

TECHNICAL REPORT NO. UKR-14

**An Assessment of Quality Assurance Options
including Licensing and Accreditation
and Medical Economic Standards**

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and Medical Economic Standards**

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INTRODUCTION

The practice of medicine typically goes through two very different types of reform or change. The first of these is caused by technological innovation and evolution. Advances in knowledge, drug therapy, and technology, produce changes in practice that reduce morbidity and mortality and increase efficiency. Although practitioners are sometimes resistant to these changes, most of them are eagerly accepted.

The second type of reform that occurs is caused by overall change in the political, and more importantly, the economic situation of the country. Major structural changes in the practice of medicine are brought about by increases or decreases in the wealth of the country, and occasionally, such as in the case of Ukraine and the other newly independent countries of the Former Soviet Union, by political changes extending into the fabric of the society.

Although the economic factors forcing change are painfully evident to all, some of the results of political change are having effects in areas yet to be recognized. As an example, most physicians are aware of the changes in the financing of medical care that are taking place, but few comprehend the changes in behavior and even “culture” that the different incentives of the new system will bring.

As economic difficulties force reductions in the government’s ability to provide health care services, structural changes are attempted to adapt to the new reality. Insurance programs are implemented, the opening of private medical practices is allowed or even encouraged, and serious consideration is given to the size and scope of the state’s medical infrastructure.

Because these new structures are alien to the old, more “comfortable” system, change is resisted. Not all of this resistance is overt however. While a willingness to experiment with new structures may be courageously exhibited, subtle, and perhaps unconscious resistance is expressed by trying to make these new structures fit the old molds.

As institutions and individual physicians are given more autonomy through the new structures, discomfort over this independence becomes pronounced. Policy makers, while recognizing the necessity of autonomy and actively encouraging it, are afraid that control will be lost, and that fraud and abuse will become rampant. They therefore turn to monitoring systems that are as airtight as possible, and will allow no misbehavior or “bad quality” of care.

This paper is an attempt to examine the issue of quality of care, and to compare the different methods available for its promotion in Ukraine. Although the focus is largely on the issue of licensing and accreditation, other methods of quality assurance will be examined in order to have as clear an understanding of the options available to policy makers as possible.

HEALTH REFORM OBJECTIVES

Goals of Health Care Reform

Although all the ramifications of health care reform are not yet known, it is evident that these changes are complex individually as well as when considered in total. Even though economic crisis and political change instigated the restructuring of the health care system, the overall effort is seen as “reform” as the goal is to improve the health system, not just survive challenging times.

The broadest goal of the health care system is to provide acceptable quality health care to all citizens. Basic to the ability of the country to provide this care is the ability to pay for it. Although the country is rich in terms of health care facilities and physicians, it is significantly impaired in its ability to pay the salaries of these workers and provide them the tools and supplies needed to do their jobs. Without resources, the health system cannot function. Financing therefore, must be the highest reform priority. The institution of insurance programs, of employment taxes, and of fees-for-service are all attempts to provide a sustainable, and it is hoped, increased source of funds. The objective of closing excess facilities will have a similar effect by concentrating those resources that are available.

One must ask however, why finance something that does not meet the needs of the community? The value of health care provided must equal or exceed the resources that are committed to it. Thus the second goal of health care reform is at minimum the maintenance, and if possible, the improvement of quality of care.

All health care reforms are based on these two central goals; cost and quality are to be considered in any change to the health care structure. Efforts to increase available finances or use funds more efficiently must assure that quality improves or at least does not decrease. At the same time, efforts to improve quality must consider the impact of changes in terms of what implementation will cost. Proposing a change in medical practice that improves quality but is impossible given existing resources is obviously to be avoided, but equally, a change that costs more resources than it contributes to overall patient welfare must also be avoided.

The interrelated nature of these two goals makes it critical to keep them both in focus. Balance is not always easy however. Physicians in the care of their individual patients will weigh quality of care more heavily than the cost of that care. Insurance companies on the other hand, will tend to focus more on the cost of services. A balance of these two goals is essential, and the approaches chosen must assure their achievement.

Some systems, such as *Medical Economic Standards* (MES) as developed in Western Siberia recognize the importance of both finance and quality, and make an attempt to control both. Although such an integrated system is attractive on the surface, it may in fact be more efficient to have separate systems for controlling financing and for controlling quality. It is the author's

contention that separate systems, if they recognize the importance of both goals will be more efficient and more effective than a single amalgamated approach. With this separation in mind, this paper will concentrate on the issue of quality of care while being mindful of financial considerations.

QUALITY OF CARE

Quality of medical care must first be defined if we are to have any success in deciding how to control it. Health economists and management experts generally recognize two distinct types of quality: technical quality as in the effectiveness of diagnosis and treatment; and, quality as perceived by the patient. These two ideas of quality are not always related. We are all familiar with physicians who have poor “bed-side manner” yet are highly technically skilled. A patient who is kept waiting long periods to see this physician only to be treated in an inconsiderate manner will not think the quality of care very high, even if a cure is achieved. We are also aware of patients who die feeling the utmost faith in their physician despite gross hidden medical errors.

Technical, as well as patient perceptions of quality should be of concern to health care workers. While the need for technical quality is obvious, it is only when an element of choice is present in the health care system that the importance of the patients’ view of quality becomes evident. Patients, if given a choice will select the physician where they perceive they will receive the best care. It is important therefore in a competitive health care system for physicians to pay attention to the patient’s perception of quality.

Accreditation is a valuable approach to both aspects of quality. Accreditation is a public “seal of approval” of the technical practices of a health care provider that is based on rational criteria. Being a public recognition, it increases patients’ ability to judge the level of technical quality of a provider. In requiring compliance with a well developed set of quality standards, the process of accreditation not only judges technical performance, but provides facilities with important information on practices that improve delivered care.

If accreditation and all other methods of quality assurance are based on a rational assessment of technical quality, what is technical quality? Although there are many definitions in the literature, I developed the following: *Quality Care is the achievement of the greatest possible reduction in morbidity and mortality given available resources.* This places the focus on achieving medicine’s highest aim, reducing pain and death, while recognizing limitations imposed by the system in which the care giver works. With this simple definition in mind, let us examine the components of technical quality.

TECHNICAL QUALITY

Once technical quality is defined, one can begin to look at its components. In other words, what things are necessary to “reduce morbidity and mortality”? The “resources available” are the ingredients that are put together to produce the outcome of patient care.

One of the primary components is the technical base of the health care provider. By this we mean the buildings, equipment, and supplies that are used in patient care. In looking at buildings, we are concerned with such factors as structural safety, climate control, accessibility, functional layout, sanitation, and the operation of major equipment such as telephones and elevators.

Biomedical equipment used in diagnosis and treatment must be properly calibrated, operate safely, and be maintained on a regular basis.

Pharmaceuticals and consumable supplies must be of pure chemical consistency, maintained in a secure location, not be used after expiration of effectiveness, and properly supplied.

Of even greater importance than the technical base is the skill and ability of medical personnel. The training and experience of physicians is a major determinant of their skill in treating patients. The schooling of physicians is important, but with physicians who have been out of school for a long period, the amount of continuing medical education received may be more important.

Nurses, technicians, and other paramedical personnel are important contributors to care quality. Their level of education, experience, and continuing training also effect skill. Support and custodial staff are responsible for the cleanliness and safety of the care environment. Although little attention is usually paid to these workers, increasing their understanding of the performance of their jobs through training can significantly improve performance.

In a hospital or polyclinic, management skills of the top staff and Physician-in-Chief are highly influential on the overall operation of the facility. In countries where hospital managers are post-graduate trained in management science, educational levels can be directly linked to ability. In countries where physicians are promoted to management positions with out formal training, skill levels and performance are more the result of innate ability and individual experience.

All of the things and people that are used in patient care are referred to as the *structure* of the health facility. The actions of the medical personnel through the use of the technical base result in the health care product. We call this action the *process* of health care. Where these actions meet the patient is the direct patient care process. For example, the interactions of the physician with the patient are direct process. The operations of the medical laboratory may be direct, as when a blood sample is drawn and tested, or indirect when those result are reported to the

physician and recorded in the medical record. The indirect processes can be thought of as *systems*.

The functioning of these systems is extremely important in the overall quality of patient care. When looking at patient care from a system perspective, it is clear that there are a number of processes happening in parallel. There are the direct processes such as the physician/patient interaction, but there are a large number of indirect actions that must occur as well.

Looking at radiology as an example, certain structures must be in place for a patient to be x-rayed. A machine of a certain capacity is required along with film, a radiologist, a technician to develop the film, etc. We can specify the power of the machine, and the experience of the radiologist through *structural standards*, but that only gets us part way to determining the quality of the x-ray of the patient. How these structures are used is as important as the fact of their existence.

Process standards are used to examine the operations of the radiology department and how the structures are employed. Are there written operating procedures that are followed by the staff? Are the results of x-rays reported correctly in patient's medical records? Is there some mechanism through which verification is obtained that ordered procedures are in fact done on time? Assuring that these operations are carried out correctly will greatly add to the efficiency of overall patient care.

Finally, in looking at technical quality, one can examine structure and process in great detail, but still not be completely sure of high quality care. The results of care are what are important in the final analysis. A perfectly performed medical procedure has little value if the patient dies, so the *outcomes* of patient care must be analyzed. Not only is the ultimate outcome of cure/no cure examined, but as in the case of process standards, we can look at outcomes of the different systems.

Are x-rays of adequate clarity, exposure, and positioning as to be diagnostically readable? How many films are wasted because of improper technique? How many results are lost or mislabeled? How long does it take to report urgent x-ray results? The answers to these questions take us even further towards a complete picture of the technical quality of patient care. The question then becomes: given the various factors that go into the production of patient care, where can we best concentrate our efforts in assuring the quality of care?

APPROACHES TO QUALITY ASSURANCE

In examining the accreditation processes being experimented with in the Ukraine, most of the approaches currently under development by Oblast departments have evolved from a uniquely soviet conceptual framework. Key aspects of this post-Soviet model are strict monitoring and control of production, quantification of actions, and a focus on the structure and process of

medical acts. These approaches may be grouped into two basic classifications: either *therapeutic care process standards*, or *therapeutic structural standards*.

Therapeutic Care Process Standards

In the late 1970's, the Soviet Ministry of Health in Moscow developed a system of specifying and measuring the therapeutic process for all diseases. In addition, these protocols specified the cost of each course of care. Known as *Medical Economic Standards (MES)*¹, this system formed the basis of some of the earliest attempts at health system reform. In the early 1990's, with the beginning of more radical health system reforms and the breakup of the Soviet Union, these MES were further developed. By far, the leaders in the development and implementation of MES were Oblasts in Western Siberia, notably Altay and Kemerovo.

In brief, MES specify the ICD-9 code, diagnosis, required diagnostic tests, required treatments, expected outcomes, and a factor for complexity of each disease (see Annex A: *Quality Assurance in the Kemerovo Regional Health Care System*). There is also a *price* for each MES theoretically based on the cost of performing the protocol. Quality of care is controlled through a retrospective review of each patient's medical record at the completion of therapy. Under the Siberian approach, each medical record is reviewed with adherence results recorded by the director of the hospital or polyclinic specialty department. Thirty percent of all records are then rechecked by the Deputy Chief Doctor of the facility. A further recheck of ten percent of records is performed by the medical insurance organization. Payment by the insurance organization is based on complete adherence to the treatment protocol. Quality of care is enforced by a subtraction of fee for each deviation from the protocol. Licensing and accreditation are based on a facility's aggregate adherence to the MES protocols.

Therapeutic Structural Standards

An alternative to basing accreditation on aggregate institutional adherence to MES is to specify and measure the *structure* necessary to treat each disease. Again, a standard would be developed for each ICD-9 Code, but in this case, rather than specifying the treatment protocol to be followed, the structure or *inputs* necessary to treat the disease would be specified and quantified. In other words, the equipment, drugs, and medical staff deemed necessary to treat the disease would be listed, and facilities would be accredited according to their adherence to the structures required for diseases the facility is authorized to treat.

