Minimizing (Know – Do) Gap to Improve Patient Care Delivery

Hanan Qatawneh
Al Yamamah University
Saudi Arabia

Abstract

Purpose *– the purpose of this article is to explore how health organizations can enhance the capacity of the health workforce to put knowledge into practice to improve patient care. The researcher proposed a model designed to link all needed factors that leads to minimize know-do gap.*

Methodology *- The research design, guided by a Qualitative philosophy, was inductive in nature. The researcher used both a case study and an extensive literature review methodology to deduce different factors that leads to minimize know-do gap.*

Findings – *The proposed model provides a valuable new lens through which health workforce, managers and practitioners can minimize (Know – Do) gap in health care.*

Research Limitations *- The results of this study are drawn based on small sample. The validity and the theoretical soundness of the proposed model need to be tested.*

Practical Implications *– The (Minimizing Know – Do Gap) Model is essential to improve the application of health knowledge which will lead to better patient care.*

Originality/Value *– The proposed Model integrated eight essential factors which have been under examined in the literature.*

Keyword: Know-Do Gap; Knowledge application; Healthcare Change

Introduction

Health care organizations are facing different problems including avoidable errors, underutilization of services, overuse of services and variation in services (Evans and Lindsay, 2011). 'Research findings are often not applied in practice and, consequently potential improvements in the standard and quality of patient care are not being realized' (Crookes and Davies, 2004, P185). Elwyn et al say that 'in health care, a well-recognized gap exists between what we know should be done based on accumulated evidence and what we actually do in practice' (2007, P.1). Stronger emphasis should be placed on translating knowledge into action to improve public health by bridging the gap between what is known and what is actually being done (World report on knowledge for better health, 2004, P.15). "Change is nothing new and indeed has been our only constant, but change today is faster and more complex than it has ever been before (Manion 1994)" cited in (McPhail, 1997, P.1)

"The rate of change in healthcare is accelerating, not slowing and the powerful forces that are transforming healthcare can generate vast economic potential for those who are able to employ effective

survival techniques in the short term and at the same time plan for success in the long term" (Al-Abri, 2007, P.3)

Research aim

In health care, medical advancements are being made all the time and new knowledge need to be learned and transferred. Health workforce needs to let go of out-of-date (Know-how) and learn new (know-how). They need to learn from each other and put into practice what they have learnt. The purpose of this research is to explore how hospital and health care organizations can enhance the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

The problem of (know- Do) Gap can be best addressed by establishing a comprehensive framework that directs the entire organization to understand the rationale for a focus on the importance of putting transferred health knowledge into practice. Such a framework may require developing health care systems that are capable of considering all (or most) of the factors affecting that process of change. In this article, the researcher propose a framework linking all needed factors that leads to minimize know-do gap that will lead to improve the quality of care. The results from this research are expected to be of great benefit to top managers, strategic planners, specialists, and other health work force, in designing an organizational strategy that will facilitate putting transferred health knowledge into practice and use.

Research Methodology / Methods

The research design, guided by a Qualitative philosophy, was inductive in nature. The researcher used both a case study and an extensive literature review methodology on existing body of knowledge to deduce the factors that leads to minimize know-do gap that will lead to improve the quality of care. To achieve the research objectives and for the collection of data the researcher surveyed in a primary case study using both questionnaires and interviews.

In order to gain a richer picture of the factors to minimize the gap between evidence and practice, a literature survey was conducted from published books, articles, journals, etc. Based on the case study and literature, the researcher deduced a number of critical factors to minimize the gap between Evidence and practice in health care. Below is the grounding theories and relevant literature that led to their deduction.

Literature Review

Health research findings impact policy, practice and patient outcomes if they are appropriately translated into health-care practice (Thamlikitkul, 2006). Buchan says that 'making better connections between knowledge generation, knowledge delivery, and practical action is the challenge that now faces the health care industry if it wants to improve performance and deliver better care. Our efforts this century should focus on designing the can and the can opener in parallel' (2003, P.3).

Process of Change

In order for organizations to not just survive but prosper, they must be knowledgeable about how to implement appropriate organizational changes that will be embraced by their employees (Armenakis and Harris, 2009, p. 128) cited in (Jaros, 2010, P. 107).

Achieving change requires a well-defined process. Grol and Grimshaw say that 'Substantial evidence suggests that to change behaviour is possible, but this change generally requires comprehensive approaches at different levels (doctor, team practice, hospital, wider environment), tailored to specific settings and target groups' (2003, P.1225). Putting knowledge into practice and change the way thing is being done requires a well-organized process of change. This process will help employees build their knowledge of how to direct change, keep track of progress and be flexible where and when necessary. "Leaders need to understand the change process and issues that are involved with it in order to have the capability to lead and manage change and improve efforts effectively" (Al-Abri, 2007,P.2).

Evans and Lindsay emphasized that "mangers need to differentiate between organizational change resulting from strategy development and implementation and organizational changes resulting from operational assessment activities" (2011, P.454) they further added that organizational change can be achieved at three levels; senior management level, middle management and workforce (2011, P451). Viewing the organizational change at three levels clarifies roles and responsibilities of all employees and gets everyone involved in the change process.

Evans and Lindsay say that "effective organizations have systematic planning systems for strategy development and deployment" (2011, P.175). Without an overall strategy and commitment toward taking action and change, knowledge transfer and uptake will not happen. Darbos 2013 emphasized the importance of strategic planning for the employee's motivation. They further discussed that "motivation, aims to: improve productivity, efficiency and creativity at work, improve the quality of working life in the organization, strengthen the competitiveness and success of the company etc. (BahtijarevicSiber, 1999)" (Darbos 2013).

