

Operational Excellence: The Healthcare Management Imperative

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Abstract

Purpose: Operational excellence as a response to quality crises emerged in the 1980s with growing recognition. The concept that predominantly existed in manufacturing industries slowly shifted to other industries. This review addresses the concept of operational excellence for quality beyond industry specificity.

Recent findings: The strive for operational excellence is on but lags in metrics and indicators. Innovative approaches are still underway. The positive development is that operational excellence is gaining more leadership attention for quality gaps.

Summary: Operational excellence is not a destination but a culture of an organisation for continuous improvement, lean management, leadership support, exponential technology advancement, training and developing employees, teamwork, and collaboration with patient-centeredness as the main focus.

Keywords: Operational excellence, Efficiency, Culture, Process

Introduction

To understand and explore operational excellence, methodologies, processes, competencies, and how it impacts different outcomes, relevant studies were reviewed and the criteria outlined. Many studies have been conducted globally for operational excellence, but majorly in manufacturing industries, for processes and lean principles. In contrast, in the health care context, operational process efficiency has been explored.

Operational Efficiency

There is growing recognition of operational efficiency. Clinical safety, care appropriateness, and access to health care through a longitudinal study in Portuguese public hospitals from 2013-2016 and found different indicators exhibited correlation among them, with hospital size and complex characteristics of patients (Ferreira, Nunes, & Marques, 2020). and significant predictors of operational efficiency were patient's clinical safety and access to health care services. Thus, it was found that quality and access can be improved without sacrificing operational efficiency and operational efficiency can be improved without sacrificing quality. Physician reviews from 17 speciality services investigating the relationship between operational efficiency and patient satisfaction (Ko, Mai, Shan & Zhang, 2019) found that operational inefficiency negatively influences patient satisfaction. The waiting time of more than 17 minutes will reduce the rating status by 14%. Patient narratives suggested a complex set of relationships between waiting time and patient satisfaction.

Operational efficiency project outcomes (Reed et al., 2018), through an observational study, reported efficiency metrics before and after an improvement program for outcomes from an operational efficiency project in a large cardiac Cath lab in Ohio. Time series analysis, Chi-square testing and analysis of variance were used to find change before and after the improvement initiative. The main outcomes were lab room start times, turnaround times, efficiency in the laboratory, employee satisfaction through the principle changes of schedule implementation, increased use of electronic scheduling system, preparation and recovery area, and efficiency in program implementation. The start time improvement was 17 minutes, on-time starting improved by 61.8 to 81.7 per cent. Turnaround time improved to 16.4 minutes from 20.5 minutes. Complete lab utilisation proportion improved to 77.3% from 7.7%. Full-time employees were reduced from 29.6 in 2016 to 36.1 in 2013, with no increase in night, weekend or overtime cases and employee satisfaction also improved. This is proof that a systematic approach to efficiency improvement initiatives in Cath labs can reduce inefficiencies and improve overall productivity and operational efficiency.

Operational efficiency analysis of public hospital systems in the eastern part of India through an application of data envelopment analysis (Patra & Ray, 2017) found that some hospitals perform efficiently while some lack performance efficiency. In hospitals that lack performance efficiency, there is slack in beds, physicians and nurses. Further, they do not utilise input resources inefficiently. The five critical strategies for operational efficiency (Hejna & Hosking, 2004) in working with client organisations for planning and projects on replacing facilities stipulated that top leadership has to establish clear, compelling vision and expectations for future facility, describing the purpose of the project, and how it aligns to the visions and mission. Secondly, developing comprehensive 6 to 8 guiding principles for translating the principles to strategic, operational objectives. Third to establish performance specific targets for the future facilities expressed for customers and employees. Health care planning had valuable links to health care stakeholders, academic evidence to poor adoption of simulation

models reflecting health care problems, issues in the models in reflecting health care problems, the role of the health care planners (Virtue, Chausaulet & Kelly, 2013) and a potential link between health care planning and the stakeholders of health care for achieving operational efficiency improvements.

