quantitative indicators of performance.

In the context of a postglobal financial crisis with increasing fiscal pressures, notions of value are inextricably linked to considerations of the appropriate role of health service accreditation as a quality and safety strategy. Do the benefits gained represent value for the investment? Without rigorous costing of the resources invested and financial benefits accrued through quality and safety strategies for health service organisations,

such as accreditation, evaluations of effectiveness provide limited utility for the purposes of rational health policy decision-making. It is also worth considering whether these costs and economic benefits should be directly attributed to accreditation or should instead be seen as a normal part of providing high quality and safe healthcare.

The consequences of new standards[56] or surveying methods[138] have been examined only in a limited manner. These are two fundamental components of accreditation programmes worldwide, and the limited research evidence regarding these topics represents a serious deficiency of the literature. The potential role of consumers within accreditation processes is an additional critical issue requiring greater examination. Furthermore, there is a paucity of evidence regarding the relative impact of other accreditation components, such as different forms of organisational self-assessment. In short, the limited evaluation of accreditation elements is likely to impede the evidence-based development of more efficient and effective programmes.

This review was limited by several factors, including that due to the frequently contrasting foci, epistemologies, research contexts, study designs and methods present within the literature, we could not attempt a statistical meta-analysis. Nonetheless, the comprehensive synthesis presented in this review provides an indication of the research evidence concerning accreditation, classified into the most prominent themes and subthemes, and highlights knowledge-gaps. While the exclusion of non-English publications represents another study limitation, our discussions with international colleagues did not identify significant new findings from any non-English publications, which suggests this limitation was unlikely to have biased the results.

