
**FINAL
MISSION REPORT**

**INITIATION OF COMBINED DRG/QA
DEMONSTRATION PROGRAMS
IN HUNGARY**

By

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A. EXECUTIVE SUMMARY

A combined HEI team of physicians and organizational and financial consultants traveled to Hungary for a 12 day trip as part of the HEI/USAID 1994 country plan for Hungary. This plan is aimed at: (a) assisting two hospitals in adjusting to the new Diagnostic Related Group (DRG) payment system and at improving their internal management systems to facilitate the more efficient allocation of hospital resources and improving quality of patient care; and (b) assisting the Hungarian Society for Quality Assurance (HSQA) in developing Model Quality Assurance programs within community hospitals as candidates for replication in other parts of the country.

The trip began with teams spending two days at each of the demonstration hospitals to review existing financial and computer systems, to gauge the ability of the hospitals to organize effective QA committees, and to perform preliminary education with the appropriate hospital representatives.

Following the site visits, the teams developed recommended Action Plans for their respective areas (Finance and Quality Improvement). These plans were reviewed at an all day meeting with the HSQA, which gave approval to the Plans.

Two days were then spent in joint meetings attended by representatives of the demonstration hospitals, as well as by representatives of the three observer hospitals. At these meetings, the respective Plans were discussed in detail, as well as responsibilities

assigned for specific tasks. Finally, resources were determined and time frames for implementation of the components of the Plans were agreed upon.

A meeting with USAID's Hungarian Office to apprise them of the progress of the project completed the trip.

Contained in this report are the detailed observations and findings of the on-site reviews (Section E), as well as the Quality Improvement and Finance Action Plans (Section F) through June 1995.

B. BACKGROUND

Hungary has initiated a hospital payment system based, in part, on the Diagnosis Related Groups (DRGs). This system is conceptually similar to the U.S. DRG-based payment system initiated by the Medicare Program in 1983 and subsequently adopted by many private health insurers.

Hungarian hospitals are experiencing many of the same operational problems in adapting to the system that U.S. hospitals encountered in the mid-1980s. One problem is unfamiliarity with the technical and mechanical aspects of the new payment system. A second, and perhaps more significant problem, is the shift in incentives that is implied by the change from the historical central budgeting for hospital services to a per case

reimbursement system. This fundamental change in the method of payment for hospital services will require hospital administration to alter significantly the ways in which it allocates and manages its resources.

The HEI/USAID 1994 country plan for Hungary proposes to (a) assist two hospitals in adjusting to the new Diagnostic Related Group (DRG) payment system and improve their internal management systems to facilitate the allocation of hospital resources more efficiently and improve quality of care; and (b) assist the Hungarian Society for Quality Assurance (HSQA) in developing model Quality Assurance programs within community hospitals as candidates for replication in other parts of the country. With approvals by USAID Washington and USAID Budapest, these two activities were combined within the same two hospitals. Consequently, the HEI financial management and quality assurance consultant teams worked collaboratively to develop action plans for hospital projects demonstrating improvements in efficiency and effectiveness at both institutions.

The primary client is the Hungarian Society for Quality Assurance (HSQA), a non-governmental agency recognized by the Ministry of Health as the organizational catalyst for the development of quality assurance in Hungary. The leadership of HSQA is comprised of the President, Attila Kovacs, M.D. (also the Director of Health of the Szabolcs-Szatmar-Bereg County), and the General Secretary Laszlo Gulasci, M.D., Senior Public Health Advisor for Szabolcs-Szatmar-Bereg County. In his capacity as County Medical Director, Dr. Kovacs is responsible for clinical medicine in the four hospitals in the county. Dr.

Gulasci is completing his doctoral studies at the University of York, Department of Economics and Related Studies. Upon conference of the degree, Dr. Gulasci will be the only Hungarian health economist trained in the West. Another HSQA Board member, Lajos Bojthe, M.D., General Secretary of the Hungarian Hospital Association and Director of the Szolnok County Hospital, provides a direct link to and support of the Hospital Association.