Operational Excellence Process

The process implementation of operational excellence that achieved competitive advantage found that the success factors included organisation, its context, leadership, planning, support, operational performance evaluation and improvement. The workforce, their personal and professional skills, empowerment, competence and awareness were the most critical success factors (Aguilera & Treviño, 2019). Operational process excellence tools on customer loyalty (Venugopal, Rafi, Innah, & Puthayath, 2017) in a tertiary hospital in south India found that reorganisation of the infrastructure of the donor area, and better donor management, reduced the donor wait time through lean principles. Tracking reception area proved that 60% of the time for staff are lost due to walking and in other non-value-added activities 22%. This 22 % was reduced by defining duties for each staff. Other recommendations were bar code labelling of tubes and bags, generation of unique identification code for donors, and token system.

Operational Standardization

The relationship between clinical practice standardisation and operational process standardisation, evaluation claimed that both influenced operational performance and standardisation in a comparative case study analyses in five Belgium hospitals (De Regge, Gemmel & Meijboom, 2019). The operational process standardisation significantly relates to clinical process standardisation. If managed deliberately at the policy level, operational excellence helps in health care standardisation, while clinical practice standardisation does not lead automatically to efficiency in throughput or resource improvement. The operational process standardisation affects different levels of patients, physicians and organisations.

Operational Excellence and Care Optimisation

Operational excellence can optimise care processes to transform health care from data extracted through care processes and process mining. It was found that operational excellence helps to reduce waiting time, the flexibility of resources enables organisation for operational excellence, thereby improves care processes and value for the patient through process optimisation methods such as lean thinking, six sigma, and process mining to overcome human limitations, sociotechnical systems to coordinate complex care processes involving many professionals. Leadership efficiency transforms care processes and the best leadership style for operational excellence is the coaching leadership style, which motivates to experiment and develop people (Boersma et al., 2019). The policy regulations and trust of the public continuously tug at private hospitals. While only 20% of respondents' accumulated improvement measures for operational excellence, 65% are in the process of implementing, 80% targeted to reduce cost and only 60% achieved success. Limited success was the outcome of cutting costs which were easily implementable but proved as a wrong approach that was conservative, without engaging the whole organisation, with lack of improvement capabilities. It was further found that five elements for successful implementation for lean principles for operational excellence are purpose, framing, targets, identifying the scope and major cost areas, the approach adopted for speed, governance, decision, with emphasis on tools, for long term vision embedment of the program (Ghosh, Mehra & Delal, 2018). Additionally, doctors, nurses and residents working for patients spend only 20 to 25% of their time for patients and the rest of the time was spent on cross-functional complexities, non-value processes and documentation. Solutions mentioned were to automate non-value processes and documentation, better supply and demand tactics, fact-based engagement with a segmented approach to preference items and non-preference items for physicians can reduce overheads. Structured operational transformation program can create the top line growth to about 8 to 15 %; workforce cost reduction to about 7 to 22%; material spending reduction to around 12 to 20%; another spending may

be reduced to about 20 to 30%. Solutions co-created by the team, bold vision and team commitment will bring in desired change (Ghosh, Mehra & Delal, 2018).

Key Drivers for Operational Excellence

The global state of operational excellence report (BTOES, 2018 - 2019), surveying executives globally, reported that the key drivers for operational excellence are rising expectations, a more competitive landscape, and digitalisation along the value chain. Among the executives, 53.1% expressed that the challenge for OE is changing and improving culture. 44.3% utilise OE for customer delight. 40% has an OE deployment program. 35.6% could not deploy OE due to a lack of full-time OE leaders and coaches in business units. 23.2% cited lack of leadership understanding and lack of buy-in as critical challenges to deploy the OE program.

Operational Innovations and their Impact

Advanced information technology systems applications, and support knowledge and skills on care quality and customer loyalty in the health care industry (Hong & Lee, 2018), proposed a research model and examined the relationships among the constructs using the structural equation model. It was found that service quality is closely associated with Information Technology (IT) systems and its' usage for operational innovations; advanced IT systems in Care service led to greater accuracy in diagnosis, more treatment options, faster results; operational innovations influence cost reduction and value addition. IT system benefits both patients and medical staff in care delivery to improve quality of care and reduce delays and treatment. The results showed a positive effect of the use of IT system and supported knowledge skills on customer closeness; Customer loyalty showed a positive relationship with service quality, the findings suggest that hospitals should use information systems, supported knowledge & skills to positively affect performance, customer loyalty and implement operational innovations.

