Leadership in Health Services

Implementing a nationwide quality improvement approach in health services: The Moroccan "Quality Contest" experience

Amina Sahel Vincent DeBrouwere Bruno Dujardin Guy Kegels Nejoua Belkaab Abdelali Alaoui Belghiti

Received 17 April 2014
Revised 25 September 2014
Accepted 7 October 2014

Implementing a nationwide quality improvement approach in health services

The Moroccan "Quality Contest" experience

Amina Sahel
School of Public Health, Université Libre de Bruxelles, Brussels, Belgium and Direction des Hôpitaux et des Soins Ambulatoires, Ministry of Health, Rabat, Morocco

Vincent DeBrouwere
Department of Public Health, Institute of Tropical Medicine, Antwerpen, Belgium

Bruno Dujardin
School of Public Health, Université Libre de Bruxelles, Brussels, Belgium

Guy Kegels
Department of Public Health, Institute of Tropical Medicine, Antwerpen, Belgium

Nejoua Belkaab
Direction des Hôpitaux et des Soins Ambulatoires, Ministry of Health, Rabat, Morocco, and

Abdelali Alaoui Belghiti
Direction des Hôpitaux et des Soins Ambulatoires, Ministry of Health, Rabat, Morocco

Abstract

Purpose – The purpose of this paper is to present an innovative quality improvement intervention developed in Morocco and discuss its implementation. Until 2004, the Moroccan Ministry of Health (MoH) encouraged pilots of quality improvement approaches but none of them were revealed to be sustainable. Internal assessments pinpointed factors such as lack of recognition of the participating team's efforts and lack of pressure on managers to become more accountable. In 2005, Morocco opted for an intervention called "Quality Contest" (QC) targeting health centres, hospitals and health district offices and combining quality measurement with structures ranking, performance disclosure and reward system.

Design/methodology/approach – The QC is organized every 18 months. After the self-assessment and external audit step, the participating structures are ranked according to their scores. Their performances are then disseminated and the highest performing structures are rewarded.

Findings – The results showed an improvement in performance among participating structures, constructive exchange of successful experiences between structures, as well as communication of constraints, needs and expectations between MoH managers at central and local levels; the use of peer-auditors was appreciated as it enabled an exchange of best practices between auditors and audited

Leadership in Health Services
Vol. 28 No. 1, 2015
pp. 24-34

1751-1879
DOI 10.1108/LHS-04-2014-0042

teams but this was mitigated by the difficulty of ensuring their neutrality; and the recognition of efforts was appreciated but seemed insufficient to ensure a sense of justice and maintain motivation.

Originality/value – This intervention is an example of MoH leadership that has succeeded in introducing transparency and accountability mechanisms (ranking and performance disclosure) as leverage to change the management culture of the public health services; setting up a reward system to reinforce motivation and adapting continuously the intervention to enhance its sustainability and acceptability.

Keywords Leadership, Management, Quality

Paper type Case study

1. Introduction

The past two decades have seen a rapid increase in the number of quality improvement approaches in developing countries. There have been many reasons (political, economic or technical) why some countries failed to achieve their goals while others succeeded (Bradley and Yuan, 2012; Siddiqi *et al.*, 2005). Morocco has not lagged behind in these attempts to address diverse quality issues (Dialmy, 2000; Siddiqi *et al.*, 2012; Wilson *et al.*, 2012). Since the 1990s, the country experimented with various approaches (quality circles, clinical audits, etc.) in a number of pilot sites. However, these experiments never went beyond the project stage and were not sustained once the donor financial support was withdrawn. Assessments showed that this was due to:

- Lack of support to the teams involved in quality improvement efforts.
- Lack of recognition for the teams' efforts.
- The fact that health facility managers were not held accountable for results.
- Little impact on the health system as the approach was usually implemented at one level only (often at basic health services level).
- A bureaucratic system that does not tolerate initiatives outside a project framework (Blaise, 2005; Muffler *et al.*, 2007).