Based on the above, it is hypothesized that:

H1: Having well defined process of change has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Managers and Employees Commitment

"Organizational commitment is one of the important elements that have impact on organizational change. Meyer & Allen (1997) assert that employees of high affective commitment demonstrate emotional attachment and identification with their involvement in the organization. This may explain why these employees are less likely to engage in withdrawal behavior and are more willing to accept change (Somers, 1995). If employees are committed to making it work, organizational change can be successful. It is best when it is based upon a belief in the value of the initiative and employees wanting to see it succeed (Meyer

& Allen, 1997)" cited in (Nafei, 2014, P.207). "Commitment to change is of import to employees, in terms of how they experience their working lives, and to managers, in terms of achieving desirable organizational or work-unit outcomes, and overcoming resistance to change (Oreg, 2003) cited in (Jaros, 2010, P. 107). People who are self-motivated are inclined to set their own goals and monitor their own progress, their attitude is "I am responsible for this job" (Reece and Brandt, 2008 p.140).

Goetsch and Davis say that "Old schools managers are often found to be more task-oriented than people-oriented. They tend to focus more on task at hand and getting it done than on the people who actually perform the task" (2013, P.116). Khatri et. al in their study reported that physicians in the hospital were unhappy and their turnover was high. "The reason for low morale was attributed to unfair management practices in which the salary and compensation of physicians were quite lop-sided, unrelated to their clinical and research productivity. Transparent policies and practices with extensive input from employees can go a long way in developing a fair and just workplace (2006, P132). Successful managers need to adopt different managerial-practices that promote high performance and provide motivation and direction for all their employees at all levels toward achieving their work targets and above all organizational main goals. "Senior leaders should inspire and motivate the entire workforce and should encourage all employees to contribute, to develop and learn, to be innovative, and to be creative. Senior leaders should serve as a role models through their ethical behavior and their personal involvement in planning, communications, coaching, development of future leaders, review of organizational performance, and employee recognition" (Evans, 2011, P. 376)

Organizational success is based on people management 'Any organization will go only as far as the people who are driving it. In fact, a company is really just a group of people who interact to achieve a common purpose. They are the ones who make up the organization' (Harting, 2008, P.1). Managers are responsible for the motivation, training and ongoing support and direction for the employees of an organization. "Healthcare organizations that rely on a commitment-based strategy are more productive and successful than those that rely predominantly on a control-based strategy (Khatri et al., 2006)" Cited in (Thakur et. al., 2012, P.564). Leonard et al. say that "two absolute requirements for successful clinical change are visible support from senior leadership and strong clinical leadership" (2004, P. 89).

Health care professionals are looking for a more open, trusting, and empowering environment. When they find themselves in such an enabling environment, they are likely to perform beyond their capacities, leading to a concomitant reduction in rates of medical errors. (Khatri et. al., 2006, 135)

Based on the above, it is hypothesized that:

H2: Managers commitment has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

H3: Employees commitment has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Organizational Culture

Evans and Lindsay say that Organizations have both static and dynamic component. They added that "the static part of an organization thus inherently resist change. The degree of dynamism in organization is moderated by factors such as culture, leadership, learning and linkages between people and structures" (2011, P. 461)

Khatri et. al. say that there is a "need to understand the behavioral and cultural dynamics underlying the clinical practice and health care professions to overcome major failures in health care systems" (2006, P.116). "Organizational learning mechanisms are likely to yield productive learning if they are embedded in an appropriate organizational culture" (Popper and Lipshitz, 2000). Managers need to transform organizational culture to embrace an ongoing motivated, trust worthy and friendly workers that are open to change and innovation. "Each agency will have its own organizational culture, and that the key challenge is to build on the specificities of each culture to create and strengthen one that promotes a collaborative and coordinated way of working together" (United Nations Development Group, 2008,P.2). Thamlikitkul, V. (2006, P.1) says that the "Gaps between knowledge and action for health are classified into "know–do" and "do–know" gaps with knowledge implementation and knowledge generation being the key measures for bridging the gap" Further added that there is a need to "encourage responsible institutions in developing countries to invest more resources in promoting professional communicators or intermediaries to narrow the gap as well as develop a culture where decisions taken by policy-makers, health professionals and the public are based on evidence"

Thakur Et. Al say "when management of a healthcare organization is supportive of their staff (e.g., doctors, nurses, etc.), the staff is inclined to be committed to the organization and less hesitant in reporting errors to management. They would also be open to learn from those mistakes. Such an organizational culture would enhance their success" (2012, P. 365). Knowledge transfer and use will happen if health workforce is willing to do it; if they share a culture of motivation, trust, openness to change and innovation and if they have the suitable tools and media that allow them to share. If this culture does not exist "managers must know the values that matter and focus on changing those as opposed to reacting to every invitation for change. She/he must be clear about what is important and develop responses and proactive actions accordingly" (Al-Abri, 2007, P.2). "Organizations with a quality culture, continual improvement of processes, people, products, the working environment, and every other factor that affects performance is at the very core of the operating philosophy" (Goetsch and Davis, 2013, P. 84)

Therefore it is hypothesized that:

H4: Organizational Culture has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Communicating and social networking