The leadership of the HSQA initially requested technical assistance and training in the area of Quality Improvement (QI), but expanded its request to include the application of DRGs and hospital management systems. The Hungarian Hospital Association subsequently pledged support for the combined demonstration programs. The Country Report on Quality Assurance, 1994 written by the HSQA General Secretary for the Hungarian Institute for Quality in Health Care (Appendix A) provides an indication of the level of commitment of the Society to quality assurance.

The secondary clients for these combined activities are the two hospitals proposed by the HSQA as demonstration sites. In April 1994, James F. Janeski, HEI Deputy Director, and Walter Unger, an independent health care management consultant, visited Hungary to collaborate with the HSQA Board of Directors in selecting hospital sites and arranging for the specialized teams to implement the scope of work.

The mission found, among other things, that:

1. All five hospitals which had been proposed as candidates and had been visited expressed a high level of interest in participating in a DRG/QI operations improvement demonstration program;
2. All five hospitals seek to improve their operating efficiency through the enhancement of their financial management systems and through anticipated cost and quality improvement measures; and
3. There is a compelling need in Hungary to achieve greater efficiency and effectiveness in the delivery of health care services.

The two demonstration or "primary" hospitals selected in collaboration with the HSQA are:

Flor Ferenc County Hospital, Kerepestarcsa (Pest County)

Gabor Katai, Karcag City Hospital (Szolnok County)

It was also agreed that up to three additional or "secondary" hospital teams will be invited to participate in the formal training programs at the two primary sites, to permit involvement of a larger group of hospital managers. Participants from these secondary hospitals will be responsible for implementing their own DRG operations improvement and quality improvement activities without direct U.S. technical assistance.

The "secondary" hospitals will include:

Mateszalka City Hospital (Szabolcs-Szatmar-Bereg County)

Eger Hospital (Heves County)

Gyongyos Hospital (Heves County)

The HEI draft report entitled Site Selection for Hospital Based DRG Operations Improvement and Quality Assurance Activities in Hungary provides additional background and information in regard to the selected hospitals and Hungarian hospital reimbursement. The following is a brief summary of relevant facts on the two demonstration site hospitals:

Flor Ferenc Hospital, Kerepestarcsa

The Flor Ferenc Hospital in Kerepestarcsa is a 1,010-bed specialty hospital located in Pest County, contiguous to Budapest. The Hospital, which opened in 1979, has 1,200 employees, of which 130 are physicians and 650 are nurses. Of the total bed complement, 100 beds are designated for chronic care. In 1993, the Hospital's occupancy was approximately 82 %. Its annual operating budget is approximately 760 million forints (U.S. \$ 7.6 million).

Flor Ferenc Hospital provides services in the areas of internal medicine (including cardiology and vascular diseases), gastroenterology, rehabilitation, gynecology, rheumatology, otolaryngology, ophthalmology, urology, pediatrics, surgery, dermatology, psychiatry, neurology, and intensive care. It also offers a number of other tertiary care services including endoscopy, artificial lens implantation, angiography, diagnostic aspiration biopsy, and cytology.

Key personnel at this hospital include Andras Szabadfalvi, M.D. Medical Director; Dr. Peter Nagy, Financial Director; Laslo Vass, M.D. Director of Quality Assurance; and Tamasne Vertes, the Director of Nursing.

Gabor Katai, Karcag, Hospital

The Karcag City Hospital is a 700-bed facility with approximately 1,000 employees. The facility operates at approximately 80 % occupancy, treating approximately 15,000 inpatients annually. In addition, it has nearly 500,000 outpatient visits per year. The annual operating budget is 500 million forints (U.S. \$ 5 million).

The Hospital has 15 patient care departments including internal medicine, pediatrics, surgery, trauma, dermatology, ophthalmology, otolaryngology, intensive care, dialysis, and chronic diseases.

Key Hospital personnel include Janos Szabo, M.D., the Medical Director; Micklos Futo, Director of Finance; Gyula Hersko, M.D., Director of QA; and Erika Meszaros, Director of Nursing.

Specific finding from the review of the hospitals' financial and clinical operations will be addressed in Section D later in this report.