Based on these assessments and inspired by the systemic quality improvement approach (Schneider and Stierle, 2007), the Moroccan Ministry of Health (MoH) decided in 2005 to implement a comprehensive intervention of quality improvement called "Quality Contest" (QC) in public services. The QC combines several complementary approaches in a single intervention.

The objective of this paper is to present this innovative quality improvement intervention and discuss its implementation across the country, its results, including its strengths and weaknesses, and the lessons learned.

2. Description and implementation of the QC

Morocco is a middle-income country with a population of 32 million. The proportion of gross domestic product dedicated to health care is 5.3 per cent (Ministère de la santé du Maroc, 2013). Its health-care system consists of a public and a private sector. The public sector, which is the intervention target, is divided into 16 health regions encompassing 68 health district offices (HDO), 96 regional and district hospitals (excluding university hospitals) and more than 2,000 primary health-care centres (PHCs).

The objectives of QC were to:

- Strengthen the systemic effect by acting on the two levels of care (hospital and PHCs) and on the district management level (health district offices HDO).
- Improve the functioning and the organisation of all services by acting on the management process.
- Stimulate the search for excellence by establishing a ranking of facilities.
- Initiate a culture of merit recognition by awarding prizes to the best performers.
- Increase transparency and accountability by disseminating the results.
- Motivate underperformers to improve their services by providing them support (Ministère de la santé du Maroc, 2005).

2.1 Preparing implementation

Once the political decision was made to carry out a QC in Morocco, three preparatory steps were taken. The first step was the set up of two management bodies in 2005: a steering committee chaired by the Secretary General (comprising central and regional directors) and a technical unit (T.U) of four full-time staff. The T.U mission was to oversee the organization and implementation of the various stages of the contest, to oversee the logistics, coordination with regions and participating structures and to identify and recruit the appropriate staff to carry out the various activities of the QC (development of assessment tools, training, audit, entry scores, etc.).

The second step was the development of assessment tools in 2006. These tools were designed to quantify, through performances scores, the quality of structures management. To develop these tools, field and central level managers have worked together under the supervision of an international expert to reflect and identify areas considered important for quality management and evaluation issues. This process, spread over eight months, resulted in the production of three assessment tools: one for the HDO, one for hospitals and one for PHCs. Between 80 and 100 questions were defined according to the type of structure (hospital, PHCs and HDO). To help evaluators assign scores, expected responses (actions) were defined for each question. These expected responses indicate on a scale of 0 to 4, levels of desired quality (0 being the absence of action, one being the minimum, and 4 is the maximum desired level). Table I shows an example of a question and expected responses. The questions for each type of structure are published in a document called "Self-Assessment Document". Under each question, a blank space is left to allow structures to write their answer during the self-assessment step.

Table I.
Example of expected responses to a question

Example of domain	Example of sub-domain	Example of question	Example of expected responses with scores
Satisfaction	User complaints are taken into account	What action did you undertake to improve listening to user complaints at your facility?	(0): Nothing (1): Set up of listening tools (suggestion box, complaints register, etc.) (2): Regular analysis of user complaints (list with categorisation of complaints) (3): Team discussion about solutions with feedback to the complainants (4): Implementation of corrective actions

The third step was the training of evaluators in 2007-2008. The MoH opted for peer evaluators to carry out the audit in participating structures. Managers renowned for their expertise were chosen. Hospital directors were identified and trained to audit hospitals, heads of health district to audit HDO and PHCs medical officers to audit PHCs. In addition, technical managers at central level of the MoH were trained to audit structures together with peers. A total of 89 auditors were trained across the country.