These therapeutic structural standards are similar to inspection based on SNIP sanitary and epidemiological codes. These long standing Soviet regulations specify the physical characteristics of the facility (usually on a departmental level), the required equipment, and details on operational parameters of the required equipment.

¹ Medical Economic Standards are sometimes referred to as *Clinical Statistical Groups*.

Care Delivery System Structure, Process, and Outcome Standards

In brief, this "western" approach to accreditation and Quality Assurance looks at the process of health care delivery as a whole. This is accomplished by observing, measuring, and judging the operation of the various systems of the hospital and assessing how they contribute to the care of the patient. Although the approach does examine the structure of the facility, major emphasis is placed on the actions of the individual actors in managing the facility, caring for the patients, and delivering the services. This is in marked contrast to the post-Soviet approach of examining only the actions of the therapeutic process.

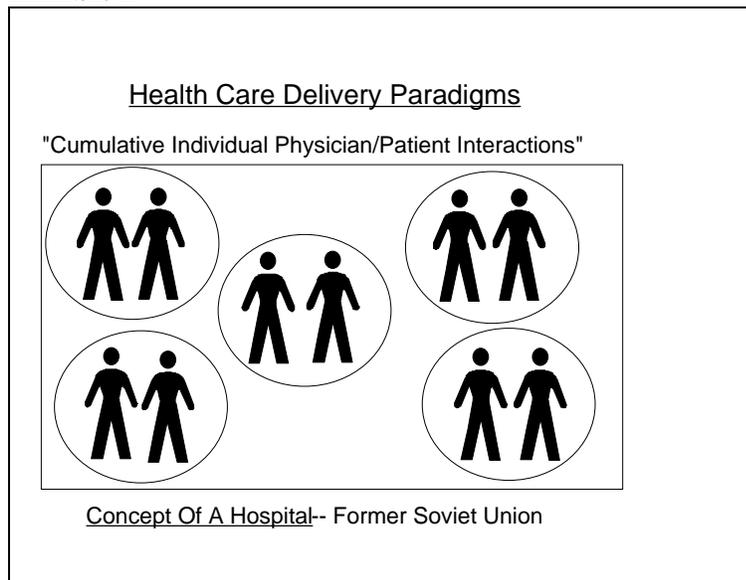
In order to further understand the fundamental differences between post-Soviet and western approaches, it is necessary to look at the underlying conceptual models. Systems created for the purpose of measuring and controlling the quality of health care services are of necessity based on the concept of health care delivery that is dominant in the thinking of the designers. As designers and decision makers in the former Soviet Union's health care systems are predominantly physicians, it is not surprising that the primary paradigm of health care services focuses almost exclusively on the physician/patient interaction. This is not to say that other factors affecting the delivery of care are not recognized. If questioned, physicians will readily agree on the importance of various structural and process factors that influence the delivery of care. What is important in the design of post-Soviet quality assurance systems is the relegation of these other factors into the background.

Empirical observation of Medical Economic Standards and other traditional or evolving post-Soviet systems used to monitor and measure health care delivery shows that the physician/patient interaction is the primary or often sole focus. Using MES as an example, the entire focus is on

the physician's performance as diagnostician, coordinator of peripheral services, care giver, and technician. The operational performance of the laboratory in providing diagnostic tests is presupposed in the delivery of care, but it is never explicitly observed or measured.

This exclusive focus on the physician/patient interaction may be assumed to result from both the technical orientation of the designers, and to a lack of training or exposure to management science. A health care system dominated by

Exhibit 1



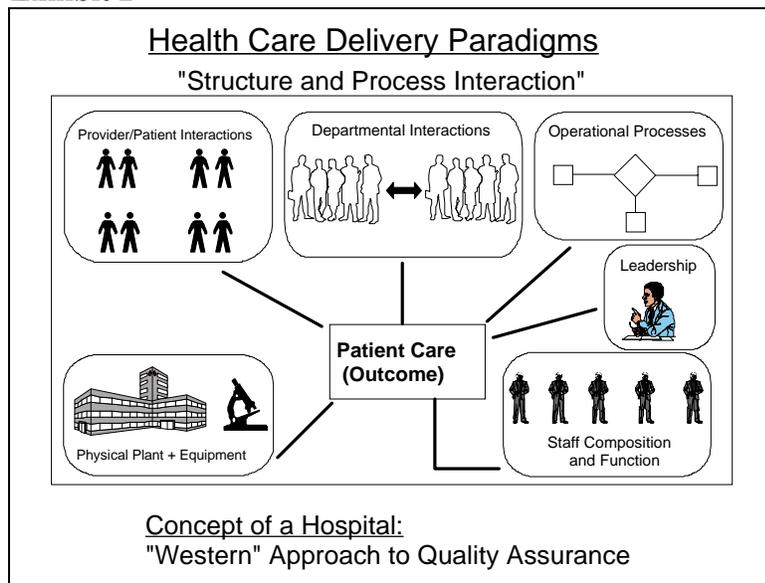
physicians places its highest priority on the acts of the dominant players. The absence of any significant input from other disciplines assures the dominance of this monopolar conceptual model.

When moving from an observation and measurement of the care received by individual patients to that provided by the facility as a whole, this same focus on the physician/patient interaction remains dominant. Accreditation systems developed in Kemerovo and Barnaul in Western Siberia for example, use collective performance as measured by MES as the primary factor in evaluating the performance of a hospital or polyclinic. In other words, a health facility is seen in this model as a agglomeration of individual physician/patient interactions (see Exhibit 1). Rather than looking at a hospital as a complex interaction of multiple systems, the physician/patient interaction is seen as so basic that it considers the hospital's building, staff, equipment and supplies as only a backdrop under which these seminal events take place. An understanding of the supremacy of the physician/patient interaction in the conceptual framework of post-Soviet decision makers is key to understanding the fundamental difference in approaches to QA from those in the west. Contrary to the post-Soviet paradigm, western conceptualization of the health care delivery process focuses on the interaction of numerous systems that combine to produce "patient care" as an outcome (see Exhibit 2).

In this "western" paradigm, a hospital is seen as a large, complex organization where many individual systems not only perform specific functions by themselves, but perform functions

through their interaction with other systems. For example, an operating theater is a system that performs a function and interacts with other systems. The function of the theater is to provide a clean, equipped environment where surgery is performed. There are many other systems that must interact with the theater to accomplish this: A purchasing or supply department must provide the appropriate supplies when they are needed. Physicians from the surgical department must be present to perform the actual surgery. The laboratory must perform blood and tissue tests on patients undergoing surgery. The

Exhibit 2



patient ward must prepare the patients prior to surgery, and be ready to take care of them afterwards.

All of these different systems perform distinct functions, but at the same time interact with each other to produce the larger outcomes of patient care. Approaches to QA as practiced in the west try to monitor the effects of these diverse systems both individually and in combination on the care of patients.

Another key distinction between the two approaches is the difference in focus points. The western approach assumes that the different systems come together at the point of patient treatment. However rather than examining these systems solely at the point of impact, observations and measurements are made much further upstream.

A fundamental belief of the western system is that in order for the effect on patient care to be positive, the system in question must be functioning properly. As an example, the operations, policies, personnel and equipment of the laboratory becomes the focus of study. It is assumed that a well functioning laboratory will provide accurate and timely diagnostic tests. Accreditation uses this approach of examining the structures and processes of the various departments (or systems) of the hospital in order to achieve a measure of the quality of care rendered at a particular facility.

It should be observed that to this point, both western and post-Soviet systems use proxy measurements and observations for determining the quality of patient care. One system looks at the actions of the physician and assumes that if these are properly performed, care must be good. The other system looks at the functioning of the various systems of the facility and assumes that if they are operating well, patient care must be good.

As good as these proxies of actual quality may be, they are still proxies. Both systems at this point turn to actual outcomes. The difference again is in the place of focus, and on the methodology of observation. Although accreditation systems may require that the hospital monitor various outcome indicators, the day to day performance of this activity is usually done through a formal program of Quality Assurance implemented and managed by the individual hospital.

With MES, the outcome of each patient treated is evaluated and becomes part of the quality score. The outcome measured is the length of treatment and the recovery of the patient. The individual physician is penalized financially for less than the desired outcome just as he is penalized for deviation from the protocol of treatment contained in the MES. In this approach, the focus is on an automatic penalty for deviation from the norm. The physician is presumed to be at fault and is penalized financially without any investigation into underlying causes, and, in most cases, without any attempt to educate the physician on improved procedure.

In the western approach to outcome measurement, a number of *outcome indicators*² are monitored on a continuous basis. The events that are monitored are chosen for their frequent association with problem or substandard care. An important feature of this system of indicators is that the occurrence of a monitored event does not trigger a penalty, rather it triggers an investigation of the care delivered.

There are two basic types of events that are monitored. The first of these is a *sentinel event indicator* which measures a serious, undesirable, and often avoidable outcome of patient care. (JCAHO 1993) Examples of these are the unexpected death of a patient, or the occurrence of post anesthesia paralysis. Any occurrence of a sentinel event indicator requires a review of the individual patient's case.

The second type of event that is monitored is a *rate-based indicator* that measures the frequency of certain less desirable medical care events. These events are monitored over time to watch for undesirable trends. Examples of these include the number of obstetrical patients undergoing cesarean section, or the number of nosocomial infections. These events are not investigated individually unless an increase occurs over time. Such a trend would indicate that the hospital or a physician has some aspect of their performance that is less than desirable. Individual patient cases would then be examined to determine the causes.(JCAHO 1993)

COST EFFECTIVENESS OF APPROACHES

As was stated in the introduction of this paper, the increased levels of provider autonomy present in the newly evolving health care system as well as the overall magnitude of the changes taking place have caused considerable anxiety. Health policy makers are concerned that this apparent lessening of central control over the operations of health providers will result in widespread abuse. It is tempting under these circumstances to try to develop control mechanisms that are as fool-proof as possible and that will discover or prevent all cases of fraud and substandard patient care.

One of the first areas to examine for cost effectiveness in any new quality system is the concept of *how much control and surveillance is enough?* Being entrusted with the protection of the public's welfare, health care policy makers find the idea of any fraud or poor quality care repugnant. The desire to prevent, or detect and punish abusive or incompetent providers is justifiably strong. This desire for control however, must be balanced against the costs of maintaining complete control, *and*, whether achieving an airtight system is even possible.

As has been seen in many countries, black markets for forbidden goods will flourish no matter how strong the state and how tight the control system. People desiring to circumvent controls will always find a way to do so. A rational perspective therefor is that some cases of fraud will

² A typical 300 bed general hospital in the U.S. uses approximately 25 different indicators.

occur in any system. This perspective does not condone these actions, or even admit defeat in prevention efforts. What it does is add realism to our goal setting analyses.

The other issue, that of poor quality care, is also a case where no amount of control will prevent all occurrences. At best, control systems can find substandard performance after it has occurred. One can then take either a punitive approach or an educational approach to prevent repetition of the problem, but neither approach will guarantee improvement in all cases.

So again, the starting point of our analysis has to be the recognition that no system is air tight. Fortunately, many people require little control at all. A reasonable assumption is that *most people will do the right thing most of the time*. This is particularly true in health care, where people enter this field with a certain amount of altruistic commitment. It is useful to look back on our own personal experience to examine instances of poor quality patient care that we have observed and contemplate the causes. It is highly likely that most if not all of these instances were the result of a lack of technical knowledge, or of a logistical situation where the correct approach was not possible because of material shortages. Would tighter control over the actions of these providers have produced a better outcome? Perhaps it would, but it is more likely that increased technical knowledge and a more stable resource base would have had an even greater effect. Two immediate lessons to be taken from our analysis so far are the value of education and resource use optimization in our effort to improve quality. These must become an integral part of any quality improvement program.

