Management in health
XIX/3/2015; pp. 9-12

INFLUENCE OF CARE QUALITY ON THE CONSUMPTION OF HEALTH RESOURCES

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BACKGROUND: *It is considered. that quality health care, compared with low quality, should cost more expensive.*

International scientific researches prove that high quality of care can save resources; low quality, on the contrary, is more resource-intensive.

AIM: *A comprehensive study of the factors, reasons and components of resources cosns is associated with low quality of care for the further development of measures to reduce it.*

METHODS: *Using a systems approach and analysis, bibliographic method, graphical method for determining the cause-and-effect relationships between the factors and consequences (Ishikawa diagram), method of conceptual modeling allowed to process more than 500 sources, 86 of which, were selected for in-depth study.*

RESULTS: *As a result, comprehensive analys of components of the costs associated with low quality of care, found that it should be considered at the micro and macro level,in health care system (health care costs and the costs associated with the shortcomings of the system, respectively) and outside (costs of patients, their families and the cost of society). Among the shortcomings of health care system, most of problems are associated with fragmentation of activities .*

CONCLUSION: *Improving quality of care is closely associated with improving health system efficiency and cost savings.*

Keywords: Health Care Quality, Health Care System, Health Care Economics and Organizations, Costs.

INTRODUCTION:

The World Health Organization (WHO) recommends that countries with different possibilities of health system`s resource support in developing quality and safety improvement strategies to use the most universal approach to understanding the quality of care, where "quality" is defined as "health service, in which resources organize in the most effective way to meet the health needs for those most in need for prevention and care, safely, without waste and within higher level requirements" [1].

Unfortunately, the world has not ideal health system. Many research studies, conducted in different countries, provide irrefutable evidence that quality of care is necessary to improve on the one hand - to improve public health indicators and outcomes, and on the other hand - to use resources, that are spent on provision of treatment and preventive measures to all participants of medical care process (patients and their families, health facilities, government) efficiently [2, 3, 4, 5].

In Ukraine, a modern health system does not ensure the accordance of free access to health services and quality care, which negatively affects primarily the vulnerable populations [6, 7, 8]. Among the reasons of this state of affairs Ukrainian scientists have identified: the imperfect mechanisms of state regulation of the quality of care which do not provide guarantees to patients of its high-level; lack of motivation of health workers for professional growth; absence of effective monitoring of care quality [9, 10].

Not only patients are dissatisfied with the current situation (primarily with the poor quality of health care, unsatisfactory service, limited access to health care and high total cost of medical services that are still declared the Constitution of Ukraine as free) but also health care workers (with low wages, unsatisfactory working conditions, inadequate resource filling of medical services, lots of paperwork) and health care managers (with inadequate funding of health facilities and the lack of freedom to make decisions) [11, 12].

One of the stereotypes of modern life is that quality goods and services are more expensive than their lower quality analogues. Health system is not an exception: both among managers and some scientists there is an opinion that the improving of care quality is raising costs (due to the development and introduction of new technologies, creation of new structures and procedures for quality control, etc.). At the same time, a number of scientific studies show that high -quality of health care can not only increases the expensiveness, but also can save resources, because quality care reduces the probability of disease complications and improves the health of the patient, thereby the need for additional visits to doctors , for expensive researches and readmissions reduce (B Afessa et al., 2005; V Dyachenko, 2007, 2012; F Grover, 2005; C Fung et al., 2008; M Porter, E Teisberg, 2006, 2007; M Porter, E Pabo, T Lee, 2013 and others). And conversely, poor quality of medical care is the cause of excessive consumption of all kinds of resources in health system as a whole, and in selected health facilities, each patient in particular [2, 13].

AIM:

a comprehensive study of factors, causes and components of resource costs associated with poor quality of care.

METHODS:

To achieve this goal more than 500 information sources were selected by using bibliographic method, 86 sources of that were studied more deeply by using a systematic approach and analysis, graphical method for determining the cause-and-effect relationships