2.2 Organization

2.2.1 Selection of structures. During the first two cycles (2007 and 2008), the QC aimed PHCs, hospitals and HDO and the participation was voluntary. Since the third cycle (2010), the intervention was extended to maternity hospitals and the Centres for Diagnosis and treatment of Tuberculosis (CDTT) as maternal health and tuberculosis are national priorities. The QC became mandatory for all these structures (96 hospitals, 68 HDO, 92 maternity hospitals and 52 CDTT) but PHCs because of their large number (over 2,000). The organisation of QC for PHCs has been decentralized to the regions.

2.2.2 Course of the QC. The QC is a cyclical process with an average duration of 18 months. Each cycle includes an evaluation component (self-assessment, audit and ranking) lasting about 4-5 months and an improvement component (implementation of improvement plans) of one year (Table II).

Four QCs were organised between 2007 and 2012, the fifth is being organized.

Stages	Actions
1-Preparation of QC	Before each cycle, the information on the starting date of QC is provided to structures The technical unit (TU) sends the self-assessment document (questionnaires) to the participating structures
2-Self-assessment	The managers of participating structures have one month to discuss, describe their practice and fill out the document Once completed, the documents are returned to the TU
3-Analysis of self-assessments	The TU meets auditors during one month, to analyse anonymously the responses and assign each answer a score (analysis score)
4-Audit	The audit phase begins immediately afterwards and lasts 4-6 weeks The auditors visit all participating structures according to a timetable prepared by the TU. They use observation, staff interview, document checking to assign scores (audit scores) At the end of the audit day, feedback is given to the local team about their strengths and weaknesses and an improvement plan outline is discussed
5-Ranking, awards and dissemination of results	An overall score is calculated for each structure and permits establishing a ranking by type of facility (hospital, HDO and PHCs) At the end of each QC, a ceremony is held. It is attended by the Minister of Health, central and regional officials, representatives of international organisations and the press. The highest performing facilities are given a "Performance Award" and the structures that made the most important progress since the previous QC are given "Improvement Effort Award" A comprehensive report with detailed results of all participating facilities is compiled and distributed to all structures
6-Implementation of improvement plans	In the interval (about one year) between two contests, the structures try to implement their improvement plan

Table II.
Stages in the Moroccan QC cycle

2.2.3 Data analysis.

The evaluation of structures performance is based on the global score assigned on the basis of self-evaluation and audit. Details about the scoring system were published elsewhere (Sahel *et al.*, 2014). We hypothesize that the repeated and regular participation in the QC enables structures to improve their performance. Thus, to evaluate the impact of the QC on management quality, we made two aggregated comparisons of the performance scores. The first comparison is based on the evolution of scores between 2007 and 2010 for structures that have participated in the three QC. Wilcoxon signed rank test was used to verify this hypothesis.

We also compared the scores achieved in 2010 by structures which participated once with those of structures which participated two and those which participated three times. To do so, we used the Kruskal–Wallis test.

3. Results

3.1 Progress in performance

The evaluation of the performance of the HDO showed a significant improvement in scores ($p = 0.0299$; Wilcoxon signed rank test) between 2007and 2010 in districts that have participated in the three contests (Figure 1).

The evaluation also showed the existence of a significant association ($p = 0.03$, Kruskal–Wallis test) between the scores achieved in 2010 by the HDO and the number of times these structures participated in the contest (Figure 2). This suggests that on average, the more often the HDO participates in the QC, the more they improve their performance scores.

The evaluation of hospitals performance showed similar results to those observed for the HDO (Sahel *et al.*, 2014).