C. OVERALL PROJECT GOAL

Develop and implement programs at the two hospitals selected which, at the end of one year, will serve as models for other hospitals in Hungary to demonstrate:

1. Improved efficiency within the parameters of the DRG reimbursement system through the development of internal management systems, which will make possible the reallocation of hospital resources, and
2. Improved effectiveness through the implementation of Quality Improvement programs.

D. PURPOSE OF TRIP

1. Perform on-site assessments of the financial and computer capabilities of the hospitals, as well as to organize the QA Committees and perform education in the areas of Quality Improvement.

2. To facilitate meetings of the combined finance/quality teams with the leadership of the HSQA and the top management of the demonstration hospitals to prepare jointly:
 - a. Goals and activities linking the demonstration of improved efficiency and effectiveness;

 - b. An action plan for implementation of the demonstration program, and

 - c. A draft illustrative agreement defining what will be accomplished over the next year. After approval, this document will be signed by the HSQA and HEI/AID.

The Scope of Work for both the Finance Team and the Quality Team, as well as the Team Background information, is contained in Appendix B.

E. OBSERVATIONS AND FINDINGS

Upon arriving at the demonstration site hospitals, the Team separated into three parts: Finance, Quality Improvement, and Nosocomial Infection, to conduct interviews, review levels of documentation, gather data, and investigate systems in place at the facilities. Two days were devoted at each hospital to this process.

Following the hospital visits, the Team met with the Board of HSQA to present its findings and recommendations for the demonstration projects. Two days were then spent in joint meetings with the representatives of the demonstration project hospitals, as well as with representatives of the "secondary hospitals", planning the demonstrations in detail.

The following summarizes the relevant observations and findings of the teams during their two day on-site reviews:

1. Quality Team

- a. The issue of the degree of power maintained by the Chiefs of Services in controlling the clinical process is one that will need to be addressed immediately. Their cooperation in accepting and working with the Hospital QA Directors to implement the QI demonstration programs will be essential to the success of the project. Test monitoring of the

QI programs will need to be established without significant disruption to existing procedures until such time as all members of the medical staffs involved are convinced of the effectiveness of the innovative interventions;

- b. The current practice of " grey money " paid to the physicians and, to a lesser extent, to nurses will be a barrier to effecting certain clinical changes, particularly those affecting length of stay. Since hospitals are permitted to keep any cost savings realized, some form of incentive may need to be built into the process, possibly by allowing the physicians some discretion in the use of a portion of the demonstrated cost savings achieved under the DRG system;
- c. The recent elections in Hungary have resulted in a degree of uncertainty among hospital personnel with regard to whether health reform initiatives, already begun, will be continued.
- d. Over the last year, the two hospitals have begun to establish a formal structure for quality improvement programs. This structure manifested itself in numerous in-house clinical committees, i.e. Pharmacy Committee, Committee on Medical Technology, Infection Control Committee, and the Computer Technology Group. The level of

activity at the Karcag Hospital in developing QA programs is reflected in Appendix C.

- e. The Nursing Directors have developed QI programs on their own; one for example, is the decubitus ulcers project at Karcag (Appendix D). These programs, to date, have little or no overlap with the physician quality initiatives.

- f. Quality Improvement Programs to date have not been effective for three basic reasons:
 - (1.) Lack of adequate computer hardware and software to assist in the accumulation and analyses of clinical data;

 - (2.) Inability of hospital Administration to gain acceptance from the medical staff of a firm commitment to quality improvement;

 - (3.) Inability of the Medical Director to exercise any real professional control over the physicians, due to the cumbersome administrative structure of the hospitals. A peer review/utilization review system does not exist.