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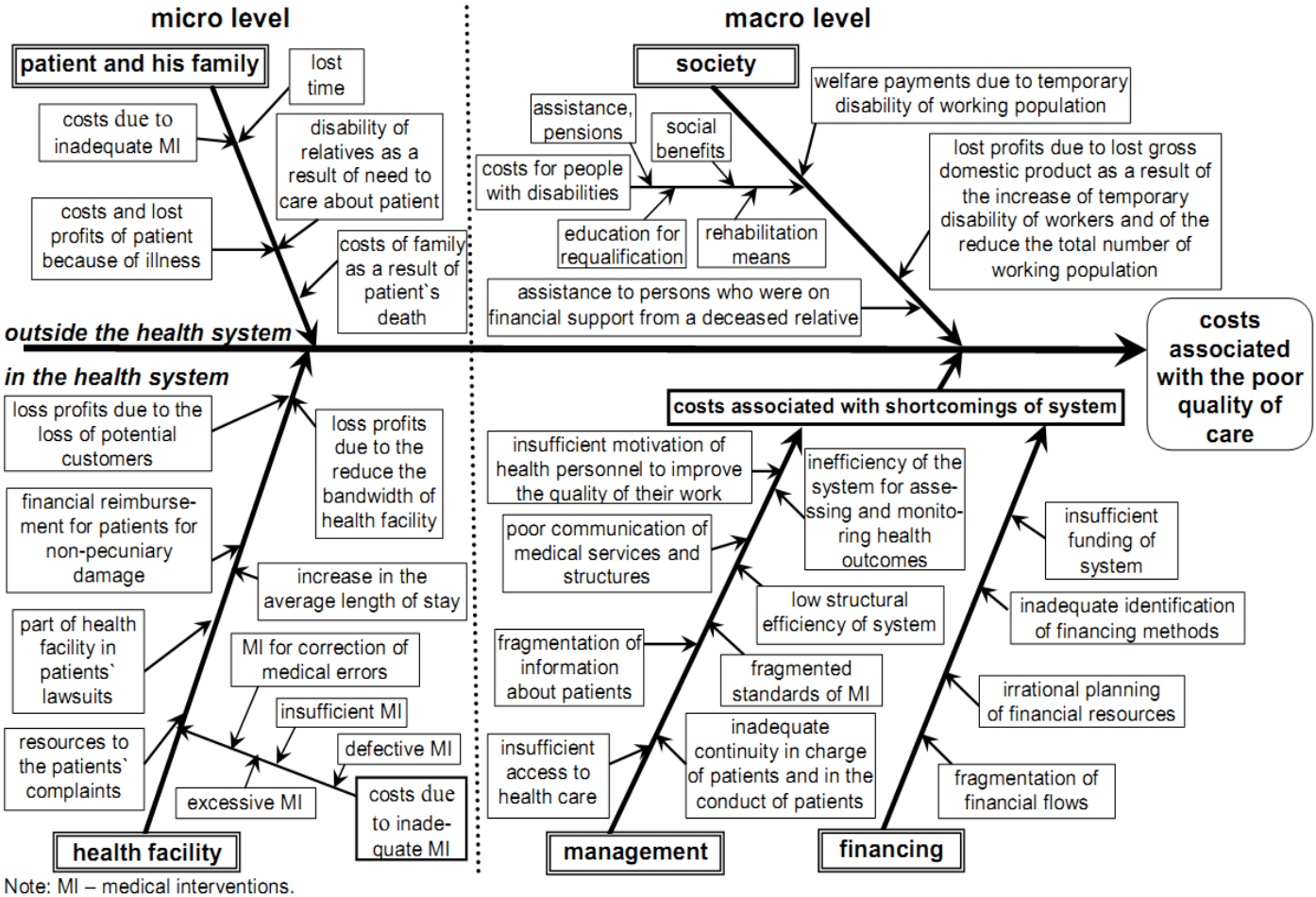
Figure 1 - Main cost factors associated with shortcomings of quality of care (Ishikawa diagram)



Note: MI – medical interventions.

between the factors and consequences (Ishikawa diagram) and the method of conceptual modeling.

RESULTS:

Cause-and-effect diagram ("fishbone"), that graphically displays the possible causes of quality problems, was created by a Japanese scientist Kaoru Ishikawa in the 1960s and currently is one of the seven basic tools of measurement, evaluation, monitoring and improving the quality of production processes. In health system diagram is widely used as a tool to help to structure and analyze the causes of health problems and system errors [14].

In this work the authors used Ishikawa diagram as the base and modified it for a comprehensive study of the problem of excessive costs of resources due to the poor care quality with a logical description of the factors affecting the object of study (costs associated with the poor quality of care) and the components of these costs (Figure 1).

In the Figure 1 factors of additional costs examined at the micro and macro levels, in the health system (located under the central axis) and outside the health system (located above the central axis).

Micro-level factors, which are formed in the health system, can be considered on an example of health facility, in which the due to insufficient quality of care are primarily connected with providing of inadequate medical interventions (MI): excessive MI, insufficient MI, defective MI, and additional MI for correction approved medical errors or negligence.

Wasted resources on inadequate medical services in health facility can be divided according to classical types of resources according to their elemental composition: material resources (depreciation of equipment and expendable materials), information resources (availability of sufficient information about patient, about the latest methods of diagnostic and treatment, most advanced clinical protocols and standards, etc.), labor resources (work of management and performance staff), financial (monetary) resources.