REFERENCES

1. Braithwaite J, Westbrook J, Pawsey M, et al. A prospective, multi-method, multi-disciplinary, multi-level, collaborative, social-organisational design for researching health sector accreditation (LP0560737). *BMC Health Serv Res* 2006;6:113–23.
2. Al-Awa B, De Wever A, Melot C, et al. An overview of patient safety and accreditation: a literature review study. *RJMS* 2011;5:200–23.
3. Doyle G, Grampp C. *Accreditation as a quality tool in public sector reform: the fourth stage of convergence*. Dublin: School of Business, College of Business and Law, University College Dublin, 2008.
4. Appleyard G, John Ramsay and Associates Pty Ltd. *Cost analysis of safety and quality accreditation in the Australian Health System*. Sydney: Australian Commission for Safety and Quality in Health Care, 2008.
5. Greenfield D, Braithwaite J. Health sector accreditation research: a systematic review. *Int J Qual Health Care* 2008;20:172–83.
6. Braithwaite J, Greenfield D, Westbrook J, et al. Health service accreditation as a predictor of clinical and organisational performance: a blinded, random, stratified study. *Qual Saf Health Care* 2010;19:14–21.
7. Greenfield D, Braithwaite J. Developing the evidence base for accreditation of healthcare organizations: a call for transparency and innovation. *Qual Saf Health Care* 2009;18:162–63.
8. Greenhalgh T, Robert G, Macfarlane F, et al. Storylines of research in diffusion of innovation: a meta-narrative approach to systematic review. *Soc Sci Med* 2005;61:417–30.
9. Flodgren G, Pomey M-P, Taber SA, et al. Effectiveness of external inspection of compliance with standards in improving healthcare organisation behaviour, healthcare professional behaviour or patient outcomes. *Cochrane Database Syst Rev* 2011;11: CD008992.
10. Nicklin W, Dickson S. *The value and impact of accreditation in health care: a review of the literature*. Toronto: Accreditation Canada, 2009.
11. HAS. *Literature review on the impact of hospital accreditation*. Paris: Haute Autorité de Santé, 2010.
12. Cerqueira M. *A literature review on the benefits, challenges and trends in accreditation as a quality assurance system*. Victoria: British Columbia Ministry of Children and Family Development, 2006.
13. Alkhenizan A, Shaw C. Impact of accreditation on the quality of healthcare services: a systematic review of the literature. *Ann Saudi Med* 2011;31:407–16.
14. Stemler S. An overview of content analysis. *Pract Assess Res Eval* 2001;7. http://pareonline.net/getvn.asp?v=7&n=17 (accessed 25 Sep 2012).
15. NHMRC. *NHMRC levels of evidence and grades for recommendations for developers of guidelines*. Canberra: National Health and Medical Research Council, 2009.
16. Cunningham FC, Ranmuthugala G, Plumb J, et al. Health professional networks as a vector for improving healthcare quality and safety: a systematic review. *BMJ Qual Saf* 2012;21:239–49.
17. NHMRC. *How to review the evidence: systematic identification and review of the scientific literature*. Canberra: National Health and Medical Research Council, 1999.
18. Greenhalgh T. How to read a paper: aassessing the methodological quality of published papers. *BMJ* 1997;315:305–08.
19. Richardson WS, Detsky AS. Users' guide to the medical literature. *JAMA* 1995;273:1292–95.
20. Fleiss J. *Statistical methods for rates and proportions*. New York: Wiley, 1981.
21. Cherny N, Catane R, Schrijvers D, et al. European Society for Medical Oncology (ESMO) Program for the integration of oncology and Palliative Care: a 5-year review of the Designated Centers' incentive program. *Ann Oncol* 2010;21:362–9.
22. Gratwohl A, Brand R, Niederwieser D, et al. Introduction of a quality management system and outcome after hematopoietic stem-cell transplantation. *J Clin Oncol* 2011;29:1980–6.
23. Samson D, Slaper-Cortenbach I, Pamphilon D, et al. Current status of JACIE accreditation in Europe: a special report from the Joint Accreditation Committee of the ISCT and the EBMT (JACIE). *Bone Marrow Transplant* 2007;39:133–41.
24. Verstraete A, van Boeckel E, Thys M, et al. Attitude of laboratory personnel towards accreditation. *Int J Health Care Qual Assur Inc Leadersh Health Serv* 1998;11:27–30.
25. Sunol R, Vallejo P, Thompson A, et al. Impact of quality strategies on hospital outputs. *Qual Saf Health Care* 2009;18(Suppl 1):62–8.
26. Shaw C, Groene O, Mora N, et al. Accreditation and ISO certification: do they explain differences in quality management in European hospitals? *Int J Qual Health Care* 2010;22:445–51.
27. Al Tehewy M, Salem B, Habil I, et al. Evaluation of accreditation program in non-governmental organizations' health units in Egypt: short-term outcomes. *Int J Qual Health Care* 2009;21:183–9.
28. Al-Awa B, Jacquery A, Almazrooa A, et al. Comparison of patient safety and quality of care indicators between pre and post

accreditation periods in King Abdulaziz University Hospital. *Res J Med Sci* 2011;5:61–6.

29. Alkhenizan A, Shaw C. Assessment of the accreditation standards of the Central Board for Accreditation of Healthcare Institutions in Saudi Arabia against the principles of the International Society for Quality in Health Care (ISQua). *Ann Saudi Med* 2010;30:386–9.

30. Bukonda N, Tavrow P, Abdallah H, *et al.* Implementing a national hospital accreditation program: the Zambian experience. *Int J Qual Health Care* 2003;14(Suppl 1):7–16.

31. Cleveland EC, Dahn BT, Lincoln TM, *et al.* Introducing health facility accreditation in Liberia. *Glob Public Health* 2011;6:271–82.

32. El-Jardali F, Alameddine M, Dumit N, *et al.* Nurses' work environment and intent to leave in Lebanese hospitals: implications for policy and practice. *Int J Nurs Stud* 2011;48:204–14.

33. El-Jardali F, Dimassi H, Jamal D, *et al.* Predictors and outcomes of patient safety culture in hospitals. *BMC Health Serv Res* 2011;11:45.

34. Nandraj S, Khot A, Menon S, *et al.* A stakeholder approach towards hospital accreditation in India. *Health Policy Plan* 2001;16(Suppl 2): 70–9.