Control does have its place. Even the best intentioned people will stay “more honest” if a certain amount of fear of being caught misbehaving is present. Again, balance is needed. If too much fear is present, people will spend their time watching out for the “police” rather than staying focused on the true goals of their jobs.

If we assume that most people will perform in an appropriate manner in a reasonable atmosphere of control, we need to know how much additional effort (and therefor cost) will be required to get more people to perform adequately. This is the *marginal cost* of improving performance. We can use the example of vaccinating children to get an appreciation of these marginal costs.

Experience has shown that the majority of children (say 80%) will be easy to vaccinate. We also know that the remaining 20 percent will be more difficult to reach for a variety of reasons. Some of these children will live in areas so remote as to be extremely difficult and expensive to reach. Although our goal is 100 percent vaccinated, funds are always limited, and we will always fall short of its achievement. We must then choose where to start in our vaccination campaign. If we choose to ignore our limitations and keep our sights fixed on the 100 percent goal, we might start with trying to reach the most remote children first. Unfortunately, this will use our resources quickly, and we might run out of funds when we’ve only reached 50 percent of all children. On the other hand, if we start with those children most accessible, our funds would go farther and we might succeed with 80 percent. A good rule for vaccinations as well as for quality control

mechanisms is *do the easy part first*. We can then look at the remaining 20 percent, and determine the marginal cost of vaccinating them. As funds become available, we do the next easiest group.

We can see from this example that the closer we get to 100 percent, the higher our marginal cost becomes. At some point we will either run out of money, or decide that the cost is greater than the benefit. The same is true of control mechanisms. We must decide what is actually achievable, then start our efforts in a manner that will achieve the greatest results for the least amount of money.

Assuming that the Ministry of Health has some resources available in terms of personnel and funds, a cost effectiveness³ decision must be made. The decision involves choosing a method to improve quality that will achieve an acceptable level of quality for the least amount of money. Another way of looking at this question is what is the highest level of quality we can achieve for the funds we have available.

The economic principle of *opportunity cost* tells us that every action has a cost, and that by choosing one action, we must forego another. (Wonnacott and Wonnacott, 1982) For example, if we use a physician to review medical records, she cannot perform surgery at the same time. In this case, we must decide which action is most important, and which must be put aside.

The same basic issue must be decided with efforts to improve or control quality. Each resource (personnel, equipment, funds) that is used to control quality is one less resource that can be used to deliver patient care. We must decide at what point should no further resources be used to control quality as the opportunity cost is too high, and greater benefit would be attained through the purchase of additional drugs or new equipment.

To get a more complete understanding of how these economic principles apply to quality assurance, let us examine a simple cost model for the implementation of MES.

If the Ministry of Health of Ukraine was to implement MES along the manner of the Barnaul model, all medical records of all patients would be reviewed by the hospital or polyclinic department heads. Thirty percent of these records would then be reviewed by the Deputy Chief Physician. In addition, the hospitals and polyclinics would need to employ a number of

³ *Cost Effectiveness Analysis* is the process where alternative solutions to a problem are compared to determine which uses the fewest resources (has the lowest cost) yet achieves an equal or equally desirable result. (Wonnacott and Wonnacott 1982) This analysis does not tell us however if the benefits achieved are worth the resources used. This is done through a *Cost Benefit Analysis* where the benefits of a public sector activity are assigned a monetary value and compared to the costs of doing the activity. (Truett and Truett, 1984) Economists will perform this difficult analysis through a quantitative process of assigning monetary values to the benefits. Management specialists will perform the same comparison in a quicker, less precise, qualitative manner by making a judgment on the assumed comparative value of the benefits.

economists (an average of three per hospital and two per polyclinic) to record and tabulate the results of these reviews. Exhibit 3 shows us the labor involved in implementing this system across the country and the associated costs⁴.

Exhibit 3

NUMBER OF HOSPITAL INPATIENTS PER YEAR	11,520,369
TOTAL DAYS EFFORT FOR DEPARTMENT HEADS	206,776
TOTAL COST FOR DEPARTMENT HEAD REVIEW TIME	\$477,175
TOTAL DAYS EFFORT FOR DEPUTY CHIEF DOCTOR REVIEW	68,925
TOTAL COST FOR DEPUTY CHIEF DOCTOR TIME	\$254,493
TOTAL NUMBER OF HOSPITALS/UKRAINE	3,356
HOSPITAL ADMINISTRATIVE COST	\$6,040,800
NUMBER OF POLYCLINIC VISITS/YEAR	58,888,100
TOTAL DAYS EFFORT FOR DEPARTMENT HEADS	528,483
TOTAL COST FOR DEPARTMENT HEAD REVIEW TIME	\$1,219,576
TOTAL DAYS EFFORT FOR DEPUTY CHIEF DOCTOR REVIEW	176,161
TOTAL COST FOR DEPUTY CHIEF DOCTOR TIME	\$650,441
TOTAL NUMBER OF POLYCLINICS/UKRAINE	5,428
POLYCLINIC ADMINISTRATIVE COST	\$6,513,600
TOTAL COST TO IMPLEMENT MES FOR ONE YEAR	\$15,156,085

Converted to Ukrainian currency, the total cost to implement a MES system would be 2,800,000,000,000 Coupons per year. These figures are based on the extremely low salaries paid to Ukrainian physicians⁵. Of even greater significance is the amount of labor used in this process. For physicians alone, MES medical record review would take 3,771 years of labor for each year the system is implemented. The loss of an equivalent of almost 4,000 senior physicians from patient care activities is a very large cost.

⁴ The numbers for hospitals, polyclinics, patient visits, and salaries were provided by the Ministry of Health. They are all approximations. Basic assumptions for this model are that a hospital medical record could be reviewed in seven minutes, and a polyclinic record in 3.5 minutes. The complete model is included as *Annex B*.

⁵ The average salary of Department Heads was reported to be \$600 a year. The average salary for Deputy Chief physicians was reported to be \$960. If even very conservative U.S. equivalent salaries of \$150,000 and \$175,000 are used, the total cost for physician time alone would equal \$589,225,000.

The benefits of the MES approach are consistent monitoring of all *reported* physician actions. Most incidences of noncompliance with the protocols will be captured, but if one assumes that 80 percent will be correctly done in any case, most of the cost in terms of labor and money will be used to prevent less than 20 percent deviation. It is also quite likely that if physicians know that each of their records will be analyzed according to MES, they will learn to report patient care according to the required protocols whether followed or not.

The second major drawback of MES is the near impossibility and undesirability of following rigid treatment protocols during times of economic crisis. With frequent and protracted shortages of drugs, equipment, or diagnostic reagents, physicians and facilities would be punished for actions out of their control. Forced adherence to ridged protocols may in fact lead to a rote following of those parts of the protocols that are possible with available resources, and a suppression of creative alternative solutions that would circumvent material shortages. The final result could in fact be a lowering of patient quality rather than an improvement.

What we want to accomplish is the greatest improvement in quality for the lowest possible cost. We have demonstrated that the MES approach is very labor intensive and thus has a high cost. Let's now examine the alternative approach of monitoring outcome indicators.

A system of monitoring outcome indicators would use existing medical statistics gathering procedures currently in place in all Ukrainian hospitals. Rather than simply recording patient data and forwarding it to the Ministry of Health, the Medical Statistics Department⁶ would flag individual patient cases when a sentinel event from a predetermined list occurred. For example, if post anesthesia neurological complications were on the hospital's list of sentinel event outcome indicators, any patient experiencing this type of complication would be reported for a complete medical records review.

The Statistical Department would also monitor the rate-based indicators, and when a predetermined threshold was crossed, a list of physicians who's rate of occurrences exceeded the threshold would be developed in order to conduct a comprehensive review of the relevant medical records. As an example, the number trauma patients developing post operative infections reaching a predetermined number would trigger a review of those patients treated by any physician who's rate exceeded this number.

Using U.S. experience in outcome indicator monitoring it is anticipated that approximately five percent of patient cases are flagged for a physician review of the medical record. In the MES Cost Model (Exhibit 3), it was assumed that a review of a single patient record took seven

⁶ Although further study is needed to determine the actual costs of having the Medical Statistical Departments perform this function, it is assumed by the author that additional levels of effort should be minimal, especially if the department was to concentrate on collecting data for the hospital's internal use and spend less effort collecting general statistics for the central government.

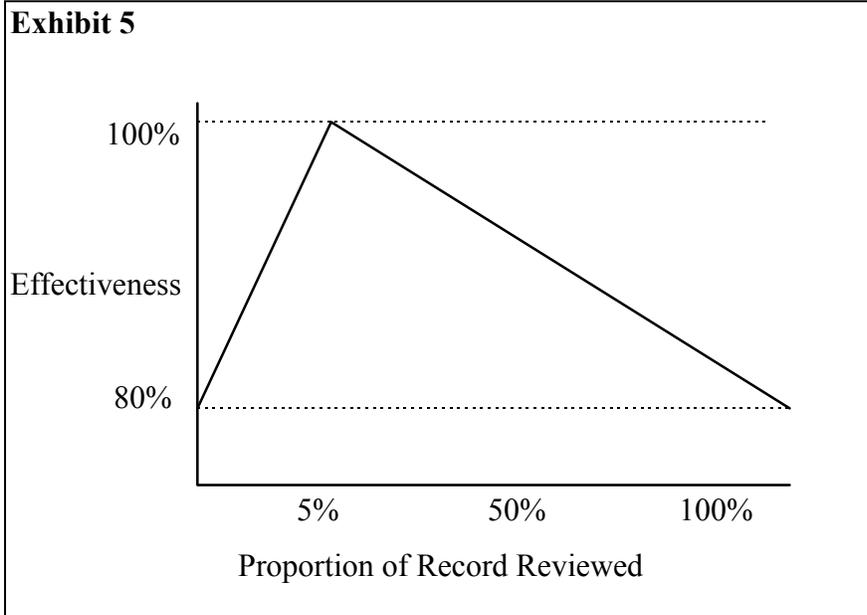
minutes for an inpatient and 3.5 minutes for an outpatient. Under outcome indicator review however, the review conducted is much more thorough than simply looking at adherence to a treatment protocol. In this case, the physician is looking for the cause of the undesired event, and for a possible solution to prevent reoccurrence in the future. In this case, we can assume that an average review of the record would take a total of forty five minutes. Using these assumptions we can build the cost model in Exhibit 4.

Exhibit 4

FIVE PERCENT OF INPATIENTS	576,018
FIVE PERCENT OF OUTPATIENTS	2,944,405
TOTAL DAYS OF PHYSICIAN REVIEW TIME	330,039
TOTAL COST, PHYSICIAN REVIEW TIME	\$761,400

Based on this analysis, the Ministry of Health could anticipate the use of a total of 1,269 full time physician equivalents to perform the record reviews. This is thirty four percent of the physician labor used in the record reviews of the MES approach. It is a reasonable assumption that the qualitative value of the longer, more in-depth, and more focused review triggered by outcome indicators should be higher.

Exhibit 5 is a graphical representation of the comparative efficiencies of MES and Outcome indicator systems. If we examine the effects of a fixed number of senior physicians examining medical records, we can compare both the thoroughness of their reviews as well as whether or not they are concentrating review efforts where they are most beneficial. There are a number of assumptions in this graph. The first of these is that the majority of cases are treated in an appropriate manner. The rest of the cases have some level of deviation from the most desired course of treatment and outcome. The cases where this deviation results in adverse patient outcomes require the most active reviewer intervention.



The next assumption is that our reviewers have a fixed amount of time available. If a hospital had ten physician reviewers, there would be a total of 400 hours available each week to conduct reviews.