Operational Excellence and Accreditation Processes

The impact of accreditation programs in healthcare

organisations in Brazil and Federal state hospitals, evaluated by 141 quality managers, found a relation between input variables and accreditation status (Saut, Berssaneti & Moreno, 2017). The issues of the planning stage in non-accredited hospitals were found to be safety, quality, and outcomes. Accreditation contributed to implementing patient safety activities, quality management activities, quality-related policy and strategic planning, involvement of professionals in quality programs and further these measures contributed to better outcomes. The type of accreditation influenced more for these variables and not the type and status of hospitals, and the administration of private hospital or otherwise. The correlation evidence reiterates the need for internal and external collaborations.

Scaling Operational Excellence from Current State to the Desired State

The use of operational excellence principles was utilised to investigate Operational excellence to scale it from the current state to desired state in a university hospital in the Netherlands (Edelman, Hamaekars, Buhre & van Merode, 2017). The current state evaluation revealed that though improvement projects were initiated in 2012, 75% were not completed. The steps taken were to closely monitor the lag, policy changes, responsibility and accountability for line managers. Lean Six Sigma and business models were carried out, giving the main focus on an operating room. From the Results, the hospital developed its operational excellence model learning from other models. Each unit continuously worked towards improving care models using operational excellence and design thinking. The principles that gained results were continuous improvement with a focus on patient value, waste reduction, improvement approach at the systems level, involving people for continuous improvement directly from work roles, and realising these objectives.

The performance of public healthcare facilities (Manyazewal, 2017), from the current status of operational efficiency to the desired state in public health care in Ethiopia to scale operational efficiency, was evaluated through a quantitative cross-sectional study which covered the WHO health system framework (2010) of leadership and

governance, financing, workforce, medical products and technologies, information and research, service delivery from health care professionals. The results indicated that performance assessed overall was only 60% while minimum weightage using WHO building blocks has to be 80%; information was 53%, health workforce was 55%, medical products and technologies were 58%, leadership and governance was 61%, health care financing was 62%, service delivery was 69%. There was a significant difference in the performance among hospitals.

Technical and scaling of operational efficiency towards equitable healthcare evaluated the productive efficiency of community health centres in 3 zones in Jiangsu province from 75 community health centres using hybrid analysis of panel data analysis, augmented data envelopment analysis to model human resource capital inputs (Zhou, Xu, Antwi & Wang, 2017). There was significant production growth in community centres. Technological change enhanced growth and efficiency. Deep health care reforms for technology availability improvement in suburban health care centres enhanced technological growth. Data envelopment analysis summary showed that economic development and performance efficiency did not go hand in hand in the hospitals in the 3 zones in Jiangsu. The models did not use cut off points to establish and classify efficiency levels of decision-making units and permitted multiple input and output analyses. This was used for sensitivity analysis to find resource redundant areas to help managers identify factors that highly affect operational efficiency—generating priorities of practical relevance to clinicians, policymakers, and commissioners for improving operational excellence (Crowe et al., 2017).

Operational Excellence in electronic documentation

In an emergency department, it was found that a custom provider electronic documentation system that replaced documentation in paper affected operational performance. Electronic documentation implementation increased overall and discharged length of stay. But custom-designed electronic documentation may negatively affect the emergency department. To mitigate the negative effects,

strategies like documentation requirement reduction, adding scribes, voice recognition and adding clinical staff are areas to be explored (Feblowitz, Takhar, Ward, Ribeira & Landman, 2017).

Operational Outcomes through Transformational Leadership

A strong positive correlation between transformational leadership, organisational culture and operational change outcomes were found in South Africa through surveying 130 professional nurses in 6 private intensive care units (Jordan, Werner, & Venter, 2015). The factors that needed improvement were innovation and intellectual stimulation. Transformational leadership for operational excellence (Burns, 1978 ; Bass, 1985) is bound to shoulder broad responsibility, succession timeframes, emergency or exigency preparation, strategy and profile alignment, build a talent pipeline, internal talent pool or outsourcing decisions, implementation including selection, transition, performance measurement, progress improvement, and dynamics of succession management.

