INTRODUCTION

Performance of health systems has been a major concern of policy makers for many years. Many countries have recently introduced reforms in the health sector with the explicit aim of improving performance [1,2]. There exists an extensive literature on health sector reform, and recent debates have emerged on how best to measure performance so that the impact of reforms can be assessed [3].

Poor performance of health care providers plagues the delivery of health services in many low- and middle-income countries [4] The underlying reasons are complex and incompletely understood, but poor performance is not simply due to inadequate training or deficiencies in provider knowledge. Instead, a growing body of evidence documents substantial deficits in provider effort. One striking example is the high absenteeism rates (as high as 75%) among health professionals documented in a number of studies [5] Patients or community members in turn may respond to defects in provider behavior ; in some cases, these responses may further undermine provider action.

Provider effort may not focus directly on improving health – for example, health professionals may provide unnecessary services that are not medically appropriate[6]. Moreover, even when providers exert appropriate effort during a clinical encounter, they may do little to promote the health of their patients outside of the encounter. [7]

Over the past decade the issues of patient safety, quality improvement, outcome measures, practice measurement, efficiency, effectiveness, and the integrity and validity of physician performance have been widely discussed.[8]

Definition of quality of health care:

It is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge

A wealth of knowledge and experience in enhancing the quality of health care has accumulated globally over many decades. [9]

There are two main arguments for promoting a focus on quality in health systems:

First: Even where health systems are well developed and resourced, there is clear evidence that quality remains a serious concern, [9] with expected outcomes not predictably achieved and with wide variations in standards of health-care delivery within and between health-care systems.

Second: Where health systems need to optimize resource use and expand population coverage, the process of improvement and scaling up needs to be based on sound local strategies for quality so that the best possible results are achieved from new investment.[10]

Specific aims of high quality medical care systems :[11]

1. Safe – avoiding injuries to patients from the care that is supposed to help them.
2. Effective – providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse).
3. Patient-centered – providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
4. Timely – reducing waits and sometimes harmful delays for both; those who receive and those who give care.
5. Efficient – avoiding waste, in particular waste of equipment, supplies, ideas, and energy.
6. Equitable – providing care that does not vary in quality because of personal characteristics, such as gender, ethnicity, geographic location, and socioeconomic status.

Quality of care is oriented towards meeting the needs and expectations of the patients and the community. However, decision makers usually give little attention to work settings, problems related to quality of medical care compared to the concern paid to difficulties in the domain of health economics[12]

Assessment of quality has only occasionally been integrated into the overall planning and management of a clinic or practice[13] Since the individual physician has a major role in delivery of high quality of health care so his performance is of particular importance. Thus, if the quality of the individual physician's performance is raised, the general level of medical care would improve.[14] Consequently, improving quality of care cannot be realistic without addressing the needs of the provider recognizing that service workers have their own needs as training, supplies, guidance, encouragement and self expression and realization.[15]

There are, many factors affecting the quality of medical care namely: its quantitative aspects, the standard of facilities, performance of physician as well as continuity of care.[16] In order to assess the quality of medical care one has to use structural assessment, process assessment- in the center of which is assessment of performance- and outcome assessment.[15]

Types of measures for Quality of Care

Structural measures

Researches has examined whether structural measures of quality predict what actually is done to patients. For instance, does a physician who is board certified produce better processes or outcomes than one who is not board certified**.** In general, relationships between structural and process variables are weak, inconsistent, and paradoxical.[17] Thus it is unwise to develop public information on quality of care that is based solely on structural

measures The USA spends more money than probably any country in the world on hospital accreditation, yet study after study has demonstrated huge variations in quality of hospital care. There is no evidence to suggest that, in the absence of accreditation, the variation in hospital quality in the USA would be any greater. [18]

Process measures

Assess whether a patient received what is known to be good care. They can refer to anything that is done as part of the encounter between a physician or another health care professional and a patient, including interpersonal processes, such as providing information and emotional support, as well as involving patients in decisions in a way that is consistent with their preferences. [19]