For the PHCs, we only have results for the two first cycles, as the organisation of the QC was decentralised to the regional level from the third cycle onwards. The scores of the PHCs that participated in the two QCs have improved significantly ($p = 0{,}025$;

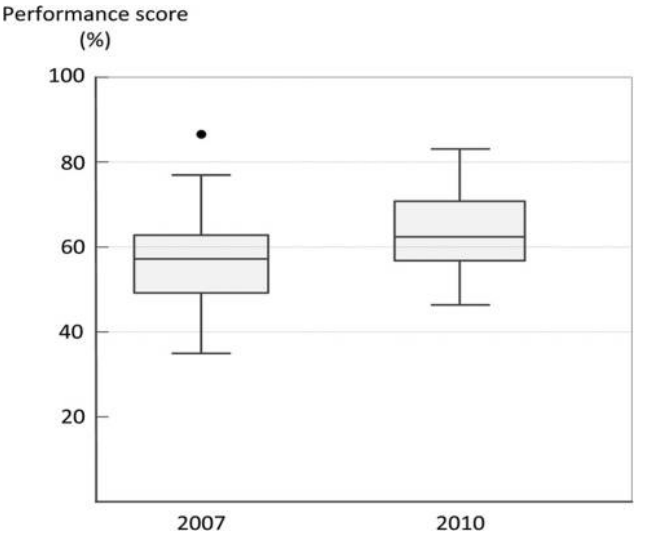

Figure 1.
Progress in performance between 2007 and 2010 for HDO that participated in the three QC

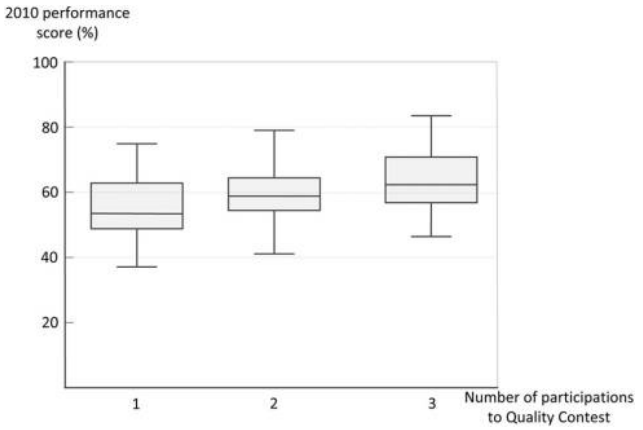

Figure 2. Performance scores of the HDO in 2010 according to the number of times they participated

Wilcoxon test) between 2007 (56.2 per cent; CI 95 per cent: 49.3-66.7 per cent) and 2008 (67.6 per cent; CI 95 per cent: 56.7-71.3 per cent). According to the number of participations, a significant difference ($p = 0.000$; Wilcoxon test) in scores was also observed in 2008 between the PHCs, which participated for the first time (53.8 per cent; CI 95 per cent: 49.3-57.8 per cent) and those that participated for the second time (67.6 per cent; CI 95 per cent: 56.7-71.3 per cent).

3.2 Other observed results

The self-assessment exercise, which required managers of participating structures to meet their staff to fill in the self-assessment document, created an opportunity to improve internal communication between different disciplines and departments within the organisation.

QC has also promoted a horizontal exchange of best practices and successful experiences at national level (between regions, provinces and structures). Indeed, peer auditors did not just limit themselves with scoring, but took advantage of the feedback meeting at the end of the audit day to discuss improvements with the team and suggest solutions from their own experience. This exchange also worked in the other direction because auditors benefited from the successful experiences they observed in audited structures.

There was a second positive effect thanks to the use of benchmark tables. The global report established at the end of each QC contains detailed results of all structures. This allowed interested organisations to identify structures that excel in domains/sub-domains, where they lag behind or dysfunction. They then organise study visits for their staff to learn from the experience of these structures. Indeed, the benchmarking approach seems to help structures to learn from each other and overcome internally referenced behaviour (Pinnarelli *et al.*, 2012).

Finally, because executive managers operating at the central level of the MoH were used as auditors, the QC promoted a vertical exchange between the central level and the audited structures in two ways: bottom-up and top to bottom. The audit visits to the participating structures and discussion with local teams were an opportunity for these executive managers to realize the difficulties, constraints and needs of the field and take

them into account in their analysis of the situation and future action planning (bottom-up feedback information from the field to the MoH). During the audit, the evaluators from the central level clarified circulars issued by the central level and explained the meaning of certain decisions misunderstood (top to bottom).