Effectiveness of the quality review effort is assumed to be a combination of thoroughness of the review plus the correct targeting of reviews to

those cases with substantial problems. In the U.S. experience of Outcome Indicator monitoring, approximately five percent of all cases have sufficient problems to warrant review by senior physicians.

As the graph shows, reviewing zero to five percent of records shows an increase in effectiveness. This is because although a great deal of time is spent monitoring the chosen records, problem cases are escaping attention. As outcome indicators are refined, we increase in effectiveness until we capture the five percent of problem cases that U.S. experience has shown us to require action.

When the number of records reviewed increases from five percent to one hundred percent, effectiveness decreases. This is due to the combined effects of the reviewers being able to spend increasingly less time reviewing each record, and to the fact that increasing numbers of nonproblem cases are being reviewed.

As can be seen from this graph, an equal use of resources will result in a higher impact on patient care quality through the targeting of more thorough reviews of problem cases by using the Outcome Indicator approach than through the one hundred percent review approach of most MES systems.

The final cost analysis we need to perform is an examination of the costs of an accreditation system based on assessing the operations of hospital systems. The approach being advocated by the author, is already in operation in the U.S., Canada, Australia, and New Zealand (McMahon and Winters, 1993) and is being developed in Kyrgyzstan, Saudi Arabia, South Africa, and Eastern Europe. This system uses a set of *Care Delivery System Structure, Process, and*

Outcome Standards. An excellent example of this type of standards is contained in *Annex C, Maternal and Child Health, Section 8.* These standards have been developed for use in the Republic of Kyrgyzstan, and are presently undergoing final review by the Ministry of Health (Becker, Ente, et al, 1995)

Using the U.S. Joint Commission for the Accreditation of Healthcare Organizations as a model, we can approximate the labor and cost involved in operating a similar accreditation system in the Ukraine. The JCAHO model uses an average of three surveyors (inspectors) per hospital. Hospitals are surveyed every three years. With 5125 accredited hospitals in the U.S., the JCAHO uses the equivalent of 127 full time surveyors. Using this same ratio, it can be anticipated that the Ukraine would require 83 full time surveyors to cover its 3356 hospitals. Adding an additional 20 support personnel and a paid ten person board of directors would bring our total full time equivalent number of personnel to 113. Using the higher salary of a Deputy Chief Physician to calculate our costs, we can see that labor in this system would total approximately \$108,480.

A COST-EFFICIENT APPROACH TO QUALITY ASSURANCE

Using the principles of medical care quality assurance presented above, the analysis of the relative effectiveness of the various available approaches, and the costs of these approaches, the Ministry of Health for Ukraine can build a sound QA system based on rational criteria. Unfortunately, no health care system will ever achieve a 100 percent rate of care at desired levels of quality. Nor will any system ever prevent all cases of fraud or misrepresentation. Our goal should be to achieve the most effective system at the lowest possible cost.

As we have seen, 100 percent review of all cases as done in a traditional MES system is extremely expensive. It is also of questionable value in determining the actual quality of care delivered when the emphasis is on adherence to a ridged treatment protocol. In the final analysis, it does not matter if a procedure is performed or not; what does matter is the well-being of the patient. Especially in times of economic crisis, ingenuity and creativity are essential for overcoming material shortages.

This is not to suggest that MES have no value. Quite the contrary, they represent possibly the greatest effort ever to codify best medical practices as based on expert opinion. It is not the standards themselves that should be questioned⁷, rather it is the use of these standards that can be made much more efficient and effective. Rather than a one hundred percent review of all records against these standards, and the automatic penalizing of any deviation from them, a much more efficient and effective approach would be to use MES as *practice guidelines*.

⁷ This statement does not imply that Medical Economic Standards should be taken as the absolute medical truth. They represent expert opinion and are thus open to debate on their individual validity. MES should also be subject to constant review and updating to allow for technological progress and changes in the state-of-the-art.

Practice guidelines are the suggested treatment protocol developed by experts to serve as a benchmark of care. Deviation from guidelines does not automatically indicate fault. What it does indicate is a need for the physician to justify this deviation. MES should be published and widely disseminated for their educational value. Physicians should be encouraged to follow them, but allowed to deviate from them when necessary. Recent research on practice guidelines has demonstrated that they have substantial value as an educational tool, and that enforcement should be limited to only those guidelines that have scientifically demonstrated improved patient outcomes.(Woolf, 1993)⁸

Next, a method for the monitoring of these MES practice guidelines should be developed that is cost efficient. As we have said, the ultimate question is the welfare of the patient. When something goes wrong, the cause should be determined and corrections made. The best possible use of MES would be in combination with outcome indicators. When ever a sentinel event indicator is present, or a rate based indicator has increased in frequency, individual patient medical records are reviewed by expert physicians using MES as guidelines. If a physician has deviated from the MES, the deviation must be justifiable. Only if the deviation is not justified in the opinion of the expert physician reviewers could the physician then be penalized.

In the case of a sentinel event indicator being present, the medical record of the patient involved would be reviewed. If the senior physician conducting the review found that there was a deviation from the appropriate MES, and that the deviation was not justified by findings in the medical record, the reviewing physician would then interview the treating physician, consulting physicians, and others as necessary to determine the cause of the sentinel event.

In the case of a rate based indicator increasing, the medical records of those physicians who's rate is over the allowed limit would have all of their relevant medical records reviewed by a senior physician. As an example, if an obstetrical department has determined that the rate of cesarean sections should be under twenty percent, and that for the last month the rate has been twenty five percent, those physicians with a rate of over twenty percent would have the medical records of all their cesarean section patients for the last month reviewed.

In the case of both the sentinel event triggered review and the rate based review, the senior physicians would make their findings, and review those findings with the treating physicians. The purpose of this review would be to educate the treating physician on the course of treatment that is expected for this type of patient, and to make sure that the appropriate course will be followed in the future. The primary focus of this review process should be to determine the

⁸ It is the author's understanding that no Medical Economic Standards have yet to be studied in controlled clinical experiments (clinical trials). Until efficacy and improved patient outcomes are demonstrated by scientific study, MES must be recognized as expert opinion, and thus may or may not outline optimum care.

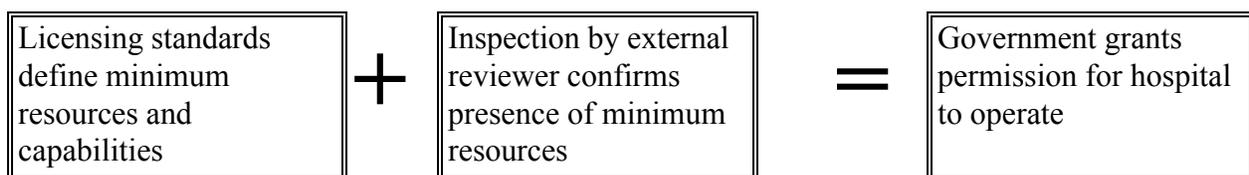
cause of undesirable outcomes, correct the problems that caused the outcomes (usually through education) and only as a last resort penalize the treating physician.

This combination of MES and outcome indicators would be the most cost efficient and likely the most effective approach to controlling quality on a daily basis. Through this approach the physician/patient interaction would be assessed on the basis of results and not on rigid adherence to protocols. This does not however, answer the question of how the systems of the hospital are functioning. As was stated previously, the operations of the laboratory and the interaction of the laboratory with the surgical department have a great effect on the technical quality of care received by the patient. For this reason we need an approach to judging and improving these important functions.

The processes of licensing and accreditation are seen as the best methods available to achieve this goal. *Licensing* is the process of judging a health care facility or provider against a set of standards that specify the minimum structure that must be present in order for the facility to operate. Licensing standards specify the equipment, staff, and physical facilities that are absolutely essential for delivering medical care. If the facility meets these minimum standards, it is granted a *license* which represents the government's permission for the facility to be open and provide care to patients. A facility that lacks any of these minimum requirements cannot provide safe or effective patient care and must not be allowed to remain open. Licensing is mandatory.

The core idea behind licensing is the recognition that there are levels of quality below which patient care should be prohibited. If a hospital is unable to provide such fundamental resources as potable water and qualified physician and nursing care, it should not be allowed to remain open. As licensing is defined as the absolute minimum level of quality, licensing standards are written to define the resources that must be present in order for the hospital to safely and effectively treat patients. The goal of licensing is not to define desirable quality, rather it is to define the level of capability that is at the absolute bottom.

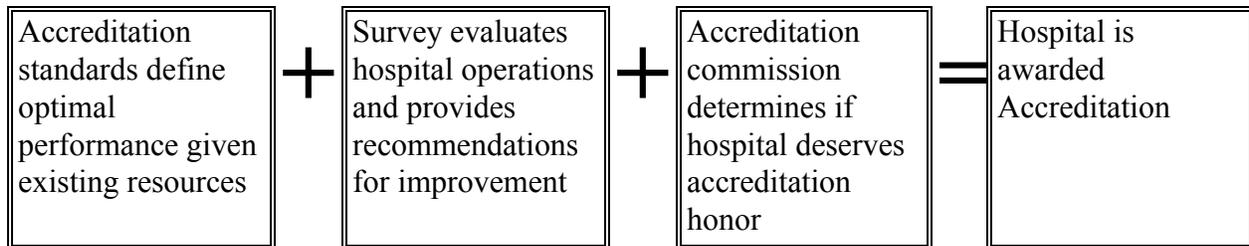
Exhibit 6, Licensing Process



Accreditation is the process of evaluating health facilities according to a set of standards that describe activities and structures that directly contribute to desirable patient outcomes. These standards provide guidance on achieving the highest level of care quality that is possible given available resources. When a hospital meets or exceeds these Care Delivery System Structure, Process, and Outcome Standards, it earns the honor of accreditation. Successful implementation

of accreditation standards by a hospital will result in significantly improved patient care. Accreditation is usually voluntary.

Exhibit 7, Accreditation Process



Hospitals would be an appropriate place to initially implement a licensing and accreditation system and standards since most health care delivery functions are carried out to some degree in a hospital setting. Although primary care providers such as polyclinics, rural ambulatory centers, APTKs, and FAPs greatly need quality improvement measures, the development of standards specific to these facilities is a simpler process of distilling and modifying corresponding hospital standards in such areas as management, finance, personnel management, public health and epidemiology, paraclinical services (laboratory, x-ray, and ECG), and outpatient care. When implemented, the licensing and accreditation process for primary care facilities would function identically to the hospital system.

The highest order goal of the quality improvement process is the achievement of the greatest possible reduction in morbidity and mortality given the resources that are available to providers. High quality medical care may not be the *ideal* level of care, but it is the best possible care that is possible under actual conditions faced by providers.

The core idea behind a system of accreditation is the belief that Chief Doctors and hospital staff want to provide high quality care, but they need ideas on how to achieve it despite limited resources. Accreditation standards therefore provide ideas to the hospital staff. The objective of these standards is to provide a model for operations, a guide on "how to do it", a measure of success, and an indicator of trouble. The accreditation standards will consist of *structural standards* that define the resources that should be present, *process standards* which show how operations may best be carried out, and *outcome standards* which show if the combination of structure and process is working as it should.

In summary, this combined approach would build on the strengths of several different quality assurance models:

- *Outcome indicators* would be developed in order to monitor both the end results of patient care as well as the intermediate outcomes of the various patient care processes.

- The *Medical Statistics Departments* presently functioning in all hospitals would take on the additional responsibility of monitoring the occurrences of sentinel event indicators and tracking the frequency of rate-based indicators.
- Hospital Department Heads and Deputy Chief Physicians would conduct in-depth reviews of medical records and physician actions that are flagged through the monitoring of outcome indicators. *Medical Economic Standards* would serve as the basis for these reviews, as well as being used in physician education.
- A national system of *Licensing and Accreditation* based on the use of *Care Delivery System Structure, Process, and Outcome Standards* would be implemented to monitor the actions and interactions of the various systems of patient care, and to promote the best operations possible given existing resources.