Process measures are found to be reliable indicators to outcomes. Process assessments produce a sound judgment of the quality of care. For the vast majority of medical conditions, we will need to use process measures to assess quality. Thus the first priority of a government in developing a quality tool kit should be to develop measures of the process of care. There are exceptions to this rule: when process and outcomes occur close together in time and when the process dominates the predictors of outcome. [20]There are common operations, such as carotid endarterectomy and coronary artery bypass surgery, whose quality may be assessed by outcomes. There are common hospitalizations that have high death rates, such as pneumonia, heart attack, heart failure, and stroke, where risk-adjusted models that compare hospitals by their death rates following hospitalization may be the best method to assess the quality of care patients receive. But, in general, process measures should be used to assess quality[21]

Outcomes measures

Refer to a patient's health status or change in health status (e.g., an improvement in symptoms or mobility) resulting from the medical care received.[19]

Using outcomes to measure quality is further complicated because many outcomes of interest occur years later, and thus are rendered useless as measures of quality for accountability. For instance, to compare quality of care for patients who have breast cancer, one might want to use an outcome such as the 5-year survival rate. By the time that information was available, it would reflect care that was actually given 7 or 8 years previously. During that period, the institutions that provided that care could have changed markedly. Also use outcomes as a marker of quality, we need to adjust for differences in case mix and other external factors to ensure fair comparisons among institutions or physicians.[22]

Patient Experience

Assesses provider performance based on patients' accounts of the care they received and their experience. Patient experience is an essential measure of care quality, Quality of care depends not just on what services are provided, but on *how* they are provided.[23]

Sources of data for measuring quality

In part, the type of measure one uses to assess quality (i.e. structural, process, outcome) dictates the source from which data about quality should be obtained. There are

multiple sources of such data, ranging from routinely collected data that are part of delivering health care, such as claims forms in a fee-for-service system, to data from patient surveys, medical records, or data obtained from direct observation of patients.[24]

If the type of data to be used in assessing quality is carefully chosen, valid information about quality of care can be obtained.

Efforts to assess the quality of medical care are becoming more intensive.[25] Accurate assessment of physician performance is essential as one of the steps for systematic evaluation that subsequently fulfill the needs of both consumers and providers.[26] There is no clear definition of a good doctor, therefore assessment of physician performance is particularly a complex process.[27]

Measurement of performance

It is possible to measure performance in relation to each standard, For example, an antenatal visit may be considered a critical feature as it may affect both maternal and infant survival . To assess the level of performance, a representative sample of activities is selected and data related to their implementation collected. The information to be collected has to be comprehensive and cover the following scope: Client problem-solving aspects ,with its components as history taking, examination, investigation diagnosis and case management procedures or referral.[28]

Features of tools for assessment of performance:

Is It Actionable?[29]

All quality measures should be actionable, meaning that the provider can use the results to make changes that improve care. A measurement should be selected because there is evidence that it is needed. For example, an area where quality is consistently low or highly variable across providers would be an important quality measure to track. Measuring an area in which providers consistently perform well is unnecessary and will not help improve care.

Is It Reliable and Valid?

The measurements that are selected should be reliable and valid, which will ensure that they can be used to compare different providers and that they truly measure what they are intended to measure. This is particularly important within a plan to offer performance payments for providers. It is important to select measurements that have been tested and for which there is evidence of their appropriateness.

Job satisfaction:

Quality care is ensured by job satisfaction, as dissatisfied health care providers are likely to give poor quality and less efficient care. According to Tzeng (2002) there is evidence of a positive correlation between professional satisfaction and patient satisfaction.[30]

Definition of job satisfaction:

Pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" [31]. The appraisal involves various elements related to the job such as salary, working conditions, colleagues and boss, career prospects and, of course, the intrinsic aspects of the job itself. Job satisfaction has many dimensions. Commonly noted facets are satisfaction with the work itself, wages, and recognition, rapport with supervisors and coworkers, and chance for advancement. Each dimension contributes to an individual's overall feeling of satisfaction with the job itself, but different people define the "job" differently. [32]

There are three important dimensions to job- satisfaction:

1) Job- satisfaction refers to one's feeling towards one's job. It can only be inferred but not seen.

2) Job satisfaction is often determined by how well work outcomes for provider meet or exceed expectations. Satisfaction in one's job results in increased work commitment for provider in the fulfillment of formal requirements. There is greater willingness to invest personal energy and time in job performance.