Operational Excellence and Critical challenges

A decision methodology (Bai, Gopal, Nunez & Zhadanov, 2014) addressed critical challenges in health care organisations for operational excellence using a two-stage decision-making methodology for optimising workflow task assignments and information disclosure risks. It was found that the major challenges were patient safety, information security and significant personnel shortage and that clinical workflow detailing analysis created practical benefits in terms of quality care delivery, cost reduction, patient privacy.

Operational Excellence and Hospital Transformation

Clinical, operational excellence through hospital transformation for unlocking a hospital's true potential (Broome, Grote, Scott, Sutaria & Urban, 2013) investigated clinical, operational excellence on 150 hospitals in the US with best practices. Key findings were that Operational excellence includes performance improvement efforts, lean transformations, care delivery, nonclinical

operations, process improvement, change management approaches, increasing operational efficiency, less clinical variability, driving down the cost of care and improving care quality. For value-based models, in clinical settings, clinicians should be involved in operational improvement. Clinical variability in each hospital hikes the cost, resulting in less competitiveness and moving to value-based payment. The study claims that key capabilities for sustainable clinical, operational excellence in the health system are program management involving mindsets and capabilities, clinician engagement program management, and visible leadership support and often best results for sustainable operational excellence are achieved through pilot programs.

Operational Excellence and Lean Six Sigma

Integrating lean six sigma for clinical, operational excellence and knowledge transfer (Sears, 2009) accelerated performance improvement and rapid learning in 29 facilities through pursuing consistency, integration, quality and transparency of patient care. Improvement projects linked to performance gaps in balanced scorecard dashboards executed with lean six sigma promoted rapid cycle improvement. Further, improvement was through knowledge transfer from communities of excellence consisting of experts from more than 30 clinical and operational areas for adopting proven practices. Additionally, these approaches scale two interconnected initiatives for clinical transformation and operational excellence. Integration of six sigma methodology and concept-knowledge theory enhanced the innovative capacity of six sigma for achieving operational excellence (Sony & Naik, 2019). A linkage between soft factors of lean on hard factors of lean and operational excellence (Fok-Yew, 2018) found that the effect created by lean's hard factors like lean operations and lean supply chain are likely to positively contribute to lean's soft factors like employee engagement and operational excellence. In practice, the lean hard factors adoption might improve decisions on infrastructure, best practices, benchmarking, quality practising and human resource policies, proving the implication of lean soft factors and operational excellence, provided lean engagement is present.

Lean six sigma focus on process flow inefficiencies and is highly beneficial since lean provides solutions for bottlenecks, and six sigma provides data-centric rigour to yield high quality (Yaduvanshi & Sharma, 2017). Lack of or limited, precise composite model with a holistic approach for lean six sigma is a challenge. Cultural quality investments in lean and six sigma have paid significant dividends in other industries, and will be effective in the health service sector to enhance customer service, lower cost and attain operational efficiency. Lean and health care operations examined (D'Andreanatteo et al., 2015) through a comprehensive review, analysed the main issues of lean in a complex context of health care Operations. Lean is understood as a means to increase operational productivity. Theoretical aspects are more focused on barriers, challenges and success factors. The two low areas of concern are the system-wide approach and sustainability framework, the wherein system-wide approach is low in number and sustainability framework are underestimated.

A conceptual framework for lean principle proposes mapping business processes, strengthening the lean foundation, and continuous execution of lean techniques (Awwal, 2014). Reporting implementation of lean operational efficiency, Radner, Holweg and Waring (2012) stated that the health care service sector had adopted process improvements from the manufacturing sector. Tools for lean such as rapid improvement events, kaizen blitz, have been implemented for localised gains.

Lean management principles in health care for operational efficiency examined by Lawal et al. (2014) indicated primary outcomes as health system improvement outcomes (Improvement in timings of admission, collection, turnaround, triage, physician, dispensing, examination room, number of patient visits, discharge time, scheduling, patient journey, near-miss event, turnover and wait time), patient outcomes (readmission, mortality rate, satisfaction etc.), Professional outcomes (employee satisfaction, time by patient bed etc.). Secondary outcomes are lean concepts, lean management systems and lean activities.