4. Discussion

The results show that the implementation of QC for health services has not only stimulated participating structures to improve their management performance but also provided an opportunity to improve their communication, to exchange experiences and procedures with other structures and with the MoH central level. Several factors contributed to achieve these results.

First, the participative approach adopted for the development of the assessment instrument provided a tool adapted to the country, thereby avoiding the risk of it being challenged by the staff. This risk has often been observed when the assessment tool is based on international evidence-based standards not necessarily applicable to the local context (Saleh *et al.*, 2013). Second, the QC offered a learning opportunity through a clear description of the domains, sub-domains and aspects of the evaluation that guide teams through the management areas where they need to act. This formative aspect is also supported by a clear expression of the MoH expectations, through the expected responses which gives an indication of the desired actions. Third, more than as an assessment tool, the QC is a lever for improvement: the "Improvement Effort Prize" rewarding the structures that have made significant progress since the last QC, motivates all facilities (even those that are performing at a lower level) to implement their improvement plan. The last factor is the political will reflected in the set-up of a steering committee consisting of high level decision-makers, a technical unit with full time staff to ensure the QC management, and the availability of a budget line once international cooperation stopped financing the organisation of the QC.

Moreover, to ensure that all structures benefited from the improvement, strategic choices were made: i) the QC was made compulsory from the third cycle to stimulate dynamic change nationally and ensure greater fairness *vis-à-vis* the population; ii) HDO, which are responsible for hospitals and PHCs, were called to participate in the QC as well as these facilities. The goal was to get District Health Officers to better fulfil their role of supervision and support to PHCs and hospitals, as the perception of support from the management level is one of the factors that enhance staff commitment towards the organization (O'Driscoll and Randall, 1999). For this, evaluation of HDO focused on the quality of their coordination, guidance and support to PHCs and hospitals. Another objective of involving these three entities simultaneously in the QC was to launch a global dynamic, reinforce coherence and create a systemic effect at the level of district health system; iii) The focus has been on improving the management process and the use of resources, a component on which it is important to act in developing countries where resource scarcity is particularly problematic (Gok and Sezen, 2013). The long-term vision was that additional resources (human and material) would be given to the highest performing facilities that have mastered the management process and are, therefore, able to transform additional investments (equipment and staff) into quality services. As for the least performing structures that have not yet reached the desired level management process, they first would benefit from support through training, supervision and coaching, in the domains and sub-domains where they were weak; iv) a decision was made about large-scale dissemination of results within the

health-care system but not beyond. Although the dissemination to the public at large may seem an attractive option to reinforce the culture of transparency and accountability (Smolders *et al.*, 2012), there are several reasons why this option was not favoured. Firstly, because the QC's main objective was to encourage structures to improve and progress. Dissemination of results to the general public would have exposed structures to criticism and/or blame from their clientele and might have discouraged them from participating in the QC. Furthermore the QC results are presented in a jargon (management process), not easily understood by a lay audience. Finally, because most of the people do not really have the choice to utilize one health facility rather than another as they only have access to the closest one. It seemed thus more prudent to restrict the dissemination of the results to public health professionals. To make professionals feel accountable for their behaviour, this approach relied on their competitive spirit and their desire to preserve their reputation among their peers and superiors rather than on population pressure; v) Ranking institutions without recourse to any punitive measures has laid the basis for an organisational culture that makes professionals accountable. The set-up of such a culture without resorting to blame or punishment is one of the difficulties encountered on the pathway to quality improvement in health services of LMIC (Bradley and Yuan, 2012).

5. Lessons learnt

A number of lessons can be useful for other developing countries. Here, we summarize below the three main ones.