In this manner we have a targeted approach to the monitoring of the physician/patient interaction that is less costly to the Ministry of Health as well as to the individual hospitals. We have a medical record review process that will not only detect errors, but will provide recommendations to the physicians involved so that they might avoid repetition of less desirable practices. Finally, we have an accreditation process that looks at the functioning of hospital systems and serves as an educational mechanism to promote more efficient and effective operations.

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Annex A

QUALITY ASSURANCE IN THE KEMEROVO REGIONAL HEALTH CARE SYSTEM

In comparison to the rest of Russia and most national health care systems, the Kemerovo Oblast has a most impressive program to assure the quality of medical care. Begun in 1987, this system of clinical protocols and facility standards covers the delivery of care at 70 different types of health care facilities ranging from tertiary care referral hospitals to first aid posts and sanatoriums. Developed by the Institute for Socioeconomic Problems in Health under contract to the Kemerovo Oblast Health Care Department (KOHCD), these clinical protocols and facility standards have gone through several improvements and versions, and are in fact, being continuously updated.

Clinical standards are in their third version which is referred to as Clinical Statistical Groups (CSG). The fourth version, Medical Economic Standards (MES) has been developed and is ready for adoption by facilities. The fifth version is presently under development.

Hospital licensing and accreditation is carried out using a set of facility standards specific to each type of facility. Facilities are inspected on an initial basis to gain both licensure and to determine the category of facility for reimbursement purposes. This accreditation level can be adjusted up or down according to performance, physical plant condition, equipment, and staffing. Accreditation may also be awarded on a provisional basis with reinspection carried out after an agreed upon interval.

Patient Care Quality Assurance

The quality of care given to every patient attending hospitals and polyclinics of the KCHSO is monitored through the implementation of a system of concurrent and retrospective case review using the protocols of the Medical Economic Standards. These protocols/standards have been developed by clinical experts in the various medical fields to cover most if not all illnesses and injuries treated at these facilities. MES include International Codes of Disease (ICD-9) for the particular malady, diagnosis, expected length of stay (hospitals), expected duration of treatment (polyclinics), required tests and examinations, required treatments, and, expected outcomes. Patient medical records are the primary vehicle for review, with direct physical examination by the supervising physician prior to discharge for all patients. The following description of the quality review process for hospitals was provided by Dr. Vasilievna Plotnikova, Deputy Director for Treatments and Quality Control of Regional Hospital #1. With minor modifications (for differences between inpatient and ambulatory care) this same process is followed by polyclinics.

There are three levels of quality control followed by health facilities: 1) Clinical Department Head, 2) Deputy Director, and, 3) external review by insurance companies. The first review is done for every patient prior to discharge by the head of the medical department. The patient

receives a physical examination by the department head, and the medical record is reviewed using a specific protocol contained in the MES. Laboratory, radiology, and other tests are reviewed to verify if the type and number of tests required for the specific diagnosis have been performed, and if the results of these tests confirm the given diagnosis. Next, the treatments recorded in the record are verified for conformance with the MES. It is important to note that although the MES specify the minimum tests and treatments to be given, they do not prevent the delivery of any additional procedures. Finally, the outcome for the patient and length of stay (or duration of treatment) are noted. The results of this review are plugged into a formula to determine an overall quality rating for the physician's care of the patient.

The formula for determining the quality score is:

$$\frac{(E * 0.2 + T * 0.3 + D * 0.2) \text{ Outcome} * 1}{200\%}$$

Where E is examination period, T is treatment period, and D is diagnosis. Values for E indicate the completeness of the testing process as specified by the MES. Values for E would be 0 for no required test performed, 0.25 for few of the required tests performed, and ranging to 1 for all required tests performed. Values for the other variables are determined in a similar manner. The coefficient for each variable reflects its relative importance with outcome having the greatest weight.

After this concurrent review by the department head, a retrospective review is conducted by the Deputy Hospital Director for 20 percent of all patients. This retrospective review appears to be done largely for control of the department head to assure that quality scores accurately reflect the performance of the physicians under the department head's control.

It is at this point of retrospective review that the emphasis of the review process shifts from clinical quality to a monitoring of incentive award. Although the intention of the quality review process as a whole is to assure to welfare of patients, it is a system that uses supplemental income as an incentive, and thus becomes a major determinant of the financial well-being of the physician staff. As in any system of financial incentives, self interest of the individual actors in the system must be checked and balanced in the interest of the facility and the financier of health services (the insurance companies). As will be seen, the department head's self-interest (and department staff interest) is checked by the review of 20 percent of patient records from that department. In the case of disagreement between the department head and the deputy director, the case is reviewed by a soviet (committee) comprised of the Director, all department heads, and the trade union representative.⁹

⁹ This soviet review is the system outlined by Dr. Larisa Temerkhanova, Director of Municipal Polyclinic #3. It remains to be confirmed that this same or a similar process is followed at hospitals.

The result of the department head review and confirmation of 20 percent by the Deputy Director is a quality score for the physician. The quality scores for the physician are totaled and averaged for the month giving a monthly score. The monthly score for the individual physicians are totaled and averaged to give a quality score for the department. It is these scores that determine the supplemental salary pool for the department and the salary supplement for the individual physician.

The hospital is paid by the health insurance company for the number and type of cases treated.¹⁰

This is done through the submission of a bill to the individual insurance companies by the hospital. The insurance companies review this bill, and select five percent of the cases submitted for a retrospective review. The choice of records to review is done on the basis of the diagnosis not matching the length of stay or other nonconforming line items. These selected cases are then reviewed by a team of medical specialists employed by the insurance company. If the review results in a quality score different from that awarded to the case by the facility, the facility is penalized financially. This penalty is then in turn passed on to the physicians in the department having made the error.

¹⁰ Polyclinics are paid on a capitation basis which includes financial disincentives for referral to specialists and hospitalization.

Annex B

MEDICAL ECONOMIC STANDARDS COST MODEL

The Cost Model for the implementation of MES (*Figure 1*) demonstrates the additional financial burden that such a system would pose on the already meager resources of the Ministry of Health. As further options are developed, it will be critical to perform similar cost analyses to show overall system impact of contemplated actions. It is important to note that the cost analysis is only one dimension of the analytical process needed to evaluate policy options. It will be important to analyze the benefits side of all options in terms of clinical and managerial impact. It may be desirable to retain the services of a *ZdravReform* Health Economist to work with the Management/Licensing and Accreditation experts in constructing cost benefit models based on these parameters.

FIGURE 1 Medical Economic Standards Utilization Cost Model

<i>NATIONAL HOSPITALS</i>	
NUMBER OF HOSPITAL INPATIENTS PER YEAR	11,520,369
AVERAGE 7 MINUTES PER RECORD FOR REVIEW	80,642,583
TOTAL HOURS OF ANALYSIS FOR DEPT CHIEFS =	1,344,043.05
TOTAL DAYS EFFORT/DEPT CHIEFS (6.5 HOURS/DAY) =	206,775.85
AVERAGE DEPARTMENT CHIEF SALARY	\$600
NUMBER OF WORK DAYS PER YEAR	260
HOSPITAL DEPARTMENT CHIEF DAILY RATE =	\$2
TOTAL COST FOR DEPARTMENT CHIEF ANALYSIS TIME	\$477,175
TOTAL DAYS EFFORT FOR DEPUTY CHIEF DOCTORS	
TO REVIEW 1/3 OF TOTAL MEDICAL RECORDS	68,925.28
AVERAGE SALARY, DEPUTY CHIEF DOCTOR	\$960
DAY RATE, DEPUTY CHIEF DOCTOR =	\$4
TOTAL COST, DEP CHIEF DOC ANALYSIS TIME =	\$254,493
TOTAL COST OF PHYSICIAN	
ANALYSIS TIME IN HOSPITALS =	\$731,668
TOTAL NUMBER OF HOSPITALS/UKRAINE	3,356
AVERAGE NUMBER OF ECONOMISTS/HOSPITAL	3
AVERAGE SALARY, HOSPITAL ECONOMIST	\$600
HOSPITAL ADMINISTRATIVE COST =	\$6,040,800
<i>ANNUAL HOSPITAL COST =</i>	<i>\$6,772,468</i>

<i>NATIONAL POLYCLINICS</i>	
NUMBER OF POLYCLINIC VISITS/YEAR	58,888,100
AVERAGE 3.5 MINUTES PER RECORD FOR REVIEW	206,108,350
TOTAL HOURS OF ANALYSIS FOR DEPT CHIEFS =	3,435,139.17
TOTAL DAYS EFFORT/DEPT CHIEFS (6.5 HOURS/DAY) =	528,482.95
AVERAGE DEPARTMENT CHIEF SALARY	\$600
NUMBER OF WORK DAYS PER YEAR	260
POLYCLINIC DEPARTMENT CHIEF DAILY RATE =	\$2
TOTAL COST FOR DEPARTMENT CHIEF ANALYSIS TIME	\$1,219,576
TOTAL DAYS EFFORT FOR DEPUTY CHIEF DOCTORS TO REVIEW 1/3 OF TOTAL MEDICAL RECORDS	176,160.98
AVERAGE SALARY, DEPUTY CHIEF DOCTOR	\$960
DAY RATE, DEPUTY CHIEF DOCTOR =	\$4
TOTAL COST, DEP CHIEF DOC ANALYSIS TIME =	\$650,441
TOTAL COST OF PHYSICIAN ANALYSIS TIME IN POLYCLINICS =	\$1,870,017
TOTAL NUMBER OF POLYCLINICS/UKRAINE	5,428
AVERAGE NUMBER OF ECONOMISTS/POLYCLINICS	2
AVERAGE SALARY, POLYCLINIC ECONOMIST	\$600
POLYCLINIC ADMINISTRATIVE COST =	\$6,513,600
<i>ANNUAL POLYCLINIC COST</i>	\$8,383,617
<i>COST TO UKRAINIAN MINISTRY OF HEALTH TO IMPLEMENT MEDICAL ECONOMIC STANDARDS FOR ONE YEAR IN HOSPITALS AND POLYCLINICS</i>	\$15,156,085
<i>COUPONS = 2,318,881,004,034</i>	

Annex C

SECTION 8: MATERNAL AND CHILD HEALTH¹¹

Maternal and Child Health Services may be integrated into the range of services offered by a full service general hospital, or, they may be delivered by a specialty hospital. Such specialty hospitals may be combined Maternal and Child Health Hospitals, or, they may be separate facilities such as maternity houses and pediatric hospitals.

In what ever form the hospital may take, it must be recognized that patients using these facilities have special needs that not only include the trauma or illness common to all patients, but that there are other important considerations. For example, the combined needs of a mother and newborn child in a child birthing center, and the fears and bewilderment of a child undergoing medical treatment outside of the home. Hospitals must not only be structured to meet these special needs, but the staff of these facilities must demonstrate a commitment to both the physical and emotional welfare of their patients.

8.1 Heads of Maternal and Child Health departments, regardless of hospital structure, are responsible for the general performance of their individual departments. Areas of responsibility include but are not limited to:

8.1.1 Assuring the performance of the full scope of job responsibilities by all medical and nonmedical personnel;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.2 Assuring the existence of proper conditions for the delivery of treatment services;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.3 Assuring that all staff are provided opportunities for improvement of their technical qualifications, and that staff are encouraged to participate in these training programs;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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¹¹ Section of representative standards from the *Licensing and Accreditation Manual for Hospitals, Ministry of Health, Kyrgyz Republic Working Draft 9-26-95*

8.1.4 Implementation and continuous monitoring of safety rules:

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.5 Implementation and continuous monitoring of sanitary and anti-epidemic measures;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.6 Implementation and monitoring of measures for the prevention of intrahospital infection;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.7 Maintenance of interrelationships with outpatient and paraclinical services;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.8 Monitoring and analysis of patient care activities, and the implementation of corrective actions;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.1.9 Monitoring the development of improved methods of examination and treatment, and implementing those methods that are appropriate for the type of patient treated by the hospital, and the scope of services offered.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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Maternity House/Department of Obstetrics and Gynecology

Maternity houses are intended to provide a full scope of specialized, highly qualified services to pregnant women, post-partum women and newborns. Obstetrics and Gynecology Departments of general hospitals may provide a combination of these services up to the comprehensive scope of the specialty hospital depending on the mission of the hospital and the needs of the community it serves.