Operational Excellence as a Magical Formula

In a world summit of operational excellence,

Bensafi (2018a) established Operational Excellence as a magical formula used by top executives to make their staff understand that they are not performing optimally. There are various layers in the term operational excellence and it is a wrong notion that it can be achieved only through following standardised paths. Further, the study stipulates that operational excellence has to be a part of Research and Development, Risk and Compliance, while, Cultural changes and transformation should be through a pilot program. Transformation processes should inculcate the habit of 'drive back' to go back and assess the causes of failures.

Operational Excellence Culture

To evaluate and regenerate a culture for operational excellence, Magee (2018) indicated that challenging episodes are processes of evaluating and regenerating culture for operational excellence. Culture often becomes stagnant, needing attention and is difficult to change, with the change becoming harder due to conditioning, requires unlearning of behaviours, values and assumptions, restricted by behaviours, processes, self-limiting mindsets, and systems that once worked and became outdated.

Operational Excellence Framework

Cesarotti and Spada (2009) examined how several methodologies form an integrated excellence framework within the service organisations for operational excellence. A phased approach was carried out with a hard phase framework supporting service design in tangible and intangible elements of the services and a soft phase framework supporting the maintenance, management and delivery of service. The hard phase framework was supported by integrating the Kano model of customer requirements. The soft phase framework introduced mode of failure, total productive maintenance, effect analysis for improving operational competence and culture, improving frontline workers' sense of ownership and commitment. This study indicates that the operational excellence framework from the industrial sector can be transferred and adapted to any service sector, which potentially brings significant improvements in services with a higher degree of tangible factors to achieve outstanding results.

Environmental Changes and Strategic Responses for Operational Excellence

Alavi and Yasin (2008) surveyed samples from health care organisations. They tried to understand the use of quality improvement initiatives for operational environments in health care from the effective implementation of initiatives for quality improvement. Organisational resources ought to be committed to effective implementation of quality improvement initiatives and decision-makers should encourage this in the competitive environment that is constantly changing for the competitive impact in different operational settings.

Entrepreneurial Leadership Strategies for Operational Excellence

Darling, Keeffe and Ross (2007) tried to understand entrepreneurial leadership strategies and values as keys to operational excellence. Findings concluded that the Operational excellence and success of entrepreneurial organisations majorly depend on care for customers, constant innovation and managerial leadership. Keys to an acceptable level of excellence focus on four primary entrepreneurial leadership strategies of attention through vision, meaning through communication, trust through positioning, and confidence through respect, concern for people, interpersonal values providing a paradigm of interactive cues, and foundation to successfully fulfil these strategies.

Metrics for Operational Excellence

Software testing metrics for operational excellence was inspected (Pusala, 2006) in assessing the need for metrics program, its challenges in implementation to arrive at metric sets that is ideal, to address different aspects of a metrics program. It was found that metrics are important for maturing organisations striving to improve enterprise quality. The maturity model's (capability) fourth level stipulates process measurement analysis, quantitative method for quality management as the key process activities. Though the need for metrics in organisations is recognised, structured measurement program implementation is still lagging. Metrics provide an objective measure of effectiveness and efficiency to predict long term direction, higher-level goal identification, basic plan closure on

performance gaps, a means for status reporting, risk area identification, flag actions for faster and informed decision making, identify and resolve potential problems and helps to identify areas of improvement.

Team Dynamics and Creative Teams for Operational Excellence

Feurer, Chaharbaghi, and Wargin (1996) tried to understand team dynamics to develop creative teams for operational excellence in organisations. Findings reported that accelerating competition push organisations to strategy innovations, formulation and implementation. Team centred structures are key enablers for creativity, development, dissemination and application. Creative teams improve on creative capabilities. The sustainability for operational excellence is through the key performance indicators and Management is crucial (Moktadir et al., 2020).

Operational Excellence, Organisational Culture and Agility

There is still potential for organisational agility and organisational culture into long term sustainable initiatives for operational excellence, beyond the cultural fit, which is simple, to work and promote agile behaviour to build the cultural capacity for the constant change and helps to strive long term with sustainable operational excellence (Carvalho, Sampaio, Rebentisch, Carvalho & Saraiva, 2019).