- g. The Directors of Nursing at the hospitals are significant assets in the establishment of formal QI programs. They accept the concept of Standards of Nursing Care based on best paths programs and recognize the need for individual nursing records for each patient, a practice currently not in use in the hospitals;
- h. The Pharmacy is an area where considerable cost savings could be expected with appropriate quality improvement programs. Nearly 90 medications are routinely stored on clinical floors, and there has been no effective control over the utilization of these drugs to date. The development of a formulary and, possibly, exploration of a "unit dose" system are two items for inclusion in the Action Plan. Dr. Pecsvarady at Pest County Hospital is already involved in developing a computer program aimed at evaluating the cost of drugs per physician per ward;
- i. Administrative personnel at both facilities cited a need for increased nursing staff on the units. More efficient utilization and reductions in length of stay should generate additional staff hours to meet these needs without increasing payroll costs;
- j. There is a consistent perceived need for more data and an unawareness of how easily some of the data could be accumulated by

use of existing computers and databases, which exist in the Medical Records System (See Financial Observation "i"). There was little awareness of the ease with which performance indicators could be established and used as internal benchmarks;

- k. Practical material for organizing QI programs will need to be sent to the HSQA for its own use as well as for distribution to each of the demonstration hospitals; specific material identified by the Team is listed in Section G (Education) of this report.
- l. Because of the dual reporting requirements of the hospitals to both the city and the county governments, there will be a need to communicate the progress of the programs to these governments on a regular basis;
- m. Our observations lead us to believe that nosocomial infection rates are not being calculated properly. Failures and inconsistencies in reporting of post operative infections are the major factors in this problem. There is a need to establish an accurate baseline of nosocomial infection rates at both demonstration hospitals.
- n. Average lengths of stay at both facilities appear to be at least 50% higher than would appear to be justified by their case mix acuity. The

historical absence of incentives to reduce length of stay, coupled with the fact that no utilization review exists in the hospitals, are the prime causes of this situation.

Because the two hospitals have already initiated activities and are interested in focusing on the problem, infection control in surgical departments has been identified as the logical starting point to demonstrate the quality improvement process. Infection control in surgical sites will be the subject for the process which will include: problem identification, data collection, analysis, corrective action and education.

The complete report of the Quality Improvement Team is contained in Appendix E.

2. Finance Team

- a. Detailed cost information is available, but only at the departmental levels. At present, due to the lack of a formal detail charge structure, costing at the patient level is not available. Costing will have to be developed on a departmental level using allocation of support and ancillary services. Currently, 10 hospitals are providing detail test and procedure information on patients to the Ministry of Health under a demonstration project aimed at refining the DRG payment process.

- b. Revenue is recognized at the time that funds are received from the National Insurance Fund (NIF). Monthly payments to the hospitals are made based on the DRG points of the cases discharged two months previously. Adjustments to the hospitals' DRG payments are made by NIF monthly to assure that total payments to all hospitals do not exceed the amount budgeted nationally for hospitals.

- c. Although there is an ability within the computer systems at the Kerepestarsca Hospital to determine the DRG assignment of each discharged case, we did not see that this function was being performed each month. A methodology to assign DRGs and to calculate actual earned revenue on a monthly basis would give the hospitals the ability to verify the accuracy of the NIF DRG point calculations and project revenue. In addition, from our very limited review, Medical Records in general are incomplete and undercoded, resulting in these hospitals not receiving their historical actual costs.

- d. Monthly comparisons of budgeted costs to actual spending is being done for the direct and indirect costs; however, bonuses paid to the chiefs of the services seem unaffected by adverse cost variances;

- e. Statistical data, although accumulated, is not used in conjunction with cost information to generate meaningful management benchmarks or to assess operational performance (e.g. Cost per lab test, nursing hours per patient day, x-ray film cost per procedure);

- f. We saw no evidence that monthly comparisons of expected/budgeted revenue to actual earned revenue is made. The focus of hospital management is solely on cost performance, with little or no emphasis on revenue improvement;

- g. The Hospital at Kerepestarsca has developed encoding software and DRG grouper software. This software, however, is not used by the physicians for coding of the records nor is the DRG grouper used to project or verify insurance fund payments. The linking of these two software products and their availability on the individual wards would greatly enhance the completeness and accuracy of coding, provide standardized length of stay information for utilization review, assist in the timely and more accurate recognition of revenue and provide a control over the accuracy of the calculation of payments received from the National Insurance Fund.