35. Pongpirul K, Sriratanaban J, Asavaroengchai S, *et al.* Comparison of health care professionals' and surveyors' opinions on problems and obstacles in implementing quality management system in Thailand: a national survey. *Int J Qual Health Care* 2006;18:346–51.

36. Salmon J, Heavens J, Lombard C, *et al. The impact of accreditation on the quality of hospital care: KwaZulu-Natal Province Republic of South Africa*. Bethesda, MD: United States Agency for International Development, 2003.

37. Zeh CE, Inzaule SC, Magero VO, *et al.* Field experience in implementing ISO 15189 in Kisumu, Kenya. *Am J Clin Pathol* 2010;134:410–18.

38. El-Jardali F, Jamal D, Dimassi H, *et al.* The impact of hospital accreditation on quality of care: perception of Lebanese nurses. *Int J Qual Health Care* 2008;20:363–71.

39. Moe JL, Pappas G, Murray A. Transformational leadership, transnational culture and political competence in globalizing health care services: a case study of Jordan's King Hussein Cancer Center. *Global Health* 2007;3:11.

40. World Bank. Country and Lending Groups. 2012. http://data.worldbank.org/about/country-classifications/country-and-lending-groups (accessed 24 Jul 2012).

41. Paccioni A, Sicotte C, Champagne F. Accreditation: a cultural control strategy. *Int J Health Care Qual Assur* 2008;21:146–58.

42. Sekimoto M, Imanaka Y, Kobayashi H, *et al.* Impact of hospital accreditation on infection control programs in teaching hospitals in Japan. *Am J Infect Control* 2008;36:212–19.

43. Simons R, Kasic S, Kirkpatrick A, *et al.* Relative importance of designation and accreditation of trauma centers during evolution of a regional trauma system. *J Trauma* 2002;52:827–34.

44. Chandra A, Glickman SW, Ou F-S, *et al.* An analysis of the Association of Society of Chest Pain Centers Accreditation to American College of Cardiology/American Heart Association non-ST-segment elevation myocardial infarction guideline adherence. *Ann Emerg Med* 2009;54:17–25.

45. Hadley T, McGurrin M. Accreditation, certification, and the quality of care in State hospitals. *Hosp Community Psychiatry* 1988;39:739–42.

46. Hafner JM, Williams SC, Koss RG, *et al.* The perceived impact of public reporting hospital performance data: interviews with hospital staff. *Int J Qual Health Care* 2011;23:697–704.

47. Fairbrother G, Gleeson M. EQuIP accreditation: feedback from a Sydney teaching hospital. *Aust Health Rev* 2000;23:200–3.

48. Greenfield D, Braithwaite J, Pawsey M. Health care accreditation surveyor styles typology. *Int J Health Care Qual Assur* 2008;21:435–43.

49. Lancaster J, Braithwaite J, Greenfield D. Benefits of participating in accreditation surveying. *Int J Health Care Qual Assur* 2010;23:141–52.

50. O'Connor E, Fortune T, Doran J, *et al.* Involving consumers in accreditation: the Irish experience. *Int J Qual Health Care* 2007;19:296–300.

51. Schmaltz SP, Williams SC, Chassin MR, *et al.* Hospital performance trends on national quality measures and the association with joint commission accreditation. *J Hosp Med* 2011;6:458–65.

52. Borenstein J, Badamgarav E, Henning J, *et al.* The association between quality improvement activities performed by managed care organisations and quality of care. *Am J Med* 2004;117:297–304.

53. Casey M, Moscovice I, Davidson G. *Pharmacist staffing and the use of technology in small rural hospitals: implications for medication safety*. St Paul, MN: Upper Midwest Rural Health Research Center, 2005.

54. Chen J, Rathore SS, Radford MJ, *et al.* JCAHO accreditation and quality of care for acute myocardial infarction. *Health Aff (Millwood)* 2003;22:243–54.