"Organizations only change and act through their members and even the most collective activities that take place in organizations are the result of some amalgamation of the activities of individual organizational members" (George and Jones, 2001, P.420). "The complexity of medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians have standardized communication tools, create an environment in which individuals can speak up and express concerns, and share common "critical language" to alert team members to unsafe situations" (Leonard et al., 2004, P. 85). Kalling and Styhre say that 'knowledge is seen as socially embedded, expressed in practices of communication and through storytelling, in brief as highly dependent on what is commonly referred to as human capital, i.e. human beings. On the other hand, knowledge is regarded as an organizational resource that is primarily to be captured and distributed through various technological systems such as computer databases and Intranets' (2003, P.61). Stacey (2003, P.417) also emphasizes the every-day conversation and says that managers key role is to facilitate different ways of conversing. He says 'new themes emerge as people struggle to understand each other and as their conversations are cross-fertilised through conversations with people in other communities and disciplines. Organizations change when the themes that organize conversation and power relations change. Learning is change in these themes. Knowledge is language and meaning emerges as themes interact to form conversations'. Hitt et al. Say that 'sharing knowledge among employees does not diminish its value for any one person. To the contrary, two people sharing their individualized knowledge sets often can be leveraged to create additional knowledge that, although new to each of them, contributes to performance improvements for the firm' (2007, P. 77) they added that 'the firms challenge is to create an environment that allows people to integrate their knowledge individual knowledge with that held by others in the firm so that, collectively, the firm has significant organizational knowledge' (2007, P. 80). "Hierarchy, or power distance, frequently inhibits people from speaking up. Effective leaders flatten the hierarchy, create familiarity and make it feel safe to speak up and participate" (Leonard et al., 2004, P. 86) Almotiri say that "When physicians communicated well with patients, it positively influence them leading to an improvement in clinical as well as patient-reported outcomes" (2010, P228). Leonard et al. say that "Communication failures are an extremely common cause of inadvertent patient harm" (2004, P. 85). "To roll out innovations effectively, management should maintain a positive relationship with their employees and engage in extensive information sharing across organizational levels by applying a bottom–up approach rather than solely emphasizing a top–down approach. In other words, to effectively trickle-down the innovation, healthcare executives and practitioners should encourage interactions between different departments" (Thakur et. al., 2012, P.569). Rahimzai et al. in their study say that "different factors contribute to measurable gains in health care quality at the facility level: 1) active engagement of frontline workers, 2) team work, 3) flexibility to focus on local priorities, 4) equipping frontline workers with basic improvement tools, and 5) improving communication between different parts of the system" (2014, P.11)

Therefore it is hypothesized that:

H5: Communicating and social networking has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Reactive to Proactive creativity

"failure is an essential prerequisite for learning, as it stimulates the sort of experimentation that Campbell (1968) and others (March, 1978; Staw, 1983; Weick, 1979; Wildavsky, 1988) have advocated as fundamental for sound policy development and organizational management" (Popper and Lipshitz, 2000).

Bernhardsdóttir defined crisis as a "situation where decision makers perceive the situation to involve: a threat to core values, a great amount of uncertainty, and time pressure. Crisis can range in scales from upheavals in small organizations to international confrontations and can impact business, politics, and great societies. A crisis can be triggered by natural hazards, industrial accidents, financial collapse, political scandal, military provocations, etc." (2015, P. 1) A crisis may be quickly resolved or escalate out of control. "A crisis can play a role in the culture change mechanism. When one isolated incident or crisis affecting limiting number of people will not initiate value change in society. The crisis must have wide spread influence on people's lives. At that point, people alienated and are not ready to accept the status quo because they believe there are opportunities to turn the situation around" (Bernhardsdóttir, 2015, P.2). "organizational learning come from organizations under crisis (e.g. a general walk out; Rayner, 1993), or from organizational settings in which people routinely face potentially catastrophic (e.g. life threatening) errors such as nuclear power plants (Carrol, 1995; DiBella, Nevis and Gould, 1996); surgery hospital wards (Lipshitz and Popper, in press); and fighter flight units (Popper and Lipshitz, 1998)" (Popper and Lipshitz, 2000).

Lichtenstein says that traditionally transformative change caused by a crisis or problem. "External change leads to problems that build to a crisis, which trigger the need for a fundamental shift in how the organization operates. Managers or founders reacting to negative or challenging circumstances, initiate a significant alteration of activities in an attempt to correct the problem and return the organization to positive functioning" (2014, P. 348). The difference between this crisis transformative change and the proactive frame is namely an endogenous aspiration for new value creation that is driven by a vision and positive actions. Further added scholarship into organization creativity has made important use of the distinction between proactive and reactive creativity; proactive creativity envisions a possible future instead of reacting to a current problem. Successful managers don't wait for success to come to them instead they deal with expected difficulties, potential future threat and uncertainties in advance.

Hospitals' managers must move from a reactive to a proactive management approach. They must begin to anticipate, and even forecast, changing needs and wants rather than continuing to react to symptoms and emergencies. Foster says that " customer driven quality represents a proactive approach to satisfying customer needs that is based on gathering data about our customers to learn their needs and preferences and then providing products and services that satisfy the customers" (2010, P. 157). Swinehart and Smith say

that "health care providers must identify new methods of obtaining and maintaining market share in order to compete successfully in a market-driven, customer-focused industry" (2005, P.535) Further added that "health care providers seeking to gain a sustained competitive advantage must develop the necessary operational capabilities to improve such areas as cost, quality, delivery, flexibility, and innovation" (2005, P535). Swinhart and Green in their study discussed how "the philosophies of total quality management and continual and rapid improvement may lead to a strategic orientation that will result in a similar rise to world-class status for the health-care industry" (1995, P. 23

"Human systems are changing rapidly and entering novel, complex futures. Human resource personnel must evolve new understandings of problem-solving and holistic methods of analytical and creative problem-solving to deal with future, unique, and uncertain problems which are not manageable with problem-solving strategies that have worked well in the past" Maddox, 1987, P.1). "Today's competitive, fast-paced environment requires that individuals spark initiative and guide their own creativity, rather than simply react to fires burning out of control" (Phelan, 2001, P.3)