- h. Diagnosis data from the Coding Sheets, which is entered into the computer and subsequently sent on a " floppy disk " to NIF, can serve as a source for future clinical study, once we have determined the accuracy and completeness of this data;
- i. The Medical Records System has the capability to search/sort by ICD9 codes the diagnosis data that is sent to NIF. This capability will provide Quality Assurance with the ability to identify patients with certain characteristics and facilitate the sampling of medical records for quality assurance analyses. Downloading capabilities will enable some additional statistical reports to be generated which can serve as the basis for the beginning of outcomes reporting.
- j. Enhanced coding by all hospitals since the July 1, 1993 implementation of the DRG System has resulted in an increase in DRG Points nationally by approximately 15 %. This increase has resulted in a Correction Factor (discount) of approximately 12 % being applied to all monthly hospital remittances. Hospitals that have not increased their DRG points by 15 % are essentially not receiving their approved budgeted amounts;

- k. Cost performance factors beyond the hospitals' controls (newly implemented Minimum Wage Laws for civil servants, normal inflation, etc.) have not been recognized in the hospital DRG rates;

- l. A hospital's licensed bed capacity is not a factor affecting reimbursement under the Hungarian DRG System. Revenue is based solely on total case-mix and DRG points. Consequently, reductions in bed capacity, which may result from operational improvement, will not adversely affect hospital reimbursement, nor should it result in losses of jobs due to current unmet patient care needs;

- m. Currently, there is no incentive in the system to move patients to alternative, less costly modes of treatment, such as Same Day Surgery. The current payment for Outpatient Services is so low that there is no economic incentive to shift inpatient cases to Same Day Surgery or to Same Day Medical alternatives.

- n. While organizationally the Informatics Department reports to the Chief Economist (Director of Finance) of the hospital, the actual operation is fairly independent of the financial function. Under the DRG system, this working relationship must be integrated to provide the needed management information for the case-mix management system.

- o. In general, the hardware and software capabilities of the two hospitals visited are severely limited, although Pest County Hospital does have a much more advanced Informatics Department. Hardware is limited to a few personal computers with relatively slow processing speeds, small hard disk drives and dot matrix printers. Software is limited to government issued programs with no download capabilities or spreadsheet or data base analysis software.
- p. The Medical Records system was provided by the Insurance Fund/Ministry of Health and is an excellent database manager for controlling the Medical Record files.
- q. The hardware capabilities at Pest County Hospital are significantly more sophisticated than those observed at Karcag. However, the hardware still requires upgrade, especially in processing speed. Data storage capacity appears to be adequate; however, reporting requirements may involve the expansion of their storage capabilities.
- r. Hardware and software capabilities should be enhanced to access and analyze this raw data. However, the hardware and software upgrades should not require a significant financial investment. A \$10,000 to \$12,000 expenditure per hospital should be sufficient to provide

reporting capabilities necessary to tap this database. We are uncertain whether these funds would be available internally, since the Economics Directors repeatedly stressed their tight budget situations. Technical training on the use of this hardware and software will also be required; however, these resources are available within the health system.

The Detailed Work Plan for Demonstration Sites - Finance Team, which was used as a guide for the reviews at the two hospitals, is contained in Appendix F of this report.

The Observations and Findings listed above were considered by the Team in developing the Action Plan in Section G below.

F. PROJECT INDICATORS

The following are the specific project indicators for evaluating the program:

1. Reduce case mix adjusted length of stay at each hospital by 10 %.
2. Reduce inappropriate use of high cost antibiotics in surgical departments by 25 %.

3. Determine a baseline surgical site infection (SSI) rate at each facility and demonstrate a decline over one year of 25 %.
4. Improve DRG coding by 10 % over the current levels after one year.
5. Present two or three recommendations to national decision makers for the reallocation of resources and enhancements of institutional capacity to deliver lower level, less expensive forms of care, emphasizing prevention and the improvement of health status. Recommendations will evolve from the two demonstration sites.
6. Develop standardized financial and statistical reporting as a foundation for peer comparison between the two demonstration site hospitals.
7. Bring the departments which are inefficient from a cost perspective to a break even basis through improvement of the coding process and through exception reporting and analysis techniques.