8.2 Although the primary focus of the hospital or department is obstetrics and gynecology, women patients of this service may have additional unrelated medical problems. In such cases, the chief physician will assure the arrangement of consultations by other specialists as necessary.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.3 Premises, basic areas and auxiliary premises must comply with SNIPs and sanitary norms.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.3.1 The supply of hot and cold water is mandatory.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.4 The maternity service must be staffed with appropriate number of Ob/Gyns, neonatologists, and anesthetist-reanimators who have passed a proper training.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.5 Each department must have a separate reception block to conduct primary examinations of patients;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.5.1 Functions performed in the reception block include: making preliminary diagnoses; measuring temperature, blood pressure, and other vital signs; performing sanitary and hygienic treatments; performing urgent analyses; recording patient medical history and beginning other documentation (journal of admission and registration of patients, medical record, etc.); and, referring the patient to the appropriate specialty department.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6 Maternity houses are required to have the following departments. Obstetric and Gynecology Departments of general hospitals will have those departments necessary to deliver the range of services outlined in the Mission Statement of the hospital, and based on the needs of the community served:

8.6.1 Department of normal pregnancy;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.2 Observation department (septic complications);

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.3 Gynecology department;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.4 Department of pregnancy pathology;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.5 Newborn departments;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.6 Surgery block;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.7 Intensive care unit;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.6.8 Procedure rooms.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.7 The Gynecology Department admits women with various gynecological pathologies. The department must have wards, procedure rooms, examination rooms, small surgery room, and physical therapy room.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.8 The Department of Normal Pregnancy admits women with uncomplicated pregnancy. Patients enter the pre-delivery ward where an Ob/Gyn specialist performs and examination, determines period of delivery and prescribes treatment if necessary.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.8.1 A physician continuously observes patients in the pre-delivery ward.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.8.2 At labor woman is moved into a delivery room which has equipment, instruments, and medication necessary for performing noncomplicated deliveries, and for providing emergency stabilization for those deliveries becoming urgent or complicated

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.9 The Department of Pregnancy Pathology admits pregnant women with various deviations from normal pregnancy. The department delivers treatment and preventative services, and prepares pregnant women with complications to undergo delivery.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.10 The Observation Department admits febrile women, women with labor started outside the maternity house, and pregnant women with extragenital pathology. The department must have pre-delivery, post-partum wards, delivery room, boxes, procedure rooms, personal hygiene rooms, physical therapy rooms, and other auxiliary rooms in a number sufficient to meet the needs of patients served.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.11 At term, the patient is first seen in the reception department and are examined by a physician who fills in the medical history and determines the specialty department that will handle patient. At this time, a midwife makes a primary sanitary treatment, weighs the patient, measures blood pressure, takes required analyses and completes required documentation.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.11.1 The patient is then admitted to the observation department. At onset of labor, the woman is transferred to the delivery room where both an Ob/Gyn and neonatologist control the delivery.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.11.2 After delivery, initial sanitary treatments are performed on the newborn after which he/she is transferred to the Newborn Department.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.11.3 Observation and treatment of the post-partum woman is conducted by the Ob/Gyn specialist.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.11.4 Prior to discharge, the woman must be counseled about family planning and IUD use.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.12 Any facility performing obstetrical services on a regular basis must have a Newborn Department.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.12.1 The newborn department must have an intensive care unit for the treatment of severely sick newborns. If the department is small, it must have formal arrangements made for the speedy transfer of sick newborns to an appropriate facility.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.12.2 The department is staffed with neonatologists, child nurses, other paraprofessionals. Neonatologists and nurses are required to have passed special training in newborn care.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.12.3 Neonatologists and nurses of the intensive care unit must also have passed special training in neonatal intensive care and reanimation.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.13 The newborn department must include a room for collecting and pasteurizing breast milk.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.14 At any delivery, the Ob/Gyn specialist delivers the child, and the neonatologist is present for emergency care of baby. In the delivery room, nonemergent newborns undergo a primary sanitary treatment, weighing, and first breast feeding. In complicated deliveries, the neonatologist must take part in the delivery and provide emergency care to the newborn before transferring him/her to the neonatal intensive care unit.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15 In order to improve the quality of obstetrical and gynecological services, certain indicators will be monitored on a continuous basis. When unacceptable occurrences are noted through this monitoring process, the head of department will investigate the causes of the occurrences and institute corrective measures. The following indicators will be monitored:

Sentinel Event Indicators: These indicators represent serious undesirable patient outcomes. Each occurrence of these events must be investigated thoroughly.

8.15.1 Patients diagnosed with eclampsia;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.1 Full term infants admitted to neonatal intensive care;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.2 Neonatal death of infants weighing 500 grams or more;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.3 Maternal Mortality;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.4 Post-partum infections:

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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Rate Based Indicators: These events are monitored over time. Increase in frequency of occurrences may indicate a quality problem, and requires investigation into underlying causes.

8.15.5 Cesarean section performed after failed attempt at vaginal delivery;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.6 Total stillborns;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.7 Birth Trauma;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.15.8 Total infections;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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Children's Hospital/Pediatric Department of General Hospital

8.16 General management of the work of the department is conducted by the Head of the Department. Duties of the Department Head include but are not limited to:

8.16.1 Perform an examination of every new patient within 24 hours of admission;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.2 Examine critically ill patients on a daily basis;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.3 Assure that all patients receive consultations from appropriate specialists;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.4 Assures that patients requiring care at a higher technical level than is available at this hospital be referred to a higher level hospital.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.5 Assures that those patients requiring a less intensive level of care are referred to long-term care facilities or are treated on an outpatient basis.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.6 Assures that all staff strictly follow ethics and dendrological principles;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.7 Assures that the department maintains a warm and supportive psychological climate appropriate to the unique needs of children and their families;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.16.8 Assures that all reasonable efforts are made to maximize child patient contact with parents and siblings (including encouraging a parent to stay at the facility with the child if possible), and maximizing opportunities for outdoor activities and home visits.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17 The attending physician is responsible for the overall care of the patient. Duties of the attending physician include but are not limited to:

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.1 Examining all patients for whom he/she has primary responsibility on a daily basis;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.2 Prescribes the use of all paraclinical services and follows up the results of all test performed. The attending physician is responsible for assuring that all tests ordered are performed, and that the results of all tests are recorded in the patient's medical record.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.3 Verifying the correctness of the admission diagnosis within 3 days;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.4 Assures that all treatments given the patient are correct according to clinical diagnosis, severity of patient's state, weight, age and results of analyses;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.4 Monitors the fulfillment of prescriptions by charge and procedure nurses;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.5 At discharge, the attending physician writes down a detailed excerpt of the patient's medical history with recommendations on further treatment and follow-up of the patient in polyclinic;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.17.6 The attending physician must keep in close communications with the parents of a sick child to fully explain the diagnosis, and all requires examinations, treatments, and dietetics.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.18 The Chief Nurse of the department guides and supervises the nurses and assistant nurses of the department. Other duties include but are not limited to:

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.18.1 Controlling the accuracy and timeliness of prescribed examinations and treatments given by nursing staff;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.18.2 Ordering medications, bandages, and other supplies from the hospital drugstore, and assuring their delivery to the department;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.18.3 Dispensing of medication to procedure and charge nurses and monitoring of their correct distribution to patients (dosage, timeliness, frequency of intake, etc.);

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.18.4 Controls correctness and timeliness of sampling and delivery of results to the department.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.19 The Charge nurse sorts out examinations and physician's prescriptions from the patient's medical record, and according to these orders, dispenses medicines, makes intramuscular and subcutaneous injections, and performs other required manipulations in accordance with the profile of the department. Additional duties of the charge nurse include but are not limited to:

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.19.1 The collection of urine and feces for diagnostic analyses;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.19.2 Nasal and pharyngeal smears;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.19.3 Delivering collected biomaterials to proper laboratories, bringing back the results of analyses, and recording them in the proper medical records.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.20 Nurses perform all intravenous injections (infusions, blood sampling for biochemistry, etc.), and assist the attending physician in performing methods of examination and treatment.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.20.1 At night, the nurse continuously monitors patients, especially those severely ill who must be checked at least every 30 minutes for severely ill patients on normal wards, and on a continuous basis for those in intensive care. At the first signs of trouble or a worsening of their state, the nurse calls for the on-duty doctor.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.21 The Department Tutor explains to child patients the rules and schedule of work of the department. She spends time with patients in playing room or wards when they are not busy with procedures and examinations.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.21.1 Each department must have a set of toys and books suitable for different ages of children being treated;

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.21.2 At appropriate times and climatic conditions, the tutor takes children outdoors.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.22 Paraprofessional personnel perform the sanitary treatments of all patients in the department.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.22.1 They regularly examine stool, urine output of patients, wash them, and report any pathologic discharges that may appear to the attending physician and on-duty nurse.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.22.2 Janitors regularly clean wards, and clean and disinfect toilets.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.23 In the reception room, all patients have a preliminary examination conducted which includes temperature, blood pressure, and an assessment of the severity of the patient's condition.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.23.1 Patients in critical condition and requiring urgent treatment receive needed care in the reception room before being transferred to the intensive care unit or other appropriate ward.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.23.2 A medical record is begun (or updated) for all patients entering the reception room. Recorded in this record will be the patient's condition, preliminary diagnosis, and any tests or treatments performed.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.23.3 In case of critical patient condition and an unclear diagnosis, appropriate specialists must be called for urgent consultations, and urgent medical analyses must be ordered, performed, and reported.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.24 In the case of suspected infectious disease, the patient must be put in a private room (box) or isolation room.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.24.1 When the diagnosis of infectious disease is confirmed, the patient is transferred to the infectious disease department, and an urgent notice is sent the SES.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.24.2 Patients with suspected infectious disease are treated out of turn and if necessary, hospitalized as soon as possible. In no case should such patients wait in the reception room longer than 30 minutes.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.25 In order to improve the quality of obstetrical and gynecological services, certain indicators will be monitored on a continuous basis. When unacceptable occurrences are noted through this monitoring process, the head of department will investigate the causes of the occurrences and institute corrective measures. The following indicators will be monitored:

Sentinel Event Indicators: These indicators represent serious undesirable patient outcomes. Each occurrence of these events must be investigated thoroughly.

8.25.1 Death of a patient.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.25.2 Unexpected decline in patient condition and admission to the intensive care unit.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.25.3 Divergence between clinical and post-mortem diagnosis.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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Rate Based Indicators: These events are monitored over time. Increase in frequency of occurrences may indicate a quality problem, and requires investigation into underlying causes.

8.25.4 Nosocomial infections.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.25.5 Repeat admissions of patients for related conditions.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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8.25.6 Number of referrals to higher level hospital.

FULL COMPLIANCE 2	PARTIAL COMPLIANCE 1	NON COMPLIANCE 0
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Annex D

RECOMMENDATIONS:¹² **STRATEGY FOR HEALTH FACILITY ACCREDITATION**

This document presents the recommendations for the creation of a system of standards and accreditation for hospitals and polyclinics. These recommendations are compatible with the *Regulations* of the Ministry of Health, Bishkek, and are meant as a guide in the creation and implementation of a workable system of accreditation.