The existing models were critically evaluated to build a new model for implementing sustainable operational excellence and found that operational excellence needs to be based on the social, economic and environmental framework in the backdrop of organisational agility and culture to impact operational excellence (Sony, 2019).

Operational Excellence for Cultural Transformation

Hosington (2018) found that cultural transformation is the greatest challenge of any organisation and a holistic approach to operational excellence is required. Since the sum of the parts is less than the whole, sub-optimization of few areas will not trigger excellence. Instead of focusing on improvement tools, a continuous improvement culture through leaders to achieve

goals, constantly improving performance for sustainability, getting better than the competition globally will ensure operational excellence. The best health care or service will be known for exceeding customer (patient) requirements and expectations. Operational excellence is the foundation for cultural transformation through developing skills, talents and technologies for customer requirements with leadership support and buy-in, employee acceptance and buy-in, engaging all processes tweaking to adjust and evolve through small wins. Borse (2016) addressed that various process improvement and change management concepts should increase operational excellence and reduce clinical variability. Inefficiencies are the major barriers and thus, barriers are to be categorised and addressed with an eye for inadequacies and awareness of continual improvement.

Design for Operational Excellence

To understand the health care service redesign and to facilitate operational performance and service delivery using review on links between infrastructure, healthcare service, transformation, value generation (Tzortzopoulos, Codinhoto, Kagioglou & Koskela, 2016), given the major challenges in health care, the need is to move from transformation perspective to the process flow and value, the process flow to include supporting patient pathways, learning and visual management, Value to include promoting patient experience, staff working conditions, cleanliness and to have a better conceptualisation of links between health care service design, delivery and building design. Transformational change in health care through Operational Excellence (Wheeler et al., 2016) is through Lean, Six Sigma, and Total Quality Leadership, Total Quality Management, Theory of Constraints were suggested as models for improvement.

HRM Influence on Job Attitudes for Operational Efficiency

Cogin, Lg and Lee, (2016) assessed HRM implementation in Australian hospitals, its' influence on job attitudes and operational efficiency of hospitals and found a predominance of control based approach in managing people, with different forms of control to different groups. Lengthy recruitment

processes involving volumes of paperwork and no managerial discretion to fast-track made the process difficult, cumbersome and bureaucratic. Often the paperwork by health care managers did not guarantee selection by Human Resources Management. Sometimes approvals were revoked, and the lengthy process often led to the loss of potential candidates. This also led to managers perceiving their authority undermined. Executive appraisals with key performance indicators were linked to hospital strategic plans. Staff appraisal was limited to filling a form if hospital outcomes were not achieved. The training was documented, monitored and audited, with a dominant approach to decisions around training & development being behaviour control. Strict rules existed for reward and recognition for nurses and allied staff. Behaviour control culture led to bureaucracy in this also. HRM was perceived by employees as a source of bureaucratisation and non-value addition. Due to lack of support and response, health care managers were frustrated with HR functioning. HRM professionals agreed with staff that their role was transactional and aspired for business partner roles. Inadequate technology, limited resources and lack of credibility in functioning prevented this. Inappropriate use and overuse of behaviour controlled to staff generating negative feelings of discontent, frustration, resentment, indifference and also the negative perception of their senior executives. The malcontent of junior nurses calling in sick frustrates the physicians. Staff perceived cost-saving as questionable, the methods for cost-saving and behaviour control as detrimental to patient care, increasing re-admissions of patients being a revolving door.

Integration of Management System for Operational Excellence

To integrate management systems as a methodology for operational excellence and strategic flexibility (Asif, Olaf, Fisscher, Bruijn, & Pagell, 2010) established to streamline processes on operational, structural, functional for operational excellence through in-depth interviews, on-site observation, secondary data, and post-data focus group discussion to examine strategic flexibility and operational excellence through integration

of management system. It was observed that integration leads to fundamental improvements through reducing barriers, decreasing departmental isolation, by linking important functionalities that were treated as individual chunks to the system. Process development is important for integration and competitive advantage. Findings support the resource-based theory (Barney, 2000; Wernerfelt, 1984) that developing heterogeneous resources leads to competitive advantage and integration of management systems will reform the bureaucracy.