Inadequate medical interventions take place at all stages of patient`s medical care on the individual case of disease and can be both diagnostic errors (specialist consultations, laboratory, instrumental research and as a result - an incorrect diagnosis) and treatment errors (incorrect appointments and / or defective implementations of appointments).

Inadequate MI are sufficiently studied and intuitive clear factor of the costs associated with poor quality of care. For example V Dyachenko (V Dyachenko, 2007), summarizing the evaluation of the various expert groups, proves that in the Russian Federation from 15 to 40 % of production capacity of health facilities are occupied in treatment of patients who have been carried out medical services without the required level of quality or not in full. The results of Ukrainian studies of V. V. Gorachuk, conducted in 2011 [15], showed that 13.4-34.4 % of the hospital treatment costs of children with acute pneumonia (374 investigated cases) were caused by the poor quality of health care provision. International research also confirm that poor quality is expensive [2, 8, 16].

The consequences of poor quality of medical care are less studied and rarely mentioned as an additional cost burden for health facilities. However, they are also very important to consider when the cost of poor quality are assessing. This consequences include: resources to the patients' complaints, who are dissatisfied with health services or their results; resources expended on the part of health facility in lawsuits on this occasion; and if the court's decision not in favor of health facility - financial reimbursement for patients for poor-quality medical care and for caused them non-pecuniary damage; additional costs due to the increase in the average length of stay (by increasing the duration of the disease, as a result of complications, of relapses of diseases, which are caused by inadequate medical interventions); as well as loss profits due to the loss of potential customers and reduce the bandwidth of health facility (because each poor quality, and therefore more complicated case of medical care, as seen from above, requires additional capacity utilization of health facility).

Outside the health system at the micro level, each patient and his family also face the burden of costs due to poor quality of care. They lose their personal resources and time for inadequate medical interventions; have to bear the additional costs (for further treatment) and face lost profits because of illness (for example, inability to work and receive a salary due to temporary or permanent disability). Family members of the patient lose resources and benefit as a result of need to care about patient (temporary disability of relatives) or as a result of patient`s death.

At the macro level, outside the health system society bears the cost: on welfare payments due to temporary disability, to help disabled people (on assistance in connection with a disability, on pensions, on rehabilitation means, on social benefits, on education for requalification), to help people who were on financial support from a deceased relative. In addition, society as a whole, has lost profits due to lost gross domestic product as a result of the increase of temporary disability of workers and of the reduce the total number of working population (due to disability and premature death).

Shortcomings of health system (in the diagram - at the macro level), according to the advanced international studies, are the main determinants of the poor quality of care which lead to related costs [2, 8, 13]. They can be divided into 2 parts: management problems (of organization and administration in health system) and financing problems (because this component is very important in terms of cost).

Among the financing problems the fragmentation of financial flows, irrational planning of budgetary and extra-budgetary resources, inadequate identification of financing methods and insufficient funding of health industry should be distinguished.

Management problems can generally be represented by such components as: insufficient access to health care, inadequate continuity of various health facilities and professionals in charge of patients and in the conduct of patients, the fragmentation of information about patients, fragmented standards of medical interventions, poor communication of medical services and structures, low structural efficiency of health system as a whole, insufficient motivation of health personnel to improve the quality of their work, inefficiency of the system for assessing and monitoring health outcomes.

As a result of analysis of the reasons, there was revealed that, the most common determinant of the macro-level is the fragmentation of medical services and structures of health system. Fragmentation is a serious challenge for health management systems, whereby, WHO (WHO Europe, 2008, 2011, 2014) [17] and leading international experts (F Blantes 2009; A Contandriopoulus et al., 2007; A Enthoven, 2009, M Hofmarcher 2007; E Suter, 2009 and others) [18, 19] considers it to overcome through the formation of integrated systems as an independent direction of state policy of any country.

DISCUSSION:

Health reformers are usually focused on separate problems (such as shortcomings of some medical interventions, failure to comply with standards of care, insufficiency of information technologies), separate pathologies, health conditions or stages of health care (primary health care, hospital services, etc.) and many others. But none of the proposed solutions of these specific problems may not be comprehensive and exhaustive for health system strengthening because of their fragmentation.

Results of our study showed, that only rational solution to improve health system may be one that brings together all participants and stakeholders in the process of medical care around a common goal - improving the quality of care through an integrated approach to improve the efficiency of functioning of health system. On the other hand, more efficient management of system and its individual services is an important factor to improve quality and accessibility of health care.

Identified factors and components of costs resulting from defects of quality of care, as a result of the study,

require further research, evaluation and development of a system of continuous quality improvement based on the integration of health care, which will help reduce or eliminate indicated in the study costs.

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