55. Chriqui JF, Terry-McElrath Y, McBride DC, *et al.* Does state certification or licensure influence outpatient substance abuse treatment program practices? *J Behav Health Serv Res* 2007;34:309–28.

56. D'Aunno T, Pollack HA. Changes in methadone treatment practices: results from a national panel study, 1988–2000. *JAMA* 2002;288:850–6.

57. Gabriele P, Malinverni G, Bona C, *et al.* Are quality indicators for radiotherapy useful in the evaluation of service efficacy in a new based radiotherapy institution? *Tumori* 2006;92:496–502.

58. Griffith JR, Knutzen SR, Alexander JA. Structural versus outcomes measures in hospitals: a comparison of Joint Commission and Medicare outcomes scores in hospitals. *Qual Manag Health Care* 2002;10:29–38.

59. Herr K, Titler M. Acute pain assessment and pharmacological management practices for the older adult with a hip fracture: review of ED trends. *J Emerg Nurs* 2009;35:312–20.

60. Juul AB, Gluud C, Wetterslev J, *et al.* The effects of a randomised multi-centre trial and international accreditation on availability and quality of clinical guidelines. *Int J Health Care Qual Assur Inc Leadersh Health Serv* 2005;18:321–8.

61. Lake ET, Shang J, Klaus S, *et al.* Patient falls: association with hospital Magnet status and nursing unit staffing. *Res Nurs Health* 2010;33:413–25.

62. Lau DT, Kasper JD, Potter DEB, *et al.* Potentially inappropriate medication prescriptions among elderly nursing home residents: their scope and associated resident and facility characteristics. *Health Serv Res* 2004;39:1257–76.

63. Lemak CH, Alexander JA. Factors that influence staffing of outpatient substance abuse treatment programs. *Psychiatr Serv* 2005;56:934–9.

64. Lutfiyya MN, Sikka A, Mehta S, *et al.* Comparison of US accredited and non-accredited rural critical access hospitals. *Int J Qual Health Care* 2009;21:112–18.

65. McGurrin M, Hadley T. Quality of care and accreditation status of State psychiatric hospitals. *Hosp Community Psychiatry* 1991;42:1060–61.

66. McMillen C, Zayas LE, Books S, *et al.* Quality assurance and improvement practice in mental health agencies: roles, activities, targets and contributions. *Adm Policy Ment Health* 2008;35:458–67.

67. Miller M, Pronovost P, Donithan M, *et al.* Relationship between performance measurement and accreditation: implications for quality of care and patient safety. *Am J Med Qual* 2005;20:239–52.

68. Pasquale MD, Peitzman AB, Bednarski J, *et al.* Outcome analysis of Pennsylvania trauma centers: factors predictive of nonsurvival in seriously injured patients. *J Trama* 2001;50:465–72.

69. Pollack HA, D'Aunno T. Dosage patterns in methadone treatment: results from a national survey, 1988–2005. *Health Serv Res* 2008;43:2143–63.

70. Ross MA, Amsterdam E, Peacock WF, *et al.* Chest pain center accreditation is associated with better performance of centers for Medicare and Medicaid services core measures for acute myocardial infarction. *Am J Cardiol* 2008;102:120–4.

71. Stradling D, Yu W, Langdorf ML, *et al.* Stroke care delivery before vs after JCAHO stroke center certification. *Neurology* 2007;68:469–70.

72. Synder C, Anderson G. Do quality improvement organisations improve the quality of hospital care for medicare beneficiaries? *JAMA* 2005;293:2900–7.

73. Tachezy R, Smahelova J. Quality assurance of human papillomavirus testing. *Coll Antropol* 2007;31(Suppl 2):61–5.

74. VanSuch M, Naessens J, Stroebel R, *et al.* Effect of discharge instructions on readmission of hospitalised patients with heart failure: do all of the Joint Commission on Accreditation of healthcare organizations heart failure core measures reflect better care? *Qual Saf Health Care* 2006;15:414–17.

75. Wells R, Lemak CH, Alexander JA, *et al.* Do licensing and accreditation matter in outpatient substance abuse treatment programs?. *J Subst Abuse Treat* 2007;33:43–50.

