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Title registration for a systematic review: Influence of hospital leadership styles on patient safety indicators

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Title

Influence of hospital leadership styles on patient safety indicators

Background

Improving patient safety within hospitals requires clarity of leadership at all levels (West, Borrill, & Dawson, 2003; Boamah, Read, & Spence Laschinger, 2017), both vertically as well as horizontally. The leadership styles which are more commonly associated with well-performing hospital are transformational leadership (Frich, Brewster, Cherlin, & Bradley, 2015), authentic leadership (Alilyyani, Wong, & Cummings, 2018) and distributed leadership (Martin, Beech, MacIntosh, & Bushfield, 2015). More recently, in view of hospitals being considered as complex adaptive systems, adaptive leadership style is gaining in importance (Choong, Durrington, & Kane, 2017). A major aspect of performance of hospitals is linked to the ability of leaders to enable the creation of patient safety cultures (DiCuccio, 2015). The Institute of Medicine (IOM) defines patient safety as "the prevention of harm to patients" implying a broad focus on a system of care delivery aiming at: (i) preventing errors; (ii) learning from existing errors; and (iii) building on a culture of safety that involves health care professionals at various levels, organizations, and patients.

However, there is still a fragmented perspective of patient safety, with literature focusing on a narrow set of aspects (e.g. medical errors and surgical procedural errors among others). Indeed, we observe a relative dearth of a comprehensive conceptualisation of patient safety within hospitals. Likewise, operationalisation of patient safety is scant with current key indicators focusing on specific aspects of the construct and largely at the micro-system level.

Patient safety indicators involve both primary and secondary outcomes. Primary outcomes relate to errors and near misses in the form of human induced errors and process defects (for example surgical procedural and communication errors). Secondary outcomes relate to hospital efficiency indicators, such as length of stay, bed occupancy rate, bed turnover rates and readmissions. However, our observations suggest that research and policy analysis of patient safety indicators from a more comprehensive and macro-perspective is lacking.

Health care systems are prone to error and the risk of adverse events is significant (de Vries, Ramrattan, Smorenburg, Gouma, & Boermeester, 2008; Kohn, Corrigan, & Donaldson, 1999). Medical errors are "the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim" (IOM, 1999). In health care, high error rates may bear profound consequences, usually related to intensive care, operating rooms, and emergency units (Baker et al., 2004). In the United States alone, up to 98,000 patients die and more than 1 million are injured each year because of preventable medical errors (Kohn et al., 1999). It is unsurprising then that safety and quality of patient care is a widely-recognised priority of health care policy.

Patient safety outcomes are linked to the quality of work environment and ineffective hospital leadership (Aiken et al., 2002; IOM, 2001). Approximately 80 percent of medical errors are system-derived (Leonard, Graham, & Bonacum, 2004). Managers across health care systems have legal, as well as moral and ethical obligations to ensure and maintain high quality of care and safety of patients, who should always be their highest priorities (Parand et al., 2014).

To this regard, the concept of leadership assumes a key role in maximizing patient safety across hospitals. Leadership is that influence that individuals (leaders) exert on the goal achievement of others (subordinates) in an organisational context (Cassar & Buttigieg, 2013). The term "leader" tracks back to around 1300 A.D., but the term "leadership" emerged in literature in the 19th century. So far, the concept of leadership has evolved and shifted from different theories and theoretical models across the 20th century. While first research (before the mid-1960s) on leadership gave rise to trait theories[1], during the 1960s new emerging theories emerged and were focused on the relationship between leadership style and measures of performance, group processes, and job satisfaction. Thus, during the 1960s, studies were focused on the behavioural styles theory[2], while later leadership evolved to contingency theory[3] (1970s-1980s) and transformational theory[4] (1980s-1990s).

Hospital leadership aims to ensure hospital care, system performance, achievement of health reforms objectives, timely care delivery, system integrity and efficiency (Mountford & Webb, 2009; Siriwardena, 2006). Classic management theory distinguishes between hospital leadership at diverse levels: (i) operational; (ii) tactical; (iii) strategic; and (iv) professional leadership. Thus, hospital leadership is a broad concept that involves both clinical professionals (MDs, surgeons and nurses among others) and non-clinical professionals (administrative and technical, staff).

In this context, relational leadership, which adopts approaches that focus on people and relationships, is crucial to maximise patient safety (Wong, Cummings, & Ducharme, 2013). This is because it embraces relational processes for people to accomplish change or to make a difference to benefit the common good (Clarke, 2018). **For example, transformational leadership, which is a relational leadership style, motivates followers to surpass work potentials in hospitals resulting in better patient safety outcomes** (Boamah, Laschinger, Wong, & Clarke, 2017). **Relational leadership, therefore, assumes even higher importance in the light of recent scandals that hit health care systems worldwide with several legal implications for hospital leaders. A clear example is the Mid Staffordshire NHS Foundation Trust scandal over the deaths of hundreds of patients between 2005 and 2008, among appalling failings in care, and which was eloquently reported as part of the Francis Inquiry (Francis, 2013). This scandal raised a number of troubling questions about the leadership and professional standards practised.**

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[1] According to this theory, natural born leaders possess certain physical traits/personality characteristics differentiating them from non-leaders.

