SPECIAL PAPER

Patient Safety and Healthcare Quality

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Abstract

Introduction: Due to a variety of circumstances and world-wide research findings, patient safety and quality care during hospitalization have emerged as major issues. Patient safety deficits may burden health systems as well as allocated resources. The international community has examined several proposals covering general and systemic aspects in order to improve patient safety; several long-term programs and strategies have also been implemented promoting the participation of health-related agents, and also government agencies and non-governmental organizations.
Aim: Those factors that have negative correlations with patient safety and quality healthcare were determined; WHO and EU programs as well as the Greek health policy were also reviewed.
Method: Local and international literature was reviewed, including EU and WHO official publications, by using the appropriate keywords.
Conclusions: International cooperation on patient safety is necessary in order to improve hospitalization and healthcare quality standards. Such incentives depend heavily on establishing world-wide viable and effective health programs and planning. These improvements also require further steps on safe work procedures, environment safety, hazard management, infection control, safe use of equipment and medication, and sufficient healthcare staff.

Keywords: safety culture, patient safety, health service quality, quality assurance

Introduction

The basic motivation of any health professional is each patient's health improvement or recovery from the disease. The causes of accidents are often identified as human error or technical failure, as well as other underlying reasons (Institution of Engineering and technology, 2009). The term 'safety culture' was first introduced in 1987 by the International Nuclear Safety Advisory Group during the investigation of the Chernobyl accident (International Nuclear Safety Advisory Group–INSAG, 2001). The most widespread definition of safety culture, suggested by the Health and Safety Executive (Great Britain), is as follows: "*The safety culture of an organisation is the product of the individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management*" (HSE, 2005). Nowadays, the term 'safety culture' is used to describe a corporate environment in which safety is understood to be and is accepted as, the top priority (Institution of Engineering and technology, 2009).
In 1999, there was remarkable activity concerning healthcare improvement and safety in the US health system. Almost all US hospitals were reporting data on the quality of care through the Center for Medicare and Medicaid Services (Altman et al, 2004). In

the USA, a nationwide survey back in 2004, showed that 30% of the public reported medical errors (for themselves or their family), 55% were dissatisfied with the quality of health care, 40% thought that health care had gotten worse during the past five years, and 50% were worried about health care and hospitalization safety (Kaiser Family Foundation, 2004).

In Europe, the Luxembourg Declaration on Patient Safety, which includes a series of recommendations to EU Institutions, national authorities and health care providers, promotes change in the nature of dialogue about quality and safety, encourages new incentives, and proposes fundamental improvements and strategies for patient safety (European Commission, 2005).

The European Commission defines patient safety as ‘freedom for a patient from unnecessary harm or potential harm associated with healthcare’. (European Commission, Health-EU, Patient Safety, 2005)

The main objective of this paper was to determine factors related to unsafe health care, according to existing WHO, EU and Greek health policies concerning patient safety.

Factors related to unsafe health service delivery

During the last decade, the issue of patient safety was brought out and several papers established that health services may harm the patients because of injuries or other medical/nursing errors and omissions. The healthcare industry should be aiming at the protection of the patients’ health, and at avoiding any harm to them

International papers show that in 10% of all hospitalizations there were medical/nursing errors and/or unwanted situations in other healthcare settings, such as domiciliary care, private healthcare, and chronic patient care. In has been shown that one out of ten patients in developed countries has been somehow harmed during hospitalization, whereas in developing countries there is an even higher medical error risk. In certain developing countries that risk seems to be almost 20 times higher compared to developed countries (Eurostat, 2010).

According to the EU, 8% to 12% of hospitalized patients in EU member-states have faced some kind of unwanted situation, in other words 6.7 to 15 million of hospitalized patients, and more than 37 million users of primary health care services (EU Official Journal, 2008).

The main problem seems to be nosocomial infections. According to several studies, 5% to 15% of all hospitalized patients contract at least one hospital-acquired infection during their stay; 40% of Intense Care Units patients contract at least one nosocomial infection, thus increasing mortality risk. In the United States, 5 million cases of hospital-acquired infections have been reported and 100,000 patients have died because of them. Almost 1.4 billion patients contract a nosocomial infection each year all over the world, whilst 50% of the medical equipment in developing countries is unusable or partly usable. Every year, approximately 4.1 million patients (or one out of twenty) are estimated to contract a hospital-associated infection in the EU; the number of deaths occurring as a consequence of these infections is estimated to be around 37,000 (Council of the European Union, 2009).