5.1 The use of peers as auditors: a double-edged sword

Peer evaluators have background knowledge that enables them to exchange experiences and information with the audited structures. However, the use of peer evaluators has certain limitations. It is sometimes quite difficult to ensure neutrality and objectivity. Indeed, given the small number of hospitals (96) and HDO (68) in the country, peer auditors and heads of the audited structures generally know each other. Friendship or enmity among them can, therefore, influence their judgment and scoring and as a result the unexpected ranking of a number of structures (e.g. a structure which is known for its poor management may get a relatively too high rank in the QC). Although this phenomenon has rarely been observed, it was enough to undermine trust in the peer auditors and challenge the concept. For the third contest, the MoH has called on external expert auditors. Although this option helped ensuring neutrality, the audited structures blamed these external auditors for their lack of knowledge of the context and the functioning of the health system as well as for their focus on documents at the expense of observation and exchange. To remedy this deficiency, it has been decided to accompany external auditors with auditors belonging to the central level staff.

5.2 The difficulty of finding the best reward system to maintain a sense of justice and motivation

The lack of recognition and poor appreciation of professionals who strive to implement best practices, are more likely to demotivate them (Nzinga *et al.*, 2009). To reward the highest performing structures in QC, study tours abroad have been granted to their top managers to learn from the experiences of other countries. This has led to frustration among the team members because it was seen as a reward that benefited only the leaders. To avoid the perception of injustice that can lead to staff demotivation (Loi *et al.*, 2006), the third QC has limited rewards to the presentation of trophies at an Award ceremony. Although this option

has reduced resentment, dissatisfaction was still expressed about the trophies, as some considered these an insufficient reward for their efforts. Thereafter, some equipment (computers and printers) was added as a reward. If PHCs were quite happy with this award, hospitals found this still insignificant. It might be necessary to negotiate with the professionals the reward system from the outset to avoid such frustrations.

5.3 The advantages of testing the intervention at a small scale before scaling it up

Although opinions are divided as to the advantage of an immediate scale-up versus a progressive extension (Hercot *et al.*, 2011), the QC has opted for the latter. This enabled the technical unit to test the procedure, refine and master the tools, develop its management capacity and be aware of logistical limitations. Introducing the QC on a voluntary basis before making it mandatory and involving gradually other type of structures (maternity hospitals and CDTT) gave the members of the technical unit a chance to carry out a pilot on a limited number of structures and assess the limits. Thus, after two cycles, it was decided to delegate the organisation of QC for PHCs to the regions because of the logistical difficulties and high costs related to a centralised organisation of QC for facilities that are often isolated and widely dispersed. A gradual scale up is considered useful in environments with limited implementation capacity in terms of human, administrative and financial resources (Gilson *et al.*, 2003; Hercot *et al.*, 2011).

6. Limits and challenges

Although the political will, the ability to listen and the resilience of policy-makers have allowed the QC's momentum to continue, the QC process is constantly in jeopardy and enthusiasm may wane if incentives are not reviewed and translated into significant support to the structures. Indeed, the MoH is struggling to meet the needs of the highest performing structures that have reached a limit in streamlining their means and need additional resources to continue. Similarly, the support promised to underperforming structures is not forthcoming on a regular basis. Although the management training plan established and implemented by the central level has prioritised the least well performing structures, these have not always been able to benefit from targeted support by the region in line with their improvement plan. The reason is that the regional directorates that should ensure this support have only recently been set up and do not have sufficient resources and skills to assume this role so far.

Such support (allocation of additional resources and/or empowerment) is, however, essential to give full meaning to a quality improvement process. The ranking should not become an end in itself, but rather a means to identify needs and help fill them. Otherwise, the risk exists that the QC becomes a tool of "shaming and blaming" that will just identify good and bad structures (Bevan and Hood, 2006). A number of structures have expressed their concern about this already.

Another challenge for the QC is to ensure that the assessment instrument is constantly evolving to offer new areas of assessment, and new standards to achieve. This is because the health system is evolving, then because loss of motivation begins to be felt by some teams, and manipulation of data begins to be practiced by others. There may also be a risk that structures focus their efforts only on those aspects evaluated by the QC at the expense of others that are equally important but are not assessed (Bevan and Hood, 2006).