Chiaburu et al. say that "proactive individuals engage in life-long learning and are therefore more likely to identify and capitalize on opportunities that bring about meaningful change ([45] Seibert et al., 1999). Individuals who do not exhibit proactive personality are much more reactive and content with maintaining status quo within a career context. Proactive personality is related to objective job performance ([11] Crant, 1995) and influences one's ability to adjust to ever-changing work conditions by taking responsibility for career progression and the development of personal networks ([21] Hall and Mirvis, 1995)" (2006, P. 621)

Therefore it is hypothesized that:
H6: Moving from reactive to Proactive creativity has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Performance Measurement

"Performance measurement system comprise a set of coherent activities designed to enable management to determine, directly or indirectly, how an organizational system is performing - improving or deteriorating, in or out of control - whilst providing information in support of decisions and actions aimed at improving performance of the system" (Purbey et al., 2007, P. 249). "Measurement is the act of quantifying the performance dimensions of product, services, processes, and other business activities. Measures and indicators refer to the numerical results obtained from measurement" (Evans and Lindsay, 2011, P.386). Further added that "performance reviews are usually conducted on a daily or weekly basis for short-term control decision and periodically throughout the year for longer-term decisions and improvements" (2011, P. 409).

Choong say that "in today's knowledge economy, there are much concern associated in finding the best way to measure and report many types of activities that could improve the performance of an organization.

Thus, all ambitious and high-performance organizations, whether public or private, are, and must be, interested in developing and deploying effective performance measurement systems since it is only through such systems that they can remain high-performance organizations (US Department of Energy, 2000)" (2013, P102). "Given the dynamic and rapidly changing environment in which most organizations compete, it is important that organizations effectively manage their measurement system so that it remains appropriate and provides information that is relevant to the issues that are of current importance" (Kennerley and Neely, 2003, P.227). In his article, Choong developed a model that is useful for performance management that considers the balance between financial and non-financial perspectives, to enhance learning and growth and improve management initiatives and performance. "Measuring and monitoring outcomes of the change process is essential for recognizing whether or not the change process has fulfilled its purposes" (Al-Abri, 2007, P.2). Inamadar et al in their study say that "the Balanced Scorecard strategy implementation and performance management tool could be successfully applied in the healthcare sector, enabling organizations to improve their competitive market positioning, financial results, and customer satisfaction" (2002, P.1)

Purbey et al. say that "Organizations which do not integrate ongoing performance measurement and feedback into their management development programs tend to experience lower than expected performance improvements and higher dissatisfaction and turnover of employees (Longenecker and Fink, 2001)" (2007, P242). Elg et al. in their study concluded that "measurements need to be part of the workplace-based activities as ongoing practice to recognize external influence, monitor the internal organizational system, and analyze deviances. These activities evoke and support the initiation and conduct of improvement efforts, and encourage awareness of specific aspects of organizations" (2013, P. 1639). "The purposes of practicing measurements vary between different domains (Behn, 2003). At the policy level, much work has been directed toward creating transparency in healthcare systems (Collins and Davis, 2006). On the other hand, new administrative management has developed models such as the balanced scorecard (BSC) to integrate measurement into the planning and budgeting of organizations (Otley, 1999). The literature also identifies that professionals use measurement for various purposes of evaluating, controlling, and improving clinical practice (De Vos et al., 2009)" Cited in (Elg Et. Al., 2013, P. 1625).

Putting transferred health knowledge into practice is not the end. There is a need to measure, monitor and adjust progress to provide guidance for future decisions. However, the task of measuring the effectiveness of the process is a challenge, since patient care delivery consists of both qualitative and quantitative measures. Within the literature different tools can be used to measure success. Most of the tools are based on mapping different tangible and intangible factors that affect the process.

Based on the above:
H7: Performance Measurement has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Performance appraisal

Patient care needs a reliable up to date professional knowledge. Whatever business you are in and whichever sector you operate in, to be successful you need to identify any areas where you can improve your performance. Therefore managers need to encourage health workforce to continuously improve their performance and be aware of the expectations and the duties of their job. "Learning needs assessment, training design and delivery of training are important for competitiveness. Outstanding customer service results from providing employees with outstanding knowledge and training" (Foster, 2010, P. 501). " organizations typically use performance appraisals for a number of reasons: to provide feedback for the employees who can then recognize and build on their strengths and work on their weaknesses, to determine salary increase, to determine training needs, to identify people for promotion, and to deal with human resource legalities" (Evans and Lindsay, 2011, P301) (Ivancevich et al., 2008). "A critical part of the performance management process is figuring out how to improve performance even if there is no current performance problem. This provides an opportunity to help employees develop new skills and is more likely to identify barriers to better performance such as inadequate resources" (Bacal, 1999, P. 8).

Developing an effective appraisal system is a challenging task for management as not all performance appraisal approaches are well received by managers and employees ((Ivancevich et al., 2008, P. 170). Bacal say that managers need to understand the basics, the reasons for performance management, what makes the performance management works and the human sides of the equation, to make performance management works (1999, P12).

Health workforce can easily be stuck into routines that become outdated as new knowledge becomes available. Therefore they should push themselves to consider alternatives every day. This is not an easy process and it requires the use of different tools, processes and requires having well defined steps to promote change. Avoiding traditional methods and adopting new approaches for performance appraisal will achieve that. Elmuti et al. say that "Deming recommends replacing the traditional performance systems that encourage win-lose behavior with systems that promote co-operative and supportive behavior. His approach to performance appraisal involves concentrating on managers being highly focused on quality and long-term improvement" (1992, P.42). Further added that that application of such approach in US organizations led to remarkable improvement in: 1. consumer recognition, 2. sales, 3. market share, 4. operating costs, 5. customer satisfaction, 6. employee morale, and 7. quality. For rewarding good performance most companies still use traditional finance measure as a base for compensation. More progressive organizations use quality measures such as customer satisfaction, cycle time reduction to make compensation decisions (Evans and Lindsay, 2011, P. 296). Further added that "performance appraisals are most effective when they are based on the objective that support the strategic directions of the organization, best practices, and continuous improvements" (2011, P. 302).

