

Building capacity for quality and safety in critical care: A roundtable discussion from the second international patient safety conference in April 9-11, 2013, Riyadh, Saudi Arabia

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Abstract:

This paper summarizes the roundtable discussion from the Second International Patient Safety Conference held in April 9-11, 2013, Riyadh, Saudi Arabia. The objectives of the roundtable discussion were to: (1) Review the conceptual framework for building capacity in quality and safety in critical care. (2) Examine examples of leading international experiences in building capacity. (3) Review the experience in Saudi Arabia in this area. (4) Discuss the role of building capacity in simulation for patient safety in critical care and (5) Review the experience in building capacity in an ongoing improvement project for severe sepsis and septic shock.

Key words:

Building capacity, critical care, safety culture, sepsis, simulation

The need for building capacity for quality and safety is particularly relevant in high-risk areas such as critical care^[1] where the incidence of errors and resulting adverse events has been reported to be as high as two errors per patient per day and where one in five intensive care unit (ICU) patients sustain a serious adverse event that has a significant risk for harm.^[2] In Saudi Arabia, the health-care system in Saudi Arabia has its unique features that are likely to affect patient safety, including its rapid growth and the multinational heterogeneous nature of the workforce. The Saudi Arabian National Guard Health Affairs has initiated a yearly international conference for patient safety. In the Second International Patient Safety Conference held at the King Saud Bin Abdulaziz University for Health Sciences Convention Center, Riyadh on 09th-11th April 2013, a round table discussion was held to address building capacity for safer critical care. The panel included the authors of this paper that summarizes the main conclusions. The objectives of the roundtable discussion were to: (1) review the conceptual framework for building capacity in quality and safety in critical care (2) examine examples of leading international experiences in building capacity (3) review the experience in Saudi Arabia in this area, (4) discuss the role of building capacity in simulation for patient safety in critical care and (5) review the experience in building capacity in an ongoing improvement

project for severe sepsis and septic shock. Such information would help in redesigning systems and in planning and developing strategies with the goal of improving patient safety and quality of care.

Conceptual Framework for Building Capacity

The panel reviewed the definition by Hawe *et al.* of building capacity as an approach to the development of sustainable skills, organizational structures, resources and commitment for health-care improvement.^[3,4] The panel reviewed and discussed capacity building framework of the NSW Health Departments [Figure 1] that was used as a reference point for the panel discussion.^[4] This model considers 5 strategies for building capacity: organizational development, workforce development, resource allocation, leadership and partnership. These strategies serve to build the capacity around three domains: Infrastructure, program sustainability and problem solving.^[4]

Safety Training for Everyone

The panel emphasized the need for basic training for everyone in healthcare organizations. It has been recognized that many opportunities to develop capacity building exist in organizations

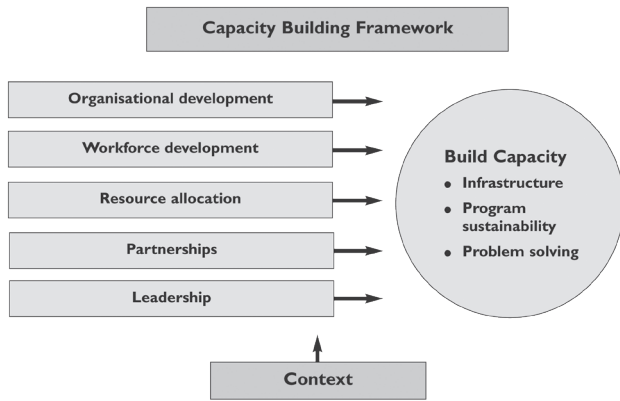


Figure 1: A conceptual framework for building capacity. Reproduced with permission

and can be of great use. At present, one of the biggest deficits is related to staff knowledge and training in patient safety and quality. This is a reflection of the lack of infrastructure in most medical and nursing schools around the world in building skills in patient safety and quality improvement.

At The John’s Hopkins Hospital, a multi-tier approach is being adopted. The organization’s vision is to ultimately have all healthcare staff who participate in the care and treatment of patients to receive a basic safety training including a 20-min video available online. For new hires, this basic training is implemented as part of orientation. The dilemma remains on how to catch-up on thousands of employees who are already on site having work in progress.

A second tier of building capacity is at the functional unit or clinic level. At this level, healthcare leaders or managers with responsibility for improving safety and quality are identified. These leaders or managers are required to complete additional training including an online basic patient safety certificate, designed to provide knowledge and skills to help participants lead safety and quality efforts. The certificate program currently includes 13 modules related to safe design, patient safety culture, teamwork, learning from defects, and sustaining change.

At the highest tier, physician and nurse leaders with an interest in a safety and quality career are encouraged to complete formal training for either a masters degree or equivalent degree to gain robust learning in methodology and quantitative skills that are needed to successfully foster quality and safety improvement.

The Comprehensive Unit-Based Safety Program (CUSP) - Start Local

CUSP is a five-step program designed to improve a unit’s workplace culture.^[5] This culture change is achieved by empowering staff to assume responsibility for safety in their environment and in doing so bring about significant safety improvement. The change is achieved through education, awareness, access to organization resources and a toolkit of interventions.^[5,6]

The rationale behind CUSP is the recognition that the building

capacity in quality and safety needs to occur at a unit level. In a large organization, it is not possible to start with all units at once. Instead, it may be reasonable to start with those units who are among the lowest performers on measures in relation to organizational vision and mission. For example, it is reasonable to compare and prioritize units based on the safety culture scores. The process of building capacity throughout the organization is a long journey that takes dedication, resources, time and commitment. It is important to recognize the central importance of culture in sustainable patient safety improvement. A unit’s safety culture can reliably predict a wide range of complications and infections, as well as such operational outcomes as nurse turnover. Because culture is local, it must be targeted at the unit level, with support at the organizational level.