The main purpose of any system of accreditation is the improvement of the quality of care delivered in health facilities. As such, the primary goal of the accreditation process should be *Education*. When hospitals and polyclinics are inspected as part of the process, the intent should not be to find fault as much as it should be to find solutions to the problems uncovered. With this goal of education and problem solving in mind, the accreditation process will not only increase the quality of care delivered, but will provide hospital and polyclinic personnel with a guide to making future improvements.

Definitions: Standards, and Quality

In order to understand the relationship of accreditation, quality assurance, and the new Mandatory Health Insurance Fund (MHI), it is important to understand the different meaning of some of the terms used. So that all members of the medical community of the Issyk-kul will have a common understanding of these activities, the following definitions should be widely disseminated:

There are three definitions of *standards*:

- 1) *Facility Standards* are guidelines and indicators for the structure, equipment, staff and operations of health care delivery facilities. The main purpose of these facility standards are in measuring and judging facility performance in an accreditation process.
- 2) *Medical Economic Standards* which measure the delivery of medical care services and judge the adequacy of the care delivered compared to a defined protocol of tests, treatments and outcomes. Medical Economic Standards (MES) are primarily used as a method of calculating services rendered in order to pay insurance claims under the Mandatory Health Insurance Fund. MES also serve as an indicator of medical care quality in so far as undesirable practices or outcomes will be uncovered as outliers in the categories of criteria of quality and criteria of complexity, and as nonperformed services in the categories of tests and treatments. these outliers demonstrate the need for further investigation.

¹² *ZdravReform* Technical Note TN CAR/KYR-2: Gregory C. Becker (1994) *Health Facility Accreditation* Karakol, Kyrgyzstan (Russian and English)

- 3) *Quality Assurance Standards* are guidelines for the in-depth investigation of medical practices in order to indicate the quality of medical care.

Quality of Medical Care is defined as:

Achieving the greatest reductions of morbidity and mortality that are possible given available resources and knowledge.

Types of Accreditation Systems

The improvement and maintenance of the quality of patient care is the main goal any system to accredit hospitals and polyclinics. In order to achieve this, an organizational structure and methodology is needed for hospital accreditation, both in the development of facility standards, and in monitoring the compliance of hospitals and polyclinics to the facility standards. There are several alternatives that may fill this role. The first of these is for the government to set facility standards and monitor performance. Although there are good points to this alternative, the critical input of health care practitioners is not assured, and the system that evolves may be inflexible and too restrictive on innovation and progress.

Another alternative is a *Payor Driven System*, where facility standards are enforced by the payers of medical care. Government agencies that pay the costs of health care, or insurance companies that reimburse physicians and hospitals may require compliance with certain facility standards before a provider is able to collect fees. In the development of the MHI program, a key ingredient should be the requirement of compliance to facility standards in order to be reimbursed for health care services.

A third alternative is the *Peer System* such as is employed in the U.S. This system has the advantage of being run by the health care providers themselves, and as such has a very high level of technical validity. The weakness of this system is on its heavy reliance on practitioners to police their own ranks. An example of the effectiveness of this method is the U.S. *Joint Commission for the Accreditation of Health Care Organizations (JCAHO)*. The JCAHO is responsible for setting hospital standards in the U.S., and for monitoring the compliance of hospitals to these facility standards. A hospital that substantially meets these facility standards is *Accredited*. Although the JCAHO is a private nongovernmental organization created by the medical and hospital associations, its facility standards are very high, and the earning of accreditation carries considerable weight. Many states require the JCAHO accreditation of hospitals in order to receive a hospital license, and can do so with confidence as the JCAHO is very strict in adhering to facility standards.

An example of a shortcoming of the peer system is the control of medical licenses by some state medical societies. Although the initial granting of a physician license is according to strict guidelines, in some states the revoking of medical licenses from incompetent practicing physicians is poorly controlled. There has been a reluctance of physicians to complain about

their fellow practitioners in cases of incompetence, and a reluctance on the part of medical societies to take disciplinary action, even when unacceptable behavior has been reported.

Accreditation Council

An alternative that Kyrgyzstan should consider is that of an *Accreditation Council* that would be a joint effort between the Mandatory Health Insurance program, the Ministry of Health, and the Physicians' Association. The Accreditation Council would be responsible for the development and enforcement of facility standards. This body could benefit from the technical responsiveness of a peer organization, the financial incentives of an insurance system, and the enforcement power of a governmental organization.

The creation of this body would allow medical professionals to set the facility standards by which they would be expected to practice, and would assure the sharing of influence over the future directions of health care by the MHI, government and medical professionals.

In the near term, the organization would be responsible for the development and updating of facility standards; the monitoring of hospital and polyclinic compliance with those facility standards; and, the imposition of sanctions and penalties on those organizations that do not meet the facility standards after sufficient warning and time to achieve compliance. In the more distant future, the role of this organization could expand to cover the practice of individual physicians, the operation of rural ambulatory centers, and feldshers.

Accreditation Council Authority

The Accreditation Council would need the authority to inspect hospitals and polyclinics, and to impose penalties and sanctions on those hospitals and polyclinics that do not comply with facility standards. A major sanction that could be imposed in case of serious noncompliance with facility standards could be the withholding of insurance payments.

Accreditation Council Funding

The Accreditation Council will require funding in order to carry out its duties. Although the development of hospital facility standards can be accomplished at minimal cost, the completed facility standards will need to be reviewed, word processed, edited, and published. The organization will require a number of full time and part time paid staff in order to disseminate the facility standards, and to carry out the inspection and accreditation process. Although these costs can be kept to a minimum, a certain level of *start-up* and *operational* funding will be needed. Several possibilities need to be considered: 1) Hospitals and polyclinics pay for inspections in order to become accredited; 2) Hospitals and polyclinics pay an annual fee; 3) The government provides start-up funding; 4) The government pays operational costs.

Facility Standards Development

The first task to be undertaken by the Accreditation Council will be the development of *facility standards*. The actual facility standards should be developed by *Standards Committees* composed of experts in each of the relevant fields. The section below will describe a process that the committees could follow in the writing of facility standards, but first, it will be helpful to review what facility standards are.

What do facility standards accomplish?

- Facility standards must serve to educate relevant staff, managers and practitioners on what constitutes minimum acceptable and preferable practice in the delivery of health care;
- Set minimums for quality of care, but encourage superior performance;
- Force an improvement in conditions and practices;
- Provide, where possible, measurable indicators of quality of care.
- What do facility standards look like?
- Facility standards describe minimal acceptable practice, equipment, facilities, personnel, or personnel qualifications;
- Facility standards illustrate "ideal" practices and conditions that are at a level that is achievable by hospitals and polyclinics;
- Facility standards are specific enough to guide actions, but are broad enough to allow adaptation to local circumstances.

Attachment 1 is an example of the Facility standards that were developed for the Ministry of Health, Arab Republic of Egypt. They were developed through the same committee process that is proposed for the development of the Accreditation Council's facility standards. The committee that developed these facility standards first examined the facility standards of the U.S. JCAHO to get an understanding of what a successful standard looked like. The U.S. facility standards were then put aside, and a single committee member wrote new facility standards based on what were felt to be the realistic ideal practices that were achievable in Egyptian MOH hospitals. The Standards Committee then reviewed the member's draft, debated its merits, agreed on changes, and submitted the draft for publication. This procedure has proven to be successful, and should therefore be considered for use.

Another important task of the Standards Committees will be the updating of facility standards. Facility standards must keep pace with changes in technology and with changes in the health care system. It is only by continually updating facility standards that the accreditation program will continue to have a positive effect on the quality of patient care. It is recommended that the

Standards Committee be reconvened every two years to review the facility standards in the light of changes in the health system, and make what ever modifications are needed to bring the facility standards up to date. These changes would then be published by the Accreditation Council and disseminated to all hospitals and polyclinics covered by the accreditation system.

Standards Committee Process

The proposed *committee process* that may be used to develop facility standards is a relatively simple procedure that can be completed in a reasonable period of time. The Egyptian Facility standards comprise thirty section covering all aspects of hospital operations. It is important to note that not all of the facility standards were developed at the same time. Early in the development process, areas of highest priority were selected for immediate attention while other less critical sections were left for future development.

Another example of facility standards that should be looked at as a model are the 1965 JCAH (Joint Commission for the Accreditation of Hospitals which was the predecessor organization of today's U.S. JCAHO) *Standards for Hospital Accreditation* (Attachment 2). This more simple approach consists of three sections covering the most critical factors of hospital operations. Although the JCAHO facility standards have evolved into a very large and complex set of standards (more along the lines of the Egyptian Facility Standards), there are a large number of accreditation experts that believe that the more simple approach of the 1965 hospital standards are more practical. A similar, simple approach has been taken by the Pan American Health Organization in developing facility standards for three Latin American Countries, and by Pakistan in their hospital accreditation model.

Once the most critical areas in terms of effect on patient care are developed, the facility standards should be published and the process of hospital compliance and inspections begun. Those areas considered less urgent may be developed at a more liberal pace, and published and disseminated as periodic updates to the facility standards manual.

In brief, the committee process is as follows:

- Committee members are selected by Accreditation Council member organizations;
- Educational materials such as copies of the JCAH and Egyptian Facility standards are forwarded to committee members along with instructions on the development of facility standards, the members' assignment to specific tasks, and specifications on areas to be studied and drafted;
- Each member reviews the materials and develops a draft of key issues, procedures, and technology elements that in the members opinion should be included in the facility standards;
- Stage a committee meeting:

- 1) Discuss and review the facility standards development process and the goals of facility standards, particularly in the technical area being considered by the committee;
 - 2) Discuss the key issues, procedures, and technological elements contained in the members' drafts;
 - 3) Select a lead writer for each facility standards section, specify who will review the material developed, and work out details of the review process;
 - 4) Give copies of drafts to lead writers, and set time table for completion of section drafts and for draft review;
- Lead writers produce drafts of facility standards sections and forward to reviewers;
 - Reviewers propose changes and/or write alternatives
 - Committee reconvenes:
 - 1) Formally reviews the draft sections and proposed changes/alternatives;
 - 2) Agrees on and writes final draft of facility standards section;
 - 3) Forwards completed draft to Accreditation Council;
 - Accreditation Council reviews, word processes, edits, publishes, and disseminates a *Facility Standards Manual* to all hospitals and polyclinics.

This process, if diligently followed should be able to publish the first version of the *Facility standards Manual* within four months. Again, this may not be the complete manual, but would cover those sections that would be critical to beginning the accreditation process.

Monitoring Hospital and Polyclinic Compliance (Accreditation)

Once facility standards are completed, published and disseminated, hospitals and polyclinics that are covered by the accreditation program will need to implement programs to bring them into compliance with the facility standards. It is suggested that the Accreditation Council set an initial grace period for hospitals and polyclinics to come into compliance with the facility standards. During this grace period, hospitals and polyclinics can study the facility standards and develop and implement programs to meet the facility standards.

The Accreditation Council will begin inspecting hospitals and polyclinics on a voluntary basis during this period as part of the learning process for both the hospitals and polyclinics and the Accreditation Council. The results of these initial inspections should be nonbinding in the case of failure to meet facility standards, but should award *Accreditation* for those facilities that pass

inspection. It is suggested that Accreditation be awarded for a period of three years with renewal based on reinspection. As an incentive to hospitals and polyclinics to gain accreditation during the initial grace period, accredited status would begin immediately upon passing, and would last for three years *past the end of the grace period*.

Hospital and polyclinic inspections should occur for the following reasons:

- To gain accreditation;
- To renew accreditation;
- In response to complaints of unsafe practices that endanger the lives of patients or hospital staff.

Consideration should be given to how the results of an inspection will be judged. One alternative is to have the inspectors pass judgment on the hospital based on the results of the inspection, and on their own impressions. The second alternative is to weight the facility standards (either all facility standards or those on the *Instrument*) and assign a numerical score for level of compliance. The hospital would pass inspection based on achieving a certain total score. For example, on a 1000 point scale, 800 or better would pass and become accredited, while less than this score would fail.