H8: Performance appraisal has a significant effect on enhancing the capacity of the health workforce to put knowledge into practice to improve patient care delivery.

Interview's Results

The collected data from the semi structured interviews were converted into a quantitative format (frequencies) using content analysis method.

In this study, the researcher interviewed 24 health professionals. The intent of the interview was to find the best tools that enhance the capacity of the health workforce to put knowledge into practice. Different suggestions were made as shown in Table 1. The majority of the respondents focused on communicating and social networking, where 83 % of the respondents mentioned the need to communicate in large groups to do change. 14 participants (58%) suggested the need to improve channels of communication with those who can implement the change. Several respondents suggested increasing formal and informal meetings, teaching sessions and training. However, few respondents mentioned the benefit of IT as a tool to implement change.

Other suggestions that were made concentrated on the process itself. Few participants suggested increasing daily awareness, empowering health work force and simplifying the steps needed to implement change. In addition, 3 participants suggested auditing individual performance on regular basis to ensure patient care is being done up to date.

Table 1: Suggestions of participants for the best tools to put knowledge into practice

Best tools to put knowledge into practice	**Number**	**%**
Channels of communication with those who can implement the change needs to be improved	14	58
Communicate with large groups to do change	20	83
Improve IT systems	7	29
IT support	8	33
Informal meetings	10	42
Regular meetings	5	21
Teaching	7	29
Provide people with time to change	10	42
Regular training	7	29
Daily awareness to implement the change	9	38
Meet, give feedback then share	2	8
Auditing individual performance	3	13
Publishing new ideas and efforts	4	17
Simplify the steps needed to implement change	3	13
Setting targets and policies	1	4
Vision to be shared	5	21
Lead the change and prove your work	2	8
Empower health workforce to implement change	2	8
Having a Crisis to initiate the change	5	21

One of the interesting suggestions was "Having a Crisis to initiate the change". Five of the respondents mentioned that to change practices, there is a need for a crisis to happen. They gave an example the Hand Hygiene as a practical solution to reduce hospital acquired infection, where strategic decision by management in the hospital was taken to reduce infection. A process was developed that included (intensive training of hospital staff, teaching about the importance of hand hygiene, providing hand cleaning materials in almost every place in the hospital, managing the process collectively, teaching the patients and their visitors, extensive campaign, using intranet, newsletter, formal meetings, leaflets, etc.). They said that the rate of infections has reduced and they believed that the success was due to different reasons; the strategy was taken seriously by management in all departments as they seen the problem is so important, changes were communicated everywhere in the hospital and using different procedures to increase the awareness was so important.

In reviewing the results of the interviews, and based on the comments of the respondents, face to face interaction is the best to trigger and do change. Technology can be used to publish the result while social networking is more effective to put transferred knowledge into practice and do the change. Managers' support is needed for change to happen and using different procedures to initiate, energize and communicate the change is so important.

Questionnaire's Results

The researcher distributed 210 questionnaires based on the (stratified random sampling) procedure to (managers, consultants, junior doctors, nurses, radiographers, health support worker). However 94 questionnaires were completed out of 210 which were included in the data analysis.

First section of the questionnaire was about (Current initiatives regarding putting transferred knowledge into practice). From Table 2, 35.4% of the respondents believed that transferred knowledge is regularly put into practice and leads to the update of doing things. A 55.7 % believed that this is sometimes happening. 45.6% respondents believed they learn from mistakes, 43.0% of respondents work cooperatively to reach best practices and 41.8 % believed there are (guidelines to serve as a reminder even to the experts). 30.4 % of the respondents believed that they do not regularly updates their user centric work activities and the way of doing things, with a higher percentage 32.9 respondents felt that the Research and Development department do not facilitate putting knowledge into practice. 49.4 % of the respondents believed that they sometimes diagnose the reason for failure to adopt best practices and try to change the way of doing things. 48.1 % of the respondents felt that they sometimes have on spot staff training.

Table 2: Current initiatives regarding putting transferred knowledge into practice

	Yes %	**No %**	**Sometimes %**
learned and transferred knowledge regularly put into practice and lead to the update of doing things	35.4	8.9	55.7

Diagnoses the reasons for failure to adopt best practices	32.9	17.7	49.4
Learn from mistakes	45.6	13.9	40.5
Works cooperatively to reach best practices	43.0	13.9	43.0
Regularly updates of user centric work activities to ensure regular learning and updating of doing things	20.3	30.4	49.4
Always tries to apply what is best and change the old way of doing things	27.8	22.8	49.4
On spot staff training	27.8	24.1	48.1
Guidelines to serve as a reminder even to the experts	41.8	15.2	43.0
Research and development department facilitate putting knowledge into practice	11.4	32.9	55.7

The respondents answered most of the questions with a high 'sometimes' percentage. From that, the researcher concluded that there is a need to improve the current initiatives regarding putting transferred knowledge into practice. There is a need to pay more attention to improve the application of different techniques and processes that will
lead to the updating of doing things. The real challenge is to put transferred health knowledge into practice and action and learn from mistakes.

Table 3 shows the percentages of the listed series of statements that are used to describe some practical solutions to avoid obstacles of application of transferred knowledge.