Building Capacity is More than Workforce Development

As indicated by framework mentioned above, building capacity has multiple strategic elements. This framework depicts that building capacity is more than just workforce development. Addressing all these elements will guarantee that the plan is complete and favorable toward building capacity.

The Experience of Building Capacity at King Abdulaziz Medical City, Central Region

King Abdulaziz Medical City-Central Region (KAMC-CR) has taken a strategic decision for building capacity in quality and safety, which translated to several programs and activities in the last few years.

As such there has been a focus on creating an organizational structure for quality and safety that complements the structure for medical management and structure for operational management. A potential governing model used in similar organizations would be a Quality and Patient Safety Council.

As for workforce development, KAMC-CR has been highly investing in that area, where thousands of staff had been trained in patient quality and safety in a basic, intermediate or advanced levels.

The International Patient Safety Forum, which is held for the 2nd year, is an aspect of training in safety and quality of care. The accompanying workshops have been additional venues for knowledge and skill transfer in quality and safety. Through implementing multiple projects, significant training was provided. The project of using the checklist for timeout in the operating room is a good example. At first, the compliance was low in the whole organization and then it was started to change and we witnessed a change from knowledge into attitudes that reflected into behavior leading to compliance that exceeds 95%.

KAMC-CR has realized the importance of on partnership both locally and internationally. Locally, a large complex health-care system, like KAMC-CR, has many stakeholders. We involved the University, the academic arm of our institution, which has incorporated patient safety in undergraduate education. In post-graduate training, there are several endeavors to engage medical residents and fellows in quality and safety

training. KAMC-CR has collaborated with several international organizations to conduct improvement science courses and direct coaching of clinicians, which has been a very successful journey. As a result of these efforts, KAMC-CR has now a critical mass that is needed for sustainability.

The Sepsis Management Improvement Project as an Example for Building Capacity

The Sepsis Management Improvement Project, which started in October 2011 and is ongoing, is an example of how KAMC-CR has built capacity in quality and safety. Organizationally, the project started with a clear project charter to delineate the project scope and measures. The project team included multidisciplinary representatives. The team met weekly and had multiple milestone targets, which kept the project moving on its timeline.

For workforce development, the sepsis management improvement team utilized the improvement science courses provided in the last year and a half as a framework for improvement. Additional training was conducted at the department level in collaboration with Quality Management Department. For example, as the team was working on certain areas of improving sepsis, targeted presentations were given for the specific needed tasks, such as presentations on how to develop a clinical pathway, how to conduct failure modes and effect analysis (FMEA) and on how to present data on quality measurements (including run charts, control charts and others).

In terms of resources, the organization has allocated a full-time clinical research coordinator from King Abdullah International Medical Research Center (KAIMRC). In addition, the improvement team included a quality management specialist from the Quality Management Department and an application analyst from the Information Systems and Informatics Department. In the latest phase of the project the hospital administration approved allocating full-time critical care physicians and nurses to form the Sepsis Response Team.

In terms of partnership, the team worked closely with faculty of the improvement science courses at the beginning of the project and also worked with KAIMRC. In addition, the team has been working with other clinical departments. In particular, the collaborative work between the departments of Intensive Care and Emergency Medicine has been a great success, which is very important as a large proportion of critically ill septic patients come from the Department of Emergency Medicine.

In terms of leadership, the full support from the top leadership in the organization including the Medical Services, Quality Management Department and nursing executives has been instrumental for the progress and achievements of the project.

Building Capacity in Simulation for Patient Safety in Critical Care

Simulation has been used at KAMC-CR Intensive Care Department for training and safety. At the organizational level, the Intensive Care Department has established a 3-room high-fidelity simulation laboratory near the clinical area; thus maximizing access to all disciplines in the ICUs. In addition, the

University has established a large multidisciplinary simulation lab for undergraduate and post-graduate training.

On a workforce development, several faculty members have attended international courses and workshops to acquire the skills for simulation. In addition, several courses were conducted locally to build the local expertise in this area. In addition, substantial work has been performed to build critical care clinical scenarios.

As for the partnership, we have internal and external. For example, in the Intensive Care Department, there has been a great support with from the College of Medicine and the post-graduate Training Center. At the national level, the department has collaborated with other organizations and societies involved in medical simulation.

Summary and Main Recommendations

1. The approach to building capacity for quality and safety in critical care has to involve all the five strategies: organizational development, workforce development, resource allocation, leadership and partnership. These strategies serve to build capacity around three domains: infrastructure, program sustainability and problem solving.
2. Safety training should be provided for everyone. A multi-tier approach is advised in which basic training is mandatory to all healthcare providers, an intermediate level to those engaged in day-to-day unit based quality and safety projects and a higher training for the leaders and quality management personnel.
3. There should be an emphasis on unit-based capacity building and culture.
4. Sepsis Improvement project and simulation programs are examples of a critical care quality and safety projects that requires significant capacity building.

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