The output of the inspection would be forwarded to the Accreditation Council which would review the inspectors' report, and based on the inspectors' recommendations or the inspection score, make a determination on accreditation and send a copy of the report to the MOH and the hospital or polyclinic head doctor. If the hospital passed, a certificate of accreditation would accompany the report to the head doctor.

Other issues to be decided are: 1) who will be Accreditation Council Inspectors; 2) what skills should the inspectors have; and, 3) how many inspectors will be sent to inspect a hospital or polyclinic. It is vital that inspectors be qualified to judge the technical status of a facility, but the specialties that are represented on the inspection team are open to debate. It is suggested that at a minimum, four technical areas be represented on each team. Those areas are:

- Administration/management to review financial, general, and logistics management of the hospital;
- Medical/surgical to review medical and surgical services;
- Nursing to review nursing services and patient care; and,
- Technical to review diagnostic (x-ray, lab, etc.) service.

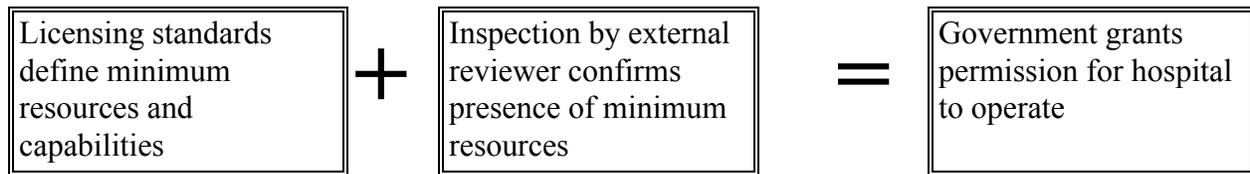
Finally, it is important how the inspection is carried out. The main function of the inspection process should be educational. The inspection should be carried out in the presence of responsible parties at the hospital, and problem areas should be identified and discussed. The aim of the inspection process should be to uncover problem areas and work out corrections to the problems. Above all, the inspectors should **offer solutions and alternatives to problems found, not just criticism.**

Annex E

INTRODUCTION: HOSPITAL LICENSING AND ACCREDITATION IN THE REPUBLIC OF KYRGYZSTAN¹³

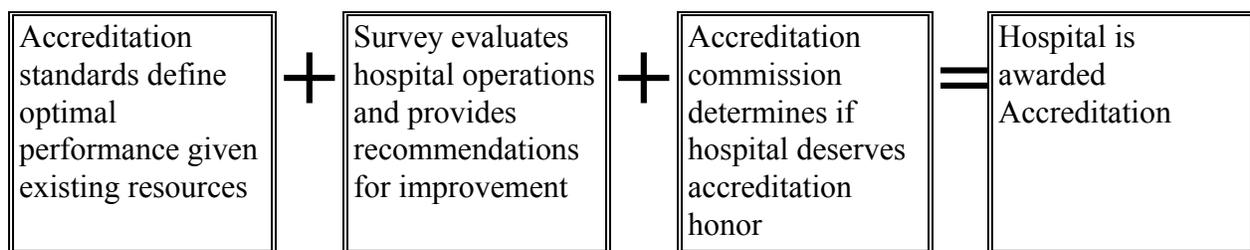
Licensing is the process of judging a health care facility or provider against a set of standards that specify the minimum structure that must be present in order for the facility to operate. Licensing standards specify the equipment, staff, and physical facilities that are absolutely essential for delivering medical care. If the facility meets these minimum standards, it is granted a *license* which represents the government's permission for the facility to be open and provide care to patients. A facility that lacks any of these minimum requirements cannot provide safe or effective patient care and must not be allowed to remain open. Licensing is mandatory.

Licensing Process



Accreditation is the process of evaluating health facilities according to a set of standards that describe activities and structures that directly contribute to desirable patient outcomes. These standards provide guidance on achieving the highest level of care quality that is possible given available resources. When a hospital meets or exceeds these facility quality standards, it earns the honor of accreditation. Accreditation is usually voluntary.

Accreditation Process



¹³ *Licensing and Accreditation Manual for Hospitals* Ministry of Health, Kyrgyz Republic, Working Draft 9-26-95

Guiding Principles

The core idea behind licensing is the recognition that there are levels of quality below which patient care should be prohibited. If a hospital is unable to provide such fundamental resources as potable water and qualified physician and nursing care, it should not be allowed to remain open. As licensing is defined as the absolute minimum level of quality, licensing standards are written to define the resources that must be present in order for the hospital to safely and effectively treat patients. The goal of licensing is not to define desirable quality, rather it is to define the level of capability that is at the absolute bottom.

Accreditation, on the other hand, is intended to improve the level of patient care quality to the highest level possible. Therefore, accreditation standards are written at a level that defines the optimum achievable level of quality. Successful implementation of accreditation standards by a hospital will result in significantly improved patient care.

The highest order goal of the quality improvement process is the achievement of the greatest possible reduction in morbidity and mortality given the resources that are available to providers. High quality medical care may not be the *ideal* level of care, but it is the best possible care that is possible under actual conditions faced by providers.

The core idea behind a system of accreditation is the belief that Chief Doctors and hospital staff want to provide high quality care, but they need ideas on how to achieve it despite limited resources. Accreditation standards therefore provide ideas to the hospital staff. The objective of these standards is to provide a model for operations, a guide on "how to do it", a measure of success, and an indicator of trouble. Accreditation standards consist of *structural standards* that define the resources that should be present, *process standards* which show how operations may best be carried out, and *outcome standards* which show if the combination of structure and process is working as it should.

Alternative systems for quality assurance being developed in such places as Kemerovo are incorrectly called standards and accreditation. These systems are based on punishment for nonperformance rather than on reward for care that achieves desired results. Even more significant is the fact that these systems based on *Medical Economic Standards* require a very rigid and complicated set of protocols. The level of effort that is required to develop and monitor these protocols far exceeds any resulting improvement in quality. Especially in times of economic crisis where the total quantity of resources is limited and availability is unreliable, a system that demands rigid adherence to fixed protocols can only result in patient care that is judged inappropriate. As these systems focus on the steps that are taken in care delivery and not on results, patient care that intelligently and efficiently uses available resources to achieve a cure but which differs from the prescribed protocol, is punished.

In addition, such systems consume tremendous resources because monitoring each and every medical record takes great amounts of senior staff time away from patient care. It is far more important that the *results* of patient care are successful, and that the system of monitoring quality

is cost efficient. Monitoring global quality indicators, which are incorporated in the accreditation system standards adopted by Kyrgyzstan, will result in equal or greater improvements in the *results* of patient care (reductions in morbidity and mortality) while using far fewer resources than an alternative approach such as the cumbersome Medical Economic Standards.

Hospital Licensing Standards

The following licensing standards are to be applied to all hospitals in the Republic of Kyrgyzstan. These standards represent the absolute minimum structure that must be present in order for the hospital to deliver care to patients. Any hospital not meeting these standards must be closed.

Definition of a Hospital: Hospitals are locations where persons suffering physical or mental ailments are provided medicine, surgery, or other forms of therapy while being housed in a location other than their own home for a continuous period of 24 hours or longer.

Hospitals must have:

1. A licensed physician who is responsible for assuring that every patient is diagnosed as to the nature of his or her ailment and receives either effective therapy to alleviate the malady, or palliative care in cases where effective therapy is not available.
2. Nursing care any time there are patients at the facility.
3. A bed that is occupied by a single individual except in extreme situations of need where beds may be shared by more than one person. At no time may more than one person occupy a bed when such sharing would result in an adverse medical outcome for any of the persons (such as the transfer of communicable disease). Beds may not be shared by persons of the opposite sex except in the case of children under the age of five years.
4. Sufficient sanitary facilities to prevent the spread of fecal-borne disease.
5. Potable drinking water.
6. Food service with meals that are appropriate to the needs of the patients, adequate cooking facilities, or arrangements where food is provided to patients by outside sources such as family members or contractors.
7. Hospitals must comply with existing SNIP Codes (State Code of Public health, Environmental, Epidemiological Norms and Regulations).
8. Transport, or have regular and reliable access to transport
9. A working telephone line

10. The minimum set of medical equipment and surgery instruments required by existing State norms.
11. Linens, bed supplies, and other "hotel" service necessities in addition to medical equipment.

Hospital Accreditation Standards

The Licensing and Accreditation Committee in consideration of the most effective approach to hospital accreditation in Kyrgyzstan has developed the following list of priority areas for accreditation standards development.

1. Hospital management
2. Staff policy and working regulations
3. Financial and economics management
4. Patient rights and hospital development
5. Emergency care
6. Surgery and anesthesia
7. Outpatient care
8. Maternal and child health
9. Public health, epidemiology and environment control
10. Paraclinical services (x-ray, laboratory and ECG)
11. Clinical procedures and services
12. Inpatient care
13. Pharmaceutical supply
14. MIS
15. Biomedical equipment
16. Plant (facility) standards
17. Safety
18. Quality assurance and continuing quality improvement

Licensing and Accreditation Process and Organization

Licensing and Accreditation Mechanism: Key Points of Organization and Process

As described above, licensing and accreditation functions are separate, but related, activities devoted to assuring and improving the quality of health care in Kyrgyzstan. The flowchart that appears below provides a temporal overview of how these functions will operate.

Highlights of the licensing and accreditation mechanisms:

- Licensing of hospitals is carried out by the Ministry of Health. Inspectors visit each facility to determine its compliance with the approved licensing standards. Failure to meet all licensing standards results in immediate loss of permission to remain open and care for patients, until all deficiencies have been corrected.
- Accreditation of hospitals is carried out by an autonomous, legally-chartered entity which is governed by a Management Council consisting of equal numbers of representatives from Health Care Departments, professional medical associations (physicians, nurses, and others), health insurance organizations, and medical workers' labor unions.
- Accreditation is compulsory for all hospitals, after they have been licensed. Each institution will have three opportunities to achieve accreditation, with a minimum of six months between applications for survey. If not successful after three attempts, the facility will lose its license to operate and be closed by the Ministry of Health.
- Hospitals that earn the accreditation award receive the following incentives: an increase of one or two salary grades for all staff; faster promotion for all staff in their professional certification; a premium in its reimbursement payments from the Mandatory Health Insurance Fund; faster award for employees of titles such as "Master of Health Care" or "Distinguished Physician of the Kyrgyz Republic".
- The Accreditation Commission is appointed by the Management Council and its members include a chairman, deputy chairman, secretary, full-time surveyors, and contractual experts (part-time surveyors).
- Funding for the Accreditation Commission is provided initially from public funds administered by the Ministry of Health. Once all hospitals have been accredited, funding for accreditation activities in Kyrgyzstan shifts to fees paid by accredited hospitals.
- Duties of the Accreditation Commission include hiring staff and hospital surveyors; establishing accreditation policies and procedures; maintaining the accreditation standards and revising them as needed; supervising all operations of the accreditation program; and making recommendations to the Management Council concerning the accreditation status of each hospital. Final accreditation decisions are the prerogative of the Management Council.
- Accreditation surveys are carried out by trained professional surveyors who evaluate the hospitals' performance against official Hospital Accreditation Standards, and who provide education and consultation to hospital staff on ways to achieve better compliance with the standards.
- The surveyors' written report is analyzed by the Accreditation Commission, which then recommends one of three accreditation decisions: Full Accreditation, Provisional

Accreditation, or No Accreditation. Provisionally accredited hospitals must remedy significant deficiencies in their operations within a specified period of time in order to retain their accreditation award. Nonaccredited facilities must reapply for accreditation within the established period of time.

- Findings from the accreditation survey of a hospital are provided to the Ministry of Health, the Mandatory Health Insurance Fund, employers, local governments, and medical associations as needed. A national accreditation database is maintained on computer as a record of all hospitals' compliance with the Hospital Accreditation Standards.