76. Williams C, Schmaltz S, Morton D, *et al.* Quality of care in US hospitals as reflected by standardised measures, 2002–2004. *N Engl J Med* 2005;353:255–64.

77. Williams SC, Watt A, Schmaltz SP, *et al.* Assessing the reliability of standardized performance indicators. *Int J Qual Health Care* 2006;18:246–55.

78. Lichtman JH, Jones SB, Wang Y, *et al*. Outcomes after ischemic stroke for hospitals with and without Joint Commission-certified primary stroke centers. *Neurology* 2011;76:1976–82.

79. Menachemi N, Chukmaitov A, Brown LS, *et al*. Quality of care in accredited and nonaccredited ambulatory surgical centers. *Jt Comm J Qual Patient Saf* 2008;34:546–51.

80. Weeks W, Schmidek M, Wallace A, *et al*. Do JCAHO accredited hospitals perform better on quality measures? An analysis of process-of-care measures and surgical indicators. 2007. http://apha.confex.com/apha/135am/techprogram/paper_152881.htm (accessed 10 Jan 2012).

81. Baskind R, Kordowicz M, Chaplin R. How does an accreditation programme drive improvement on acute inpatient mental health wards? An exploration of members' views. *J Ment Health* 2010;19:405–11.

82. Braun BI, Owens LK, Bartman BA, *et al*. Quality-related activities in federally supported health centers: do they differ by organizational characteristics? *J Ambulatory Care Manage* 2008;31:303–18.

83. Brown OW, Bendick PJ, Bove PG, *et al*. Reliability of extracranial carotid artery duplex ultrasound scanning: value of vascular laboratory accreditation. *J Vasc Surg* 2004;39:366–71.

84. Commonwealth of Australia. *Evaluation of the impact of accreditation on the delivery of quality of care and quality of life to residents in Australian Government subsidised residential aged care homes*. Canberra: Commonwealth of Australia, 2007.

85. Duckett S. Changing hospitals: the role of hospital accreditation. *Soc Sci Med* 1983;17:1573–9.

86. Gough L, Reynolds T. Is clinical pathology accreditation worth it? A survey of CPA-accredited laboratories. *Clin Perform Qual Health Care* 2000;8:195–201.

87. Oh HS, Chung HW, Kim JS, *et al*. National survey of the status of infection surveillance and control programs in acute care hospitals with more than 300 beds in the Republic of Korea. *Am J Infect Control* 2006;34:223–33.

88. Parthasarathy S, Haynes PL, Budhiraja R, *et al*. A national survey of the effect of sleep medicine specialists and American Academy of Sleep Medicine Accreditation on management of obstructive sleep apnea. *J Clin Sleep Med* 2006;2:133–42.

89. Pham HH, Coughlan J, O'Malley AS. The impact of quality-reporting programs on hospital operations. *Health Aff* 2006;25:1412–22.

90. Tan K, Chang SAE, Soh VCH, *et al*. Quality indices in a cervicovaginal cytology service: before and after laboratory accreditation. *Arch Pathol Lab Med* 2004;128:303–7.

91. Daucourt V, Michel P. Results of the first 100 accreditation procedures in France. *Int J Qual Health Care* 2003;15:463–71.

92. Hosford SB. Hospital progress in reducing error: the impact of external interventions. *Hosp Top* 2008;86:9–19.

93. Longo DR, Hewett JE, Ge B, *et al*. Hospital patient safety: characteristics of best-performing hospitals. *J Healthc Manag* 2007;52:188–204.

94. Middleton S, Griffiths R, Fernandez R, *et al*. Nursing practice environment: how does one Australian hospital compare with magnet hospitals? *Int J Nurs Pract* 2008;14:366–72.

95. Pollard R, Yanasak EV, Rogers SA, *et al*. Organizational and unit factors contributing to reduction in the use of seclusion and restraint procedures on an acute psychiatric inpatient unit. *Psychiatr Q* 2007;78:73–81.