3) The terms job-satisfaction and job attitudes are typically used interchangeably. Both refer to effective orientations on the part of individuals towards their work roles, which they are presently occupying. Though the terms job-satisfaction and attitudes are used interchangeably, there are differences between the two. Attitude refers to predisposition to respond. Job-satisfaction, on the other hand, relates directly to performance factors. Attitudes reflect one's feelings towards individuals, organizations, and objects. But satisfaction refers to one's attitude to a job specifications. Job satisfaction is, therefore, a specific subset of attitudes.[33]

Importance of job satisfaction:

Job satisfaction is important in predicting systems stability, reduced turnover and worker motivation. If motivation is defined as the willingness to exert and maintain effort towards attaining organizational goals, then well-functioning systems should seek to boost factors such as morale and satisfaction, which predict motivation. A survey of ministries of health in 29 countries showed that low motivation was seen as the second most important health workforce problem after staff shortage.[34]

Investigated by several disciplines such as psychology, sociology, economics and management sciences, job satisfaction is a frequently studied subject in work and organizational literature. This is mainly due to the fact that many experts believe that job satisfaction trends can affect labor market behavior and influence work productivity, work effort, employee absenteeism and staff turnover. Moreover, job satisfaction is considered a strong predictor of overall individual well-being[35], as well as a good predictor of intentions or decisions of employees to leave a job.[36]

Rose (2003) analyzed a number of possible influences on job satisfaction including individual well-being, working hours, work orientation, financial variables, the employment contract, and market and job mobility. His findings fail to provide strong

support for explanations of job satisfaction primarily in terms of socio-technical rewards of the job, although low influence in the workplace did emerge as a significant factor.[37]

Physician satisfaction is not a static parameter, but a dynamic entity mediated by both physician-related and job-related factors, the majority of which are modifiable. Thus hospitalists and health program leaders can be optimistic that uncovering the presence of dissatisfaction through surveys, and addressing the issues triggering it, should enhance physician satisfaction. With improved awareness of mitigating factors of dissatisfaction and commitments to improvement, there is reason for hope. It is unreasonable to believe that dissatisfaction is intrinsic to any medical profession. It is reasonable to believe that physician satisfaction, with all of its desirable implications, can be attained through continual research and prioritization.[38]

The most important tools to manage job satisfaction include materials, salary, training, the working environment, supportive supervision and recognition.[34]Job satisfaction is achieved when an employee becomes one with the organization, performs to the best of their ability and shows commitment.[39]

Antenatal Care (ANC)

Definition:

Antenatal care is a preventive obstetric health care program aimed at optimizing maternal fetal outcome through regular monitoring of pregnancy[40]

There is universal agreement that prenatal care is both beneficial and cost effective. Care designed to help bring healthy babies into the world is regarded as the highest of aspirations. Good care during pregnancy is important for the health of the mother and the development of the unborn baby. Pregnancy is a crucial time to promote healthy behaviors and parenting skills. Good antenatal care (ANC) links the woman and her family with the formal health system, increases the chance of using a skilled attendant at birth and contributes to good health through the life cycle. Inadequate care during this time breaks a critical link in the continuum of care, and effects both women and babies.[41]

Effects of Inadequate care on mothers and babies:

It has been estimated that 25 percent of maternal deaths occur during pregnancy, with variability between countries. [42] Between a third and a half of maternal deaths are due to causes such as hypertension (pre-eclampsia and eclampsia) and ante partum hemorrhage, which are directly related to inadequate care during pregnancy. [43]

It is estimated that babies who die before the onset of labor, or ante partum stillbirths, account for two-thirds of all stillbirths in countries where the mortality rate is greater than 22 per 1,000 births. [44,45] Ante partum stillbirths have a number of causes, including maternal infections – notably syphilis – and pregnancy complications,[46] Newborns are affected by problems during pregnancy including preterm birth and restricted fetal growth, as well as other factors affecting the baby's development such as congenital infections and fetal alcohol syndrome.