[2] Here the focus in on task vs. relationship behaviour.

[3] It refers to the assumption that successful leaders adjust their styles depending on the situation. The appropriate combination of relationship and task behaviours depends on the individual's maturity or readiness level.

[4] This theory refers to a leadership style that brings about continuous learning, innovation, and change.

The main recommendation was building stronger health care leadership so as to promote compassionate caring and committed care while ensuring openness, transparency and candour. Despite very clear recommendations, further scandals continued to emerge[5].

Inadequate health care delivery as a result of ineffective leadership appears to be a major cause of patient safety in several hospitals. Evidence (Francis, 2013) suggests that patient safety needs to be improved in health care contexts through more conscious and responsive leadership, as well as through better responsive patient safety metrics.

Policy relevance

Patient safety scandals remain worrying realities worldwide with wide-ranging and far reaching consequences. This systematic review and meta-analysis shall provide evidence at the highest level to policy makers so as to invest in effective hospital leadership that ensures optimal patient safety through close monitoring of qualitative and quantitative outcomes indicators.

Against this background, the purpose of this systematic review is to raise the consciousness and conscientiousness of major stakeholders, in particular health policy makers and hospital managers, on establishing the importance of leadership qualities and assessing how these qualities relate to patient safety outcomes. Hospital leaders are expected to oversee that patient safety outcomes indicators should not merely be considered in terms of quantity metrics and therefore as targets to reach, but rather as being part of achieving meaningful quality of health care delivery. Thus, hospital leaders should reinforce the need to look beyond targets and numbers. In this context, we recommend the importance of hospital leadership in ensuring patient safety-friendly organizations through culture, climate, people management, standards, etc.) – and through shifting the focus of patient safety indicators from "quantity" to "quality".

Objectives

This systematic review aims to answer the following questions:

1. To what extent do leadership styles influence patient safety outcome indicators?
2. Do any associations between leadership qualities and patient safety indicators vary as a function of the leader's place in the organizational hierarchy?

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[5] For example recently in the U.S., and also as a result of poor leadership structures, Phoenix's VA Hospital was reported to provide delayed care to patients, causing the death of 43% of the 225 patients between October 2014 and August 2015 (CBS News, 2017).

Existing reviews

To date, few studies focus on the influence of hospital leadership styles on patient safety indicators due to the lack of standardized terminology or methodology for identifying patient safety problems (Rivard et al., 2005). A 2014 review of empirical literature that related to three facets (management, quality of care and the hospital setting) identified the activities, time spent and engagement of hospital managers in quality of care (Parand, Dopson, Renz, & Vincent, 2014). Extracting 15477 titles/abstracts from MEDLINE, PSYCHINFO, EMBASE, HMIC databases, Parand et al. (2014) check 423 full texts against inclusion criteria and extract data from 19 included articles. Results suggest that, although there is some evidence that managers' work can influence quality and safety clinical outcomes, processes and performance, a dearth of empirical studies prevails. Literature is further weakened by a lack of use of objective outcome measures and inadequate examination of actual actions undertaken.

Intervention

Studies have shown that there is a diversity of leadership styles. As specified above, the literature on hospital leadership styles has focused on transformational, authentic, distributed and adaptive leadership. This study shall include all studies that investigate one or more leadership styles as a predictor of patient safety indicators. We will develop a coding scheme for classifying leadership styles for use in our analysis and synthesis of research results.

For the purposes of this review, organisational hierarchy is considered as a moderator variable potentially influencing any association between leadership style and primary outcomes.

Population

This study relates to hospital and clinical settings without limitations to country, economic development or cultural characteristics.

Outcomes

Figure 1 sets out a summary of the structure of patient safety outcomes. Primary measures include direct measures like mortality and morbidity, as well as errors and near misses (comprising human induced errors and process defects). Secondary measures include hospital efficiency indicators (such as length of stay and bed occupancy rates among others) and that reflect aspects of primary health indicators.

Figure 1 *Patient Safety Outcome Measures: A Structure (Source: Authors)*

Study designs

Considering the nature of the phenomenon investigated, this study shall include field studies that look at leadership styles as a precursor of patient safety indicators with hierarchical position as a moderating variable. Such studies need to be longitudinal (temporal) in nature and specifically relevant to hospital care. These studies may include both quantitative and qualitative investigations. Any form of cross sectional study is excluded from this review. Studies that do not include patient safety indicators will be excluded.

In addition, whereas English shall remain a key working language, studies published in other languages shall be involved as long as our team can handle effective translation.

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Lead review author: The lead author is the person who develops and co-ordinates the review team, discusses and assigns roles for individual members of the review team, liaises with the editorial base and takes responsibility for the on-going updates of the review.

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Roles and responsibilities

The following table sets out the roles that the individual team members are expected to undertake.

Team member	Content	Systematic Review methods	Statistical analysis	Information retrieval
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Emanuel Said	L	L	L	C
Elaine Grech	S	S	L	L
Gianpaolo Tomaselli	S	S	S	L
Legend L Leading role S Supportive role C Must be consulted				

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Potential conflicts of interest

None known.

Preliminary timeframe

Note, if the protocol or review is not submitted within six months and 18 months of title registration, respectively, the review area is opened up for other authors.

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