Table 3: Results of practical solutions to avoid obstacles of application of transferred knowledge

	Statement	**Strongly Disagree %**	**Moderately Disagree %**	**Slightly Disagree %**	**Neither Agree nor Disagree %**	**Slightly Agree %**	**Moderately Agree %**	**Strongly Agree %**
1	Building trust among health workforce can be achieved through face to face meeting and social activities.	0.0	3.2	1.1	14.9	23.4	33.0	24.5
2	Rewarding knowledge transfer will improve the transfer and application of knowledge among the staff	0.0	1.1	2.1	10.6	30.9	35.1	20.2
3	Providing the staff with places and time to meet will increase knowledge transfer.	0.0	1.1	4.3	9.6	17.0	35.1	33.0
4	Building a culture that supports the ability to apply new knowledge in practice and does not fear change will respond to change easily.	0.0	1.1	1.1	7.4	27.7	39.4	23.4

5	Building a non-blame culture that is tailored on learning form mistakes will avoid costly repeated mistakes and errors which in hospitals sometimes a matter of life or death.	1.1	1.1	2.1	6.4	16.0	39.4	34.0
6	Having friendly and supportive managers who are responsible for helping their staff will improve knowledge transfer and application	0.0	1.1	1.1	6.4	16.0	33.0	42.6
7	Managers are responsible for helping health work force to identify their training needs by regular feedback.	0.0	1.1	5.3	12.8	16.0	37.2	27.7
8	Action plans can be used to implement change, meet the objectives and take the strategy forward.	0.0	1.1	5.3	14.9	24.5	33.0	21.3
9	Increase the awareness of the importance of transferring knowledge and applying it in practice will enhance the process.	0.0	1.1	0.0	10.6	24.5	36.2	27.7

From Table 3 42.6 % of the respondents strongly agreed that 'having friendly and supportive managers who are responsible for helping their staff will improve knowledge transfer and application'. In statement 7 (37.2 %) of the participants moderately agreed that 'managers are responsible for helping health work force to identify their training needs by regular feedback' and 27.7 % strongly agreed with the statement. The researcher concluded that managers are responsible to provide guidance, motivation, insight and feedback to their employees. They need to be able to clearly and decisively help their employees define their needs to improve their success and prevent their failure.

In statement one, 33.0 % of the respondents moderately agreed that 'building trust among health workforce can be achieved through face to face meeting and social activities'. The second statement 35.1% of the respondents moderately agreed that 'rewarding knowledge transfer will improve the transfer and application of knowledge among the staff'. In statement Number 3 (35.1 %) respondents moderately agreed that 'providing the staff with places and time to meet will increase knowledge transfer'. A high percentage (33.0 %) also strongly agreed with the statement.

Statement 4 (39.4 %) respondents moderately agreed that 'building a culture that supports the ability to apply new knowledge in practice and does not fear change will respond to change easily'. 39.4 % moderately agreed that 'building a non-blame culture that is tailored on learning form mistakes will avoid costly repeated mistakes and errors which in hospitals sometimes a matter of life or death', and 34.0 % of the participants strongly agreed with the statement. (33.0 %) of the participants moderately agreed that 'action plans can be used to implement change, meet the objectives and take the strategy forward'. In statement 9, (36.2 %) of the respondents moderately agreed that 'increase the awareness of the importance

of transferring knowledge and applying it in practice will enhance the processes' and (27.7 %) strongly agreed with the statement.

Based on the above, 50% -70% of the respondents moderately to strongly agree with all the above statements. Without the application of transferred health knowledge, health professional knowledge can quickly become outdated. The results of this study showed that health workforce is not regularly updating its work activities, applying what is best and changing the old way of doing things. In the literature, many studies showed that patients do not receive appropriate care, or receive unnecessary or harmful care. To prevent repeating clinical mistakes and errors (which in hospitals can draw the line between life and death), the researcher recommends that the health professional need to identify and track the changes that are occurring daily, and determine what should be done in order to apply what is best and change the old way of doing things. Health organizations must constantly identify and incorporate ideas which work, while discarding those that do not in an efficient manner. For that to happen, there is a need to pay more attention to improve the application of different techniques and processes that will lead to the updating of doing things.

Proposed Model

All data from the primary case study (questionnaires and interviews), secondary case studies and documents were combined and linked together to propose the following model which designed to link all needed factors that leads to minimize know-do gap that will lead to improve the quality of care. Figure 1 shows a detail (Minimizing Know–Do Gap) visual model with the predicted relationship between dependent and independent variables. To test the hypotheses, a secondary analysis needs to be conducted which is beyond the aim of this research.