96. Touati N, Pomey M-P. Accreditation at a crossroads: are we on the right track? *Health Policy* 2009;90:156–65.

97. Greenfield D, Pawsey M, Braithwaite J. What motivates professionals to engage in the accreditation of healthcare organizations? *Int J Qual Health Care* 2011;23:8–14.

98. Kreig P. *An Evaluation of the ACHS accreditation program: its effect on the achievement of best practice*. Sydney: University of Technology, 1996.

99. Davis MV, Cannon MM, Stone DO, *et al*. Informing the national public health accreditation movement: lessons from North Carolina's accredited local health departments. *AJPH* 2011;101:1543–8.

100. Hurst K. The nature and value of small and community hospital accreditation. *Int J Health Care Qual Assur* 1997;10:94–106.

101. Thornlow DK, Merwin E. Managing to improve quality: the relationship between accreditation standards, safety practices, and patient outcomes. *Health Care Manage Rev* 2009;34:262–72.

102. Grasso B, Rothschild J, Jordan C, *et al*. What is the measure of a safe hospital? Medication errors mised by risk management, clinical staff and surveyors. *J Psychiatr Pract* 2005;11:268–73.

103. Barker K, Flynn E, Pepper G, *et al*. Medication errors observed in 36 health care facilities. *Arch Intern Med* 2002;162:1897–903.

104. Auras S, Geraedts M. Patient experience data in practice accreditation-an international comparison. *Int J Qual Health Care* 2010;22:132–9.

105. Brannigan R, Schackman BR, Falco M, *et al*. The quality of highly regarded adolescent substance abuse treatment programs: results of an in-depth national survey. *Arch Pediatr Adolesc Med* 2004;158:904–9.

106. Campbell SM, Chauhan U, Lester H. Primary Medical Care Provider Accreditation (PMCPA): pilot evaluation. *Br J Gen Pract* 2010;60:295–304.

107. Gillon M, Buetow S, Wellingham J, *et al*. A practical approach to quality improvement: the experience of the RNZCGP practice standards validation field trial. *N Z Med J* 2003;116:U682.

108. Hampel MJ, Hastings MM. Assessing quality in nursing home dementia special care units: a pilot test of the Joint Commission protocol. *J Ment Health Adm* 1993;20:236–46.

109. Jaafaripooyan E, Agrizzi D, Akbari-Haghighi F. Healthcare accreditation systems: further perspectives on performance measures. *Int J Qual Health Care* 2011;23:645–56.

110. Frasco PE, Sprung J, Trentman TL. The impact of the joint commission for accreditation of healthcare organizations pain initiative on perioperative opiate consumption and recovery room length of stay. *Anesth Analg* 2005;100:162–8.

111. Pomey M-P, Lemieux-Charles L, Champagne F, *et al*. Does accreditation stimulate change? A study of the impact of the accreditation process on Canadian healthcare organizations. *Implement Sci* 2010;5:31.

112. Caldwell SD, Roby-Williams C, Rush K, *et al*. Influences of context, process and individual differences on nurses' readiness for change to Magnet status. *J Adv Nurs* 2009;65:1412–22.

113. Pomey MP, Contandriopoulos AP, Francois P, *et al*. Accreditation: a tool for organizational change in hospitals? *Int J Health Care Qual Assur Inc Leadersh Health Serv* 2004;17:113–24.

114. Durieux P, Bissery A, Gasquet I, *et al*. Comparision of health care professionals' self-assessments of standards of care and patients' opinions on the care they received in hospital: observational study. *Qual Saf Health Care* 2004;13:198–202.

115. Grenade L, Boldy D. The accreditation experience: views of residential aged care providers. *Geriaction* 2002;20:5–9.

116. Brasure M, Stensland J, Wellever A. Quality oversight: why are rural hospitals less likely to be JCAHO accredited?. *J Rural Health* 2000;16:324–6.

117. Casey M, Klingner J. HMOs serving rural areas: experiences with HMO accreditation and HEDIS reporting. *Manag Care Q* 2000;8:48–59.