Another limitation is that although improvements in the framework of the QC concern the quality of the management process and the use of resources, it is unclear whether these

improvements have resulted in improved patient care. Indeed, it seems that a better use of resources might improve efficiency but does not necessarily have an impact on the quality of care (Gok and Sezen, 2013). This challenge is even greater as clinicians are not fully engaged in this approach. They argued that the QC is only interested in the management process, which, according to them, is not their responsibility.

Finally, the costs associated with the implementation of quality approaches in developing countries are part of the difficulty in sustaining them (Bukonda *et al.*, 2002; Nandraj *et al.*, 2001). Even moderate additional resources for the implementation of these schemes have to compete with investments in other equally important areas (Leatherman *et al.*, 2010). We have to pay particular attention to this issue and need to find out to what extent observed improvements could have been obtained at lower cost.

References

Bevan, G. and Hood, C. (2006), "Have targets improved performance in the English NHS?", *BMJ*, Vol. 332 No. 7538, p. 419.

Blaise, P. (2005), "Culture qualité et organisation bureaucratique, le défi du changement dans les systèmes publics de santé, Une évaluation réaliste de projets qualité en Afrique", *PhD Thesis*, Université Libre de Bruxelles, Brussel.

Bradley, E.H. and Yuan, C.T. (2012), "Quality of care in low- and middle-income settings: what next?", *International Journal of Quality and Health Care*, Vol. 24 No. 6, pp. 547-549.

Bukonda, N., Tavrow, P., Abdallah, H., Hoffner, K. and Tembo, J. (2002), "Implementing a national hospital accreditation program: the Zambian experience", *Interantional Journal of Quality and Health Care*, Vol. 14 No. 1, pp. 7-16.

Dialmy, A. (2000), "La gestion socioculturelle de la complication obstétricale (régions de Fès-Boulkemane et Taza-Al Hoceina, Maroc)", *Ministère de la Santé du Maroc*, Marocco.

Gilson, L., Doherty, J., Lake, S., McIntyre, D., Mwikisa, C. and Thomas, S. (2003), "The SAZA study: implementing health financing reform in South Africa and Zambia", *Health Policy and Planning*, Vol. 18 No. 1, pp. 31-46.

Gok, M.S. and Sezen, B. (2013), "Analyzing the ambiguous relationship between efficiency, quality and patient satisfaction in healthcare services: the case of public hospitals in Turkey", *Health Policy*, Vol. 111 No. 3, pp. 290-300.

Hercot, D., Meessen, B., Ridde, V. and Gilson, L. (2011), "Removing user fees for health services in low-income countries: a multi-country review framework for assessing the process of policy change", *Health Policy and Planning*, Vol. 26 No. 2, pp. 5-15.

Leatherman, S., Ferris, T.G., Berwick, D., Omaswa, F. and Crisp, N. (2010), "The role of quality improvement in strengthening health systems in developing countries", *International Journal of Quality and Health Care*, Vol. 22 No. 4, pp. 237-243.

Loi, R., Hang-Yue, N. and Foley, S. (2006), "Linking employees' justice perceptions to organizational commitment and intention to leave: the mediating role of perceived organizational support", *Journal of Occupational and Organizational Psychology*, Vol. 79 No. 1, pp. 101-120.

Ministère de la santé du Maroc (2005), *Le Concours Qualité au Maroc: Document de stratégie*, Ministère de la Santé, Maroc.

Ministère de la santé du Maroc (2013), "Livre Blanc: pour une gouvernance du secteur de la santé, Ministère de la Santé du Royaume du Maroc", available at: http://conference2013.sante.gov.ma/DocumentsConf/LivreBlanc(2).pdf

Muffler, N., Trabelssi, M.H. and De Brouwere, V. (2007), "Scaling up clinical audits of obstetric cases in Morocco", *Tropical Medicine and International Health*, Vol. 12 No. 10, pp. 1248-1257.