Diagnostic procedures or interventions are not always performed, since the equipment is not been used due to lack of trained staff or necessary commodities. This can lead to substandard or hazardous diagnosis, which can result in a treatment that could put the patient’s health/life in jeopardy. Some other factors that might delay a surgical procedure can lead to increased nosocomial infections rates; some of these factors are: Lack of surgical consumables, operating room overcrowding, lack of trained nursing staff, shortage of intensive/postoperative care beds, and also substandard maintenance of equipment (or total lack of it).

For instance, in some countries injections administered with reused, unsterilized syringes reach 70 percent, which can expose millions of people to infections. Issues associated with surgical safety in developed countries account for 50% of the adverse situations that may result in death or disability.

According to WHO, 7 million patients have post-operative complications, and one million patients die because of medical errors that lead to various serious infections (European Commission, 2011)

Another factor contributing to insufficient patient safety, is the lack of trained nursing staff. Because of the multiple factors that may influence patient safety, research has reached mixed conclusions. Nevertheless, meta-analyses have found an association between nurse staffing levels and pneumonia, sepsis, pressure ulcers, cardiac arrest or shock, patient falls, mistaken medication and longer hospital stay as well as delayed treatment (Needleman, 2003). This shortage of trained nurses is an important factor concerning patient safety and mortality, and according to some researchers nurses should actively protect their patients from any risks that could emerge during their hospital stay (Hetal, 2003; Khurshid et al, 2008).

Some of the factors that could also lead to unsafe hospital care are: administrative errors or omissions, unsafe interhospital patient transfer, misuse of medical equipment (or total lack of it), prescription errors or unsafe medication, work overload and subsequent burnout, underinvestment in further education and lack of specialization, as well as absence of motivation.

WHO, EU and Greek policies concerning healthcare quality and patient safety

Lack of patient safety could put a heavy burden on health systems and allocated resources. The international community has examined a number of programs covering systemic and overall aspects to improve patient safety globally, and several long-term programs have been implemented by engaging various public and private health care agents.

In 2004, WHO launched the World Alliance for Patient Safety program together with the Global Patient Safety Challenge, incorporating guidelines for patient safety. Some of these guidelines are: hand hygiene in healthcare settings, ensuring safe blood transfusion, safe injections and immunizations, implementing safe clinical/surgical practices, ensuring water safety, general hygiene, natural ventilation, and low-cost medical waste disposal (World Health Organization, 2004).

In several official publications, WHO has focused on antimicrobial resistance, ascribing it mainly to the following factors: lack of comprehensive national actions, lack of laboratory capacity and surveillance which can lead to inadequate information for choosing treatment, overuse of antibiotics, unnecessary use of antibiotics in the food chain, insufficient measures to prevent the spread of resistant bacteria in hospitals and the community, and also inadequate momentum in research and development in the suitable technologies (World Health Organization, 2011).

EU has made patient safety a top priority, and back in 2005 state-members enacted a mechanism for promoting dialogue on health care safety and created a working group to encourage related initiatives and activities. The working group consists of the World Health Organization, the Council of the European Union, the Organization for Economic Co-operation and Development, and European associations of patients, medical and nursing staff, pharmacists, dentists and hospitals.

According to the European Parliament legislative resolution of 23 April 2009 on the proposal for a Council recommendation on patient safety, including the prevention and control of healthcare associated infections [COM (2008)0837–C6-0032/2009 – 2009/0003(CNS)]:

- A large proportion of adverse events, both in primary and secondary sector, are preventable, with systemic and funding factors appearing to account for the majority of errors and omissions.
- Since EU member states are at different levels in the development and implementation of effective and comprehensive patient safety strategies, this initiative intends to create a framework to encourage policy development and future action in order to address the key patient safety issues.
- It is also recommended that the patients should be empowered by involving them in the patient safety process; they should also be informed of levels of safety and on how they can find accessible and comprehensible information on complaints and redress systems.
- It is also recommended that data should be collected at Community

level to establish efficient and transparent programs, structures and policies for patient safety; also, best practices should be disseminated among the member states, developing common indicators and common terminology through cooperation between member states and the European Commission.