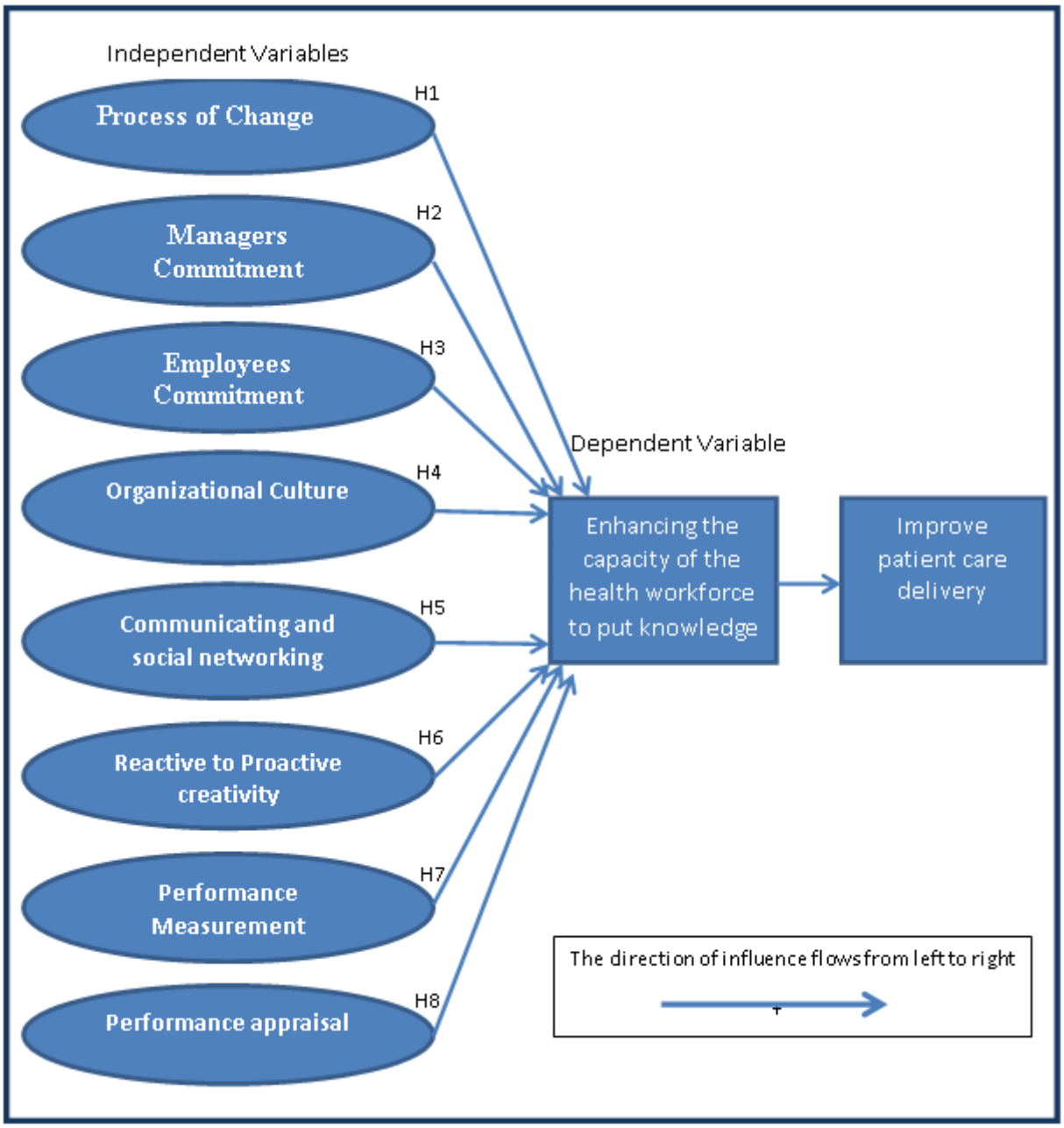

Figure 1: (Minimizing Know-Do Gap) Visual Model with the direction of relationship

Conclusion

Health care system all over the world, all are facing continuous changes; patient wider expectations, new ways of treatments, new medical discoveries and scientific advances, new ways of managing, new rapidly evolving technologies and new learning opportunities. In health care, a well-recognized gap exists between what health professionals know and what should be done. Therefore a stronger emphasis should be placed on translating knowledge into action to improve patient care delivery. Health workforce needs to let go of out-of-date (Know-how) and learn new (know-how).

The problem of (know- Do) Gap can be best addressed by establishing a comprehensive framework that directs the entire organization to understand the rationale for a focus on the importance of putting

transferred health knowledge into practice. Such a framework may require developing health care systems that are capable of considering all (or most) of the factors affecting that process of change. In this article, the researcher proposed a framework linking all needed factors that leads to minimize know-do gap that will lead to improve the quality of care.

The success of application of health knowledge requires the involvement, support and teamwork of every health professional in the organization. It needs to be accepted and communicated, loudly, clearly and consistently at all levels of the organizations. Change does not happen overnight and perfection is not easily achieved. Knowledge application needs to be tied to the health professional daily work and be embedded in the health systems. The knowledge based environment is formed and nurtured by people in all parts of the organization and their work and commitment are the determinant for achieving that perfection. "Choo (1998) reminds us the energy for innovation – the creative spark – can only be lit by individuals. But organizations may supply the fuel and the environment for the spark to catch and nourish the flame into something the organization can use" (Carvalho and Ferreira, 2001, P.2)

Future Directions

The validity and the theoretical soundness of the proposed eight critical factors can only be tested by collecting empirical data from real-life cases and testing the propositions of the framework.

References

1. Almotiri, B. (2010) Evaluation of Healthcare Professionals' Attitudes Towards Non-Compliance with Drug Treatments and Impact of Their Behaviour on Patient Reported Outcomes. Proquest.

2. Al-Abri, R. (2007) "Managing Change in Healthcare." *Oman Medical Journal* Volume 22(3); 9-10.

3. Bacal, R., (1999). Performance Management. McGraw-Hill.

4. Bernhardsdóttir, A., (2015) Crisis Related Decision Making and the influence of culture on the behavior of decision makers. Cross Cultural Behavior in crisis preparedness and response. Springer international publishing Switzerland.

5. Carvalho, R. and & Ferreira, M. (2001) "Using information technology to support knowledge conversion processes" *Information Research*, Volume 7 Number 1.

6. Chiaburu, D. S., Baker, V. L., & Pitariu, A. H. (2006). Beyond being proactive: What (else) matters for career self-management behaviors? Career Development International, volume 11, number 7, P: 619-632.

7. Choong, K. K. (2013). Understanding the features of performance measurement system: A literature review. Measuring Business Excellence, Volume 17 number 4, P: 102-121.

8. Crookes, P., Davies, S. (2004). Research into Practice. Essential Skills for Reading and Applying Research in Nursing and Health Care. 2nd ed. Elsevier Limited.

9. Darabos, M. (2013). Perception of the Importance of the Strategic Planning for the Employee Motivation. Economic and Social Development: Book of Proceedings: 943-950. Varazdin: Varazdin Development and Entrepreneurship Agency (VADEA). (Apr 5, 2013)

10. Elg, M., Klara, P. B., & Kollberg, B. (2013). Performance measurement to drive improvements in healthcare practice. International Journal of Operations & Production Management, Volume 33, Number 11, P: 1623-1651.