8. **Facilitate the creation of an Infection Control Team at the Demonstration Hospitals and target nosocomial infections to demonstrate the quality improvement process including:**
 - a. **Develop efficient, functioning multi-disciplinary quality improvement committees at the two demonstration hospitals. Appoint a chairman.**
 - b. **Write an annual plan which includes: Problem identification, data collection, analysis, corrective action and education.**
 - c. **Schedule meetings at regular intervals, preferably monthly, between the QI committees of the demonstration hospitals to compare methodologies and results.**
 - d. **Create an awareness at the demonstration hospitals of the need for a common data base of project information which can be shared between the facilities.**

9. **Perform comprehensive assessment of infection prevention in the demonstration hospitals using validated survey instruments for the purpose of providing site-appropriate recommendations regarding:**

- i. The development of an effective, self sustaining prevention program;
- ii. Priorities for infection prevention activity;
- iii. Practical, cost-effective intervention that will substantially reduce transmission of nosocomial pathogens and incidence of nosocomial infection;
- iv. Reduction or elimination of unnecessary, wasteful practices.

G. ACTION PLAN

(See Table I for matrix of tasks and Time Table related to the Financial Management Demonstration Project and Table II for matrix of tasks and Time Table related to Quality Improvement Infection Control Demonstration Project).

1. Financial Management Demonstration Project

September - October, 1994

- a. Introduce concept of " exception reporting " as a financial management analysis technique.

- b. Work with the Economics Directors in a joint meeting to identify the cost and statistical elements to be included in the Standardized Financial and Statistical Reporting data that will serve as the basis for ongoing operations evaluations for this project.
- c. Develop monthly reporting formats for expenses and statistics.
- d. Develop benchmark indicators (e.g. Cost per Admission per Unit Adjusted for Case-mix Acuity)
- e. Initiate educational sessions on DRG System with medical staff to familiarize them with the reimbursement ramifications of the system and their role as managers of resources. The goal is to help the physicians to realize their need to reassess their historical treatment patterns and redefine proper patient care in an incentive based payment system.
- f. Establish a format for each hospital to generate and summarize, in a meaningful way, the monthly case mix acuity (severity of patients on each unit) indices for each nursing unit. The issue of the proprietary rights and use of the " Grouper " program developed by the

Informatics Section at Pest County Hospital will need to be resolved to be used for staffing and budgeting.

- g. Evaluate the onsite personnel who could be trained to perform a Baseline DRG Coding Review to enable the Finance Team to determine the propriety of the current DRG coding. Since the hospital revenue is dependent on the thoroughness of the coding, this is a critical task at this time.
- h. Develop protocol for Baseline DRG Coding Review, which will be performed by selected hospital personnel over a two-month period.
- i. Initiate training in selected software essential to simplifying the financial management evaluation process (Lotus 123, Word Perfect, Excel). This software can be purchased by the respective hospitals out of their existing operating budget.
- j. Since no detail charge structure exists in the ancillary departments, it will be necessary to use a surrogate point system to allocate indirect costs for management analysis purposes. The Economics Director at Karcag Hospital already is using such a methodology; its use at the Pest County Hospital would provide greater insight for management

into the cost performance of clinical services, using the concept of Relative Value Units as an alternative to charges for allocating costs.

- k. **Develop Product Line Profitability Analysis using the Relative Value Units methodology discussed above. Profitability by Nursing Unit would enable management to identify problem areas for action.**

October - November, 1994

- j. **Communicate with Economics Directors regarding the progress being made on the Standardized Financial and Statistical Reports.**
- k. **Exchange information regarding the interim findings of the Baseline DRG Coding Review.**
- l. **Review preliminary benchmark analyses to understand performance of costs and to identify trends for management.**

December, 1994

- m. Review Standardized Reporting year to date. Work with Economics Directors to utilize this information in the 1995 budget process.
- n. Evaluate findings from Baseline DRG Coding review. If review indicates a serious undercoding problem exists at either or both hospitals, consider the introduction of a Coder position at the hospital. Such a person, who should have clinical training, would be responsible for analyzing the patient chart and identifying any complications or comorbidities which affected resource consumption while the patient was hospitalized. These factors would be brought to the attention of the attending physician who must ultimately sign off on them as elements affecting the DRG assignment.
- o. Continue ongoing education of the medical staff, utilizing the findings from the Baseline Review as an educational tool.
- p. Review progress made in adopting the grouper software as a management tool for calculating monthly revenue and for verifying the accuracy of the NIF's DRG points and revenue calculations.