Preventing problems for mothers and babies depends on an operational continuum of care with accessible, high quality care before and during pregnancy, childbirth, and the

postnatal period. It also depends on the support available to help pregnant women reach services, particularly when complications occur. [47] An important element in this continuum of care is effective ANC. The goal of the ANC package is to prepare for birth and parenthood as well as prevent, detect, alleviate, or manage the three types of health problems during pregnancy that affect mothers and babies:

• Complications of pregnancy itself

• Pre-existing conditions that worsen during pregnancy

• Effects of unhealthy lifestyles[48]

ANC indirectly saves the lives of mothers and babies by promoting and establishing good health before childbirth and the early postnatal period – the time periods of highest risk, promotes healthy home practices, influences care seeking behaviors, and links women with pregnancy complications to a referral system. Women are more likely to give birth with a skilled attendant if they have had at least one ANC visit. [49]

ANC improves the survival and health of babies directly by reducing stillbirths and neonatal deaths and indirectly by providing an entry point for health contacts with the woman at a key point in the continuum of care. [48]

Antenatal Care in Egypt:

Efforts are being made to strengthen those aspects of antenatal care most likely to have an effect on the outcome of pregnancy. It is important for the pregnant woman to be cared for by a physician who can correctly take a full history and conduct a complete physical examination, then diagnose any problems and manage the pregnancy. Woman, families, traditional birth attendants(dayas) need to have enough information to recognize the danger signs of pregnancy and the puerperium so they can seek care promptly in an appropriate facility.[40]

The Egypt National Maternal Mortality Study 2001 reported that poor quality antenatal care was found to contribute to 15% of maternal deaths . It played a more important role in death associated with hypertensive diseases (34%). In cardiac disease lack of antenatal care and poor quality antenatal were considered to be avoidable factors in 19% and 28% of cases, respectively.[40]

Egypt has achieved a significant improvement in the past 20 years in matters related to maternal health. The following are figures depicting state of ANC in Egypt derived from different sources.[50] Antenatal care was provided commonly by physicians and rarely by dayas, in the findings of Stanton and Langsten and the 2005 EDHS (69% by physicians vs 23% by dayas)[51,52]. The overall, coverage of antenatal care in Egypt was good; 80% of mothers had ≥1 visit, and 30% had complete antenatal care visits.[51,53,54] The Demographic and health Survey (DHS 2008) reported that 66 % of pregnant women have received the minimum number of antenatal care visits (four).[50]

In general terms, trends in maternal health indicators have improved significantly since 1995. Regular antenatal care has raised from 28 % in 1995 to 66 % in 2008. Equally, medically-assisted delivery has moved from 46% to 79 % in 2008.[50]

Overall, the data suggest that any improvements in quality of antenatal care require training of physicians.

Aims of antenatal care [40,55]

1- Preparation of the couple for child birth and rearing
2- Education of the mother about: [43]
   a- Physiology of pregnancy
   b- Nutrition
   c- Alarming signs and symptoms
   d- Infant care
   e- Breast feeding
   f- Child spacing
3- Screening for and prevention of maternal problems
4- Screening for and prevention of fetal problems
5- Management of maternal symptomatic problems
6- Management of fetal symptomatic problems

Routine Antenatal Care

Schedule of Antenatal Care Visits.[40]

Antenatal visits should take place by the following scheme:

To 28th weeks of gestation: every 4 weeks, then bimonthly visit from 28th till36th week, then once weekly thereafter.

In a normal pregnancy, with no complications, a minimum of three antenatal visits is acceptable in the first 20 weeks

The Initial Visit[56]

The first antenatal visit should take place as early as possible during the first trimester. The first antenatal clinic visit should include both booking procedures (registration) and a physical examination. The information should be recorded on the Antenatal Care Card.

Registration on the first visit of ante-natal care :

Complete a " pregnancy follow up form" to be included in the family folder, complete the ANC card if available, check if the women has " women health card" and complete the relevant information .The women health card cover adolescent girl health, pre marital examination, pregnancy care and care of menopause women and finally ask the mother to bring her card, if she has one if not issue a new card then register the mother in a new pregnant registry.[40]

Guideline Objective(s)

The objectives stated for issuing the Egyptian guidelines for maternity care (2000) are as follows:

GOALS:

To have healthy pregnancy, clean and safe delivery and to give birth to a full term healthy baby

The aim:

- To achieve early and high coverage of pregnant mothers by ANC.
- To provide comprehensive package of health services to promote the health of mother, prevent health hazards, and for early detection of complications and appropriate management.
- To prepare the mother for safe delivery.
- To prepare the mother for providing adequate care for the coming child.
- To prepare the mother to practicing child spacing.

Components of ANC:

Ante natal care includes the following:

- Registration and record keeping
- Periodic examination, including laboratory tests
- Risk detection and management
- Immunization
- Referral as needed
- Emotional and psychological support
- Health education
- Nutrition care
- Home visiting
- Social care.[40]