11. Elmuti, D., Kathawala, Y., & Wayland, R. (1992). Traditional performance appraisal systems: The deming challenge. Management Decision, Volume 30 number 8, P. 42.

12. Elwyn, G., Taubert, M., Kowalczuk, J., (2007) Sticky knowledge: A possible model for investigating implementation in healthcare contexts. Implementation Science. [Online]. Available From: http://www.implementationscience.com/content/2/1/44.

13. Evans, J. (2011), Quality Management, Organization and Strategy, 6th ed., South-Western, Cengage learning.

14. Evans, J. and Lindsay, W. (2011) *The Management and Control of Quality*, 8th ed., Thomson South-Western, Cengage learning.

15. Foster, S. (2010), *Managing Quality Integrating the Supply Chain*, 4th ed., Pearson Education, Inc.

16. George, M. and Jones, R. (2001) Towards a process model of individual change in organizations. Human Relations. Apr 2001, volume 54, pg. 419- 444.

17. Goetsch, D. and Davis, S. (2013), Quality Management for Organizational Excellence. Introduction to Total Quality, 7th ed. Pearson Education, Inc.

18. Grol ,R. and Grimshaw, J., 2003, From best evidence to best practice: effective implementation of change in patients' care.(Research into practice I). Journal: The Lancet. (Oct 11, 2003): p1225.

19. Hitt, M., Hoskisson, R., Ireland, R. 2007. Management of strategy. Concepts and Cases. Thomson South-western.
20. Inamdar, N., Kaplan, R. and Reynolds, K. (2002) Applying the balanced scorecard in healthcare provider organizations. Journal of Healthcare Management 2002;47(3):179–95.

21. Ivanceveich, J. Konopaske, R. and Matteson, M. (2008). Organizational Behaviour and Management. McGraw Hill Irwine. 8th Edition.

22. Jaros, S. (2010) Commitment to Organizational Change: A Critical Review. Journal of Change Management, Vol. 10, No. 1, 79–108, March 2010

23. Kalling, T., Styhre, A., 2003. Knowledge Sharing in Organizations. Liber. Abstrakt. Copenhagen Business School Press.

24. Kennerley M. and Neely, A. (2003) Measuring performance in a changing business environment. International Journal of Operations & Production Management. Vol. 23 No. 2, 2003 pp. 213-229

25. Khatri N, Baveja A Boren, SA Mammo A. (2006) Medical Errors and Quality of Care: From Control to Commitment. California Management Review 2006; volume 48 number 3 (115–141).

26. Leonard , M. Graham, S. and Bonacum D. (2004)The human factor: the critical importance of effective teamwork and communication in providing safe care. The international journal of healthcare improvement. Qual Saf Health Care 2004;volume **13**:85-90

27. Lichtenstein, B. (2014) Generative Emergence: A New Discipline of Organizational, Entrepreneurial. Oxford University Press.

28. Maddox, E. N. (1987). The Effect of Problem Solving Strategy and outcome expectancy Cues on Creative Problem-solving Performance. ProQuest Dissertations & Theses Global.

29. McPhail, G. (1997) Management of change: an essential skill for nursing in the 1990s. J Nurs Manag 1997. Jul;5(4):199-205.

30. Nafei, W. (2014) Assessing Employee Attitudes towards Organizational Commitment and Change: The Case of King Faisal Hospital in Al-Taif Governorate,Kingdom of Saudi Arabia. Journal of Management and Sustainability; Vol. 4, No. 1.Published by Canadian Center of Science and Education

31. Phelan, S. G. (2001). Developing creative competence at work: The reciprocal effects of creative thinking, self-efficacy and organizational culture on creative performance Available from ProQuest Dissertations & Theses Global.
32. Purbey, S., Mukherjee, K., & Bhar, C. (2007). Performance measurement system for healthcare processes. International Journal of Productivity and Performance Management, Volume 56. Number 3, P: 241-251.

33. Rahimzai, M., Naeem, A. J., Holschneider, S., & Hekmati, A. K. (2014). Engaging frontline health providers in improving the quality of health care using facility-based improvement collaboratives in afghanistan: Case study. Conflict and Health, 8:21

34. Reece, B., and Brandt R. (2008). Effective Human Relation. 10th Edition. Houghton Mifflin.

35. Stacey, R., 2003. Strategic management and Organizational Dynamics. The Challenge of Complexity. 4th ed. Pearson Education Limited.

36. Swinehart, K., & Green, R. F. (1995). Continuous improvement and TQM in health care: An emerging o. International Journal of Health Care Quality Assurance, 8(1), 23.

37. Swinehart, K. D., & Smith, A. E. (2005). Internal supply chain performance measurement: A health care continuous improvement implementation. International Journal of Health Care Quality Assurance, 18(6), 533-542.

38. Thakur, R., Hsu, S., & Fontenot, G. (2012). Innovation in healthcare: Issues and future trends. *Journal of Business Research, 65*(4), 562-569.

39. Thamlikitkul, V. (2006) Bridging the gap between knowledge and action for health: case studies. World Health Organization. Bulletin of the World Health Organization (Aug 2006): 603-7. Volume 84 no. 8.

40. United Nations Development Group, 2008 Organizational and cultural change in support of UN Coherence, Effectiveness and Relevance (CER).

41. World Health Organization (2004) World report on knowledge for better health: strengthening health systems. Geneva

42. Popper, Micha; Lipshitz, Raanan. (2000) Organizational learning: Mechanisms, culture, and feasibility. Management Learning volume 31 issue 2 (Jun 2000): 181-196.