January - March, 1995

- q. Continue reviewing information sent by hospitals on management reporting systems developed the previous Fall.

March, 1995

- r. Develop information needs to begin " peer " cost and performance comparisons between the hospitals. Ideally, analyses would be more useful if cost and statistical data from the three observer hospitals could be integrated with the data from the two demonstration sites. This methodology could be expanded to include all hospitals which are members of the HSQA. With a larger sample, hospital peer costs could be sorted between teaching and non-teaching facilities; and hospital specific case mix adjustments could be applied to the data to recognize cost differences due to differences in acuity of cases treated at each facility.
- s. Provide feedback and analyses on any information for the hospitals included in the special Ministry of Health study of resource consumption at the patient level.

April - June, 1995

- t. Communicate regularly with the contact people identified at the demonstration hospitals on their progress in adopting the management techniques, methodologies, and analyses identified above. Such contact will be in the form of written communiques coordinated by the HEI Activity Manager.
-
- u. Develop an outline of the financial management systems which have proven to be most useful to the hospitals in improving their cost performance over the past year; include this outline in the presentation for the 4th Hungarian Seminar of Quality in Health Care.

Program Evaluation - Finance

The program outlined above will undergo continuous evaluation as elements of it are incorporated by each hospital into their management systems. The test for determining the usefulness of the outlined program is whether the elements are still being used and the techniques still being applied in June, 1995. Financial personnel tend to be practical and are often inundated with data requests; they will quickly discard those data elements and evaluation methodologies of questionable use to them in running their operation. We will keep in close touch with the hospital CFOs

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT*
September - October, 1994	1. Reduce case mix adjusted length of stay at each hospital by 10%.	<p>a. Initiate educational sessions on DRG System with medical staff to familiarize them with the reimbursement ramifications of the system and their role as controllers of the resource consumption.</p> <p>b. Establish a format for each hospital to generate and summarize the monthly case mix information for each nursing unit.</p> <p>c. Work with the Informatics Chiefs at the hospitals to develop software programs that will facilitate the generation of monthly physician length of stay data within services. All the data needed to prepare these analyses is already contained on the medical data floppy disk which is prepared and sent monthly to the National Insurance Fund for DRG Coding and for reimbursement payments to the hospitals.</p> <p>d. Review sample length of stay reports with the QA Director and the QI Committee to enable them to understand the sources of the data and to facilitate their subsequent discussions of this data with the individual service chiefs.</p>	<p>Days in Kerepestarca: 3</p> <p>Days in Karcag: 3</p> <p>Days in U.S.: 4</p> <p>Consultants:</p> <p style="padding-left: 40px;">Ray Kaden G. Arnone</p>

* In Person Days.

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
September - October, 1994	2. Reduce inappropriate use of high cost antibiotics in Surgical Departments by 25%.	a. Accumulate information on levels of expenditures for antibiotics at each hospital over the last fiscal year. b. Generate cost per discharge information by service using the above cost data and appropriate statistical data for use by the Infection Control Team members in their discussions with the QA Director and the QI Committee at each hospital.	Days in Kerepestarca: 3 Days in Karcag: 3 Days in U.S.: 4 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
September - October, 1994	4. Improve DRG Coding by 10% over the current levels after one year.	<ul style="list-style-type: none"> a. Evaluate onsite personnel who could be trained to perform a Baseline DRG Coding Review to enable the Finance Team to determine the propriety of the current DRG coding. b. Develop a protocol for the Baseline Coding Review. c. Educate selected personnel in the performance of the coding review, including the use of coding impact summary sheets on which critical coding information will be accumulated. d. Reemphasize, through medical staff education sessions, the importance of the thoroughness of the physicians' medical chart coding on the proper assignment of DRGs and in the reimbursement of the hospitals by the NIF. 	Days in Kerepestarca6 Days in Karcag: 6 Days in U.S.: 6 Consultants: R. Kaden G. Arnonc DRG Coding Expert