Discussion

The ‘Management’ aspect has a high priority among key performance indicators of Operational excellence (Moktadir et al., 2020) among other aspects like organisation and its context, leadership support, operational performance evaluation and improvement (Aguilera & Aguilera, 2019). Standardisation does not automatically lead to efficiency in throughput or resource improvement. Operational process standardisation involves various variables at different levels, involving patients, physicians, and organisations. Furthermore, it is complementary to clinical process standardisation, potentially supporting operational process standardisation and if managed deliberately at the policy level, operations efficiency is possible in health care standardisation (De Regge, Gemmel & Meijboom, 2019). Sustainable operational excellence needs to be based on the social, economic and environmental framework in the backdrop of organisational agility and culture (Sony, 2019). There exists a relationship between operational efficiency and patient satisfaction evident from voluntary patient reviews and narratives, emphasising how important operational efficiency is for them (Ko, Mai, Shan & Zhang, 2019).

Operational excellence can optimise care processes to transform health care, while the flexibility of resources enables the organisation for service excellence or product excellence to create value for the patient (Boersma et al., 2019). Barely managing operations is not enough to excel and there has to be a continuous improvement for quality. For that, the model developed by Boston Scientific Strategic provides a whole systems approach to

operational excellence and can train future managers to develop skills and competencies required for the industry (Found, Lahy, Williams, Hu & Mason, 2018). Lean management is very important in Operational Excellence since it was found that there exists a relationship between soft factors (employee engagement, operational excellence) of lean on hard factors of lean (lean operations and lean supply chain). Additionally, the effect created by lean’s hard factors like lean operations and lean supply chain is likely to positively contribute to lean’s soft factors like employee engagement and operational excellence.

Further, in practice, the lean hard factors adoption might improve decisions on infrastructure, such as best practices, benchmarking, quality practising and human resource policies, proving the implication of lean’s soft factors and operational excellence (Fok-Yew, 2018). At the same time, lean is important, easily implementable cost-cutting without engaging the whole organisation results in limited success and proved to be a wrong approach that was conservative and lacked improvement capabilities. Clear purpose, scope and targeted approach adopted for speed, governance, decision, emphasis on tools, long term vision embedment are needed for success. Further, automating non-value processes and documentation is a solution for time spent on cross-functional complexities and non-value processes and documentation since Doctors, nurses and residents working for patients spend only 20 to 25% of their time for patients and the rest on non-value process documentation (Ghosh, Mehra & Delal, 2018). The challenging episodes in the health sector have to be seen as a process of evaluating and regenerating culture for operational excellence since culture often becomes stagnant, needing attention and difficult to change (Magee, 2018), and change becomes harder due to conditioning.

Culture shift, with the right people with the right skills, in the right place, who are willing and capable to implement the right approach at the right time in the right measure is the key (BTOES, 2018). Cultural transformation is the greatest challenge of any organisation and since the sum of the parts is less than the whole, sub-optimization of few areas will not trigger excellence. Thus, a holistic approach to

operational excellence is required for organisational improvement and cultural transformation (Hosington, 2018). The operational innovations such as advanced information technology systems applications and support knowledge and skills had a positive effect on care quality and customer loyalty in the health care industry (Hong & Lee, 2018). Relation between health care input variables and accreditation status was established (Saut, Berssaneti & Moreno, 2017), proving that accreditation sets a benchmark in performance and patient care.

Conclusion

Operational excellence is not a destination but a culture of an organisation for continuous improvement, lean management, leadership support, exponential technology advancement, training and developing employees, teamwork, and collaboration with patient-centeredness as the main focus. Accreditation for hospitals mandates service standards and thus ensure a certain level of standard procedures. The absence of awareness training among staff, process improvements, and standardisation lessen the strive for operational excellence and management has to empower employees.

Operational excellence has a growing awareness for better quality. The benefits of operational excellence may be tapped in developing countries through models from developed countries investing greater effort to understand the local needs of each region, state or country, to address those needs with quality approaches, ethics and socio-cultural strengths, to develop innovative approaches for operational excellence through key parameters, performance indices and metrics to measure, evaluate and improve. These steps would not only benefit the regions but the world at large.

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