Nandraj, S., Khot, A., Menon, S. and Brugha, R. (2001), "A stakeholder approach towards hospital accreditation in India", *Health Policy and Planning*, Vol. 16 No. 2, pp. 70-79.

Nzinga, J., Mbindyo, P., Mbaabu, L., Warira, A. and English, M. (2009), "Documenting the experiences of health workers expected to implement guidelines during an intervention study in Kenyan hospitals", *Implementation Science*, Vol. 4 No. 44, p. 44.

O'Driscoll, M.P. and Randall, D.M. (1999), "Perceived organisational support, satisfaction with rewards, and employee job involvement and organisational commitment", *Applied Psychology*, Vol. 48 No. 2, pp. 197-209.

Pinnarelli, L., Nuti, S., Sorge, C., Davoli, M., Fusco, D., Agabiti, N., Vainieri, M. and Perucci, C.A. (2012), "What drives hospital performance? The impact of comparative outcome evaluation of patients admitted for hip fracture in two Italian regions", *BMJ Quality and Safety*, Vol. 21 No. 2, pp. 127-134.

Sahel, A., Belghiti Alaoui, A., De Brouwere, V., Valente Soares, F., Kegels, G., Belkaab, N., Godin, I., Ablefoni, S., Schneider, A. and Dujardin, B. (2014), "A systemic approach to quality improvement in public health services: the Moroccan 'Quality Contest'", *Leadership in Health Services*, Vol. 28 No. 1.

Saleh, S.S., Bou, S.J., Dagher, D., Sbeit, H. and Natafgi, N. (2013), "Accreditation of hospitals in Lebanon: is it a worthy investment?", *International Journal of Quality and Health Care*, Vol. 25 No. 3, pp. 284-290.

Schneider, A. and Stierle, F. (2007), *How to Initiate and Steer Systemic Quality Improvement: An Advisor's Guide for the Health Sector and Other Social Sectors Eschborn*, GTZ, available at: www.giz.de

Siddiqi, K., Newell, J. and Robinson, M. (2005), "Getting evidence into practice: what works in developing countries?", *International Journal of Quality and Health Care*, Vol. 17 No. 5, pp. 447-454.

Siddiqi, S., Elasady, R., Khorshid, I., Fortune, T., Leotsakos, A., Letaief, M., Qsoos, S., Aman, R., Mandhari, A., Sahel, A., El-Tehewy, M. and Abdellatif, A. (2012), "Patient safety friendly hospital initiative: from evidence to action in seven developing country hospitals", *International Journal of Quality and Health Care*, Vol. 24 No. 2, pp. 144-151.

Smolders, K.H., Den Ouden, A.L., Nugteren, W.A. and Van Der Wal, G. (2012), "Does public disclosure of quality indicators influence hospitals' inclination to enhance results?", *International Journal of Quality and Health Care*, Vol. 24 No. 2, pp. 129-134.

Wilson, R.M., Michel, P., Olsen, S., Gibberd, R.W., Vincent, C., El-Assady, R., Rasslan, O., Qsous, S., Macharia, W.M., Sahel, A., Whittaker, S., Abdo-Ali, M., Letaief, M., Ahmed, N.A., Abdellatif, A. and Larizgoitia, I. (2012), "Patient safety in developing countries: retrospective estimation of scale and nature of harm to patients in hospital", *BMJ*, Vol. 344, p. 832.

Corresponding author
Amina Sahel can be contacted at: aminasahel@gmail.com

This article has been cited by:

1. Mikel Gray, Claudia Skinner, Wendy Kaler. 2016. External Collection Devices as an Alternative to the Indwelling Urinary Catheter. *Journal of Wound, Ostomy and Continence Nursing* **43**:3, 301-307. [CrossRef]