- Information and communication tools, such as electronic health records or e-prescriptions, can contribute to improve patient safety, as has been recognized in Commission Recommendation 2008/594/EC on cross-border interoperability of electronic health record systems (Official Journal of the EU, 2008).
- The needs of special groups, such as older people and children, should be researched, and steps need to be taken in order to promote their rehabilitation and return to good health.
- Nosocomial infection control should be of paramount importance to the member states
- More nurses specializing in infection control should be hired. Also, member states and local healthcare institutions should consider the use of link staff to support specialist nurses at clinical level in acute and community facilities.
- Member states should set local and national targets for the recruitment of health professionals specializing in infection control, taking into account the recommended target ratio of one nurse for every 250 hospital beds by 2015.
- Member states should provide the means necessary to bring about a 20% reduction in the number of persons affected each year by adverse events, the target thus being to reduce such events by 900,000 cases a year by 2015 (European Parliament Legislative Resolution, 2009)

During a European Parliament debate on a report on behalf of the Committee on the Environment, Public Health and Food Safety, the Commission was asked to draw up a document about infection prevention, further training of health staff and of patients on the basis of a handbook for the prevention of nosocomial infections produced by the World Health Organization; it was also recommended that research in that area should be supported with particular attention being paid to new technologies, nanotechnologies, while a provision for three-yearly monitoring of the progress achieved by the member states was also made. The main aim of the Council's draft proposal on patient safety, is to define an integrated approach, which will allow patients to be transferred safely to high quality health care centers and where all factors having an impact on this, will be taken into account (European Parliament, 2009).

Greece, as a member state of EU, following the EU recommendations, makes legislative changes necessary for health care quality and patient safety. According to Circular No 123566/2010 and Law No 3918/2011 ("on Changes in the Health System and Implementation of Quality-related Actions") Care Quality Commissions will be formed adopting monthly strategy plans. Governors of the District Health Directorates must report every three months on each hospital Commission's progress to the Quality and Efficiency Directorate of the Greek Ministry of Health and Social Solidarity. The Quality and Efficiency Directorate, in cooperation with the Quality Directorates of the Ministry of Health and Social Solidarity and the Ministry of Interior, Decentralization and e-Governance, is responsible for: the implementation of tools suitable to measure service effectiveness and efficiency, the creation of suitable indicators, the implementation of policies for the comparative progress of public services, the formation of specific suggestions on ISO-based efficiency and effectiveness enhancement so that public services will better meet the needs of the people using them (Official Gazette of the Hellenic Republic, 2011).

Healthcare quality and patient safety: Proposals for action

International cooperation in patient safety is necessary in order to improve overall health care quality for patients seeking health

services in their own country or even abroad. These initiatives depend on the international implementation of viable and effective health policies. Also a series of actions concerning safe procedures, environment safety, hazard management, infection control, safe equipment use, better clinical practice and safe medication is also deemed necessary. In the past decade, patient safety has surely been recognized as a major issue, yet targeted actions should be implemented with the participation of health system agents and the patients as well. The EU has put forward a set of actions (2009-2015) and a legislative framework; in the future the effectiveness of these actions will be reassessed by monitoring the results of similar policies in the member states.

It is very important that all citizens be educated about safety issues; patients, non-patients, health professionals and managerial staff should be educated about safety using all appropriate methods, including lectures, workshops, seminars, and printed or electronic matter. Further education of health professionals about safety, combined with practices that prevent and treat adverse events, can promote patient safety. This target will be reached more easily if patients are encouraged to participate in the safety measures, and get information on health hazards and safety issues. On the other hand, organizational deficiencies —most of the time the main culprit behind the patients' adverse events— should be addressed, thus promoting safety-oriented actions.

It has been calculated that the yearly number of patients in the EU with at least one hospital-acquired infection can be estimated at 4.1 million patients. Thus, focusing on infection reporting systems and prevention and control programs will definitely promote patient safety in both primary and secondary sector. It is also estimated that healthcare workers in Europe suffer one million needlestick injuries each year, consequently sufficient protection measures are necessary. Hiring specialized infection control nurses and all necessary hospital staff can also reduce morbidity and mortality rates. A well-trained, qualified hospital staff could also increase service-user trust and satisfaction levels. Consequently, continuing education of all health professionals and further specialization in patient safety and service quality, can also help to ensure that the target will be reached.

Implementing Assessment and Quality Assurance programs, that could monitor service provided to the public, could also set priorities for each healthcare agency. Administrative and clerical staff should be further trained in economics, computer science and management, which will improve overall level of service.

Yet the most important aspect is to understand the culture. In health systems the quality and safety culture remains virtually unknown. But medical equipment and know-how, sufficient staffing and modern buildings alone cannot ensure high quality health care and patient safety.

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