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
September - October, 1994	6. Develop standardized financial and statistical reporting as a foundation for peer comparison between the two demonstration site hospitals.	<ul style="list-style-type: none"> a. Develop concept of "exception reporting" as a financial management analysis technique. b. Work with the Economics Directors to identify the elements of standardized financial and statistical data reports. Agree on standardized format. c. Develop monthly reporting formats for expenses and statistics. d. Establish formats and methodology for generating the monthly case mix acuity indices for each nursing unit. e. Develop benchmark indicators in conjunction with the Economics Directors and the Informatics Chiefs. f. Meet with the Economics Directors and Informatics Chiefs to discuss the use of the "Grouper", which was developed at Kerepestarca, by Karcag Hospital in its DRG management system. 	Days in Kerepestarca 3 Days in Karcag: 3 Days in U.S.: 4 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
	7. Bring departments which are operating inefficiently to break even.	<p>a. Open discussions on the concept of Profitability Analysis by Service to the Economics Directors. This concept was introduced in June, 1994 and is well understood by the Directors.</p> <p>b. Discuss the theoretical approaches to developing such Profitability Analyses and gain consensus from the Directors for the standardized approach that will be utilized on this project.</p>	
October - November, 1994	1. Reduce case mix adjusted length of stay at each hospital by 10%.	<p>a. Communicate with Informatics Chiefs on their progress in writing the software for the monthly physician length of stay analysis reports.</p> <p>b. Communicate with QA Directors to ensure that they are continuing to prepare the medical staff for the physician length of stay reports that are expected to be available by December, 1994.</p>	<p>Days in Kerepestarca0</p> <p>Days in Karcag: 0</p> <p>Days in U.S.: 2</p> <p>Consultants: Same</p>
October - November, 1994	2. Reduce inappropriate use of high cost antibiotics in Surgical Departments by 25%.	<p>a. Communicate with Economics Directors at both hospitals to ensure that cost data being accumulated on antibiotics is being updated monthly.</p>	<p>Days in Kerepestarca0</p> <p>Days in Karcag: 0</p> <p>Days in U.S.: 2</p> <p>Consultants: Same</p>

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
October - November, 1994	4. Improve DRG coding by 10% over the current levels after one year.	a. Exchange information regarding the progress/findings of the Baseline DRG Coding Review with the QA Directors and with the personnel assigned to perform the reviews.	Days in Kerepestarca 0 Days in Karcag: 0 Days in U.S.: 4 Consultants: Same
October - November, 1994	6. Develop standardized financial and statistical reporting as a foundation for peer comparison between the two demonstration site hospitals.	a. Communicate with the Economics Directors regarding the progress on the Standardized Financial and Statistical Reports. b. Review preliminary benchmark analyses to identify cost trends and to understand performance of costs over the last few months. c. Obtain update on the status of the use of the "Grouper" by the Karcag Hospital.	Days in Kerepestarca 0 Days in Karcag: 0 Days in U.S.: 3 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
December, 1994	1. Reduce case mix adjusted length of stay at each hospital by 10%.	<ul style="list-style-type: none"> a. Review status of the preparation of the monthly physician length of stay reports by service. Analyze changes. b. Review reports generated to date to ensure the reasonableness and the accuracy of the reports as a management tool. c. Meet with the QA Directors to discuss the reactions of the medical staff members to the reports. d. Determine whether any modifications/additional information is needed for the reports. 	Days in Kerepestarca 5 Days in Karcag: 3 Days in U.S.: 4 Consultants: Same
December, 1994	2. Reduce inappropriate use of high cost antibiotics in Surgical Departments by 25%.	<ul style="list-style-type: none"> a. Meet with the Infection Control Team and the QA Directors to review the trend reports on the costs and uses of antibiotics