118. Beaulieu DS, Epstein AM. National Committee on Quality Assurance health-plan accreditation: predictors, correlates of performance, and market impact. *Med Care* 2002;40:325–37.

119. Davis MV, Cannon MM, Corso L, *et al*. Incentives to encourage participation in the national public health accreditation model: a systematic investigation. *Am J Public Health* 2009;99:1705–11.

120. Bohigas L, Brooks T, Donahue T, *et al*. A comparative analysis of surveyors from six hospital accreditation programmes and a consideration of the related management issues. *Int J Qual Health Care* 1998;10:7–13.

121. Lichtman JH, Allen NB, Wang Y, *et al*. Stroke patient outcomes in US hospitals before the start of the Joint Commission Primary Stroke Center certification program. *Stroke* 2009;40:3574–9.

122. Sack C, Lutkes P, Gunther W, *et al*. Challenging the holy grail of hospital accreditation: a cross-sectional study of inpatient satisfaction in the field of cardiology. *BMC Health Serv Res* 2010;10:120.

123. Sack C, Scherag A, Lütkes P, *et al*. Is there an association between hospital accreditation and patient satisfaction with hospital care? A survey of 37 000 patients treated by 73 hospitals. *Int J Qual Health Care* 2011;23:278–83.

124. Leonardi MJ, McGory ML, Ko CY. Publicly available hospital comparison web sites: determination of useful, valid, and appropriate information for comparing surgical quality. *Arch Surg* 2007;142:863–8.

125. Revere L, Robinson L Jr. How healthcare organizations use the internet to market quality achievements. *J Healthc Manag* 2010;55:39–49.

126. Peterson CA. Management, faculty, and accreditation outcomes: a survey of physical therapy faculty and program directors. *J Phys Ther Edu* 2003;17:22–31.

127. Siggins Miller. *Surveyor participation in safety and quality accreditation*. Sydney: Australian Commission on Safety and Quality in Health Care, 2009.

128. Hodge DR, Limb GE. Native Americans and brief spiritual assessment: examining and operationalizing the Joint Commission's assessment framework. *Soc Work* 2010;55:297–307.

129. Greenfield D, Pawsey M, Naylor J, *et al*. Are accreditation surveys reliable? *Int J Health Care Qual Assur* 2009;22:105–16.

130. Laschober M, Maxfield M, Felt-Lisk S, *et al*. Hospital response to public reporting of quality indicators. *Health Care Financ Rev* 2007;28:61–76.

131. Scanlon D, Hendrix T. Health plan accreditation: NCQA, JCAHO, or both? *Manag Care Q* 1998;6:52–61.

132. Sierpinska L, Ksykiewicz-Dorota A. Selected determinants of the quality of hospital care. 1: accreditation and effectiveness of managing a therapeutic team. 2002; 57:466–72.

133. Rockwell D, Pelletier L, Donnelly W. The cost of accreditation: one hospital's experience. *Hosp Community Psychiatry* 1993;44:151–5.

134. Tuazon N. Is Magnet a money-maker? *Nurs Manage* 2007;38:28–31.

135. Zarkin G, Dunlap L, Homsi G. The costs of pursuing accreditation for methadone treatment sites: results from a national study. *Eval Rev* 2006;30:119–38.

136. Heuer A. Hospital accreditation and patients satisfaction: testing the relationship. *J Healthcare Qual* 2004;26:46–51.

137. Ito H, Sugawara H. Relationship between accreditation scores and the public disclosure of accreditation reports: a cross sectional study. *Qual Saf Health Care* 2005;14:87–92.

138. Greenfield D, Moldovan M, Westbrook M, *et al*. An empirical test of short notice surveys in two accreditation programs. *Int J Qual Health Care* 2011;24:65–71.

139. Greenfield D, Hinchcliff R, Westbrook M, *et al*. An empirical test of accreditation patient journey surveys: randomized trial. *Int J Qual Health Care* 2012;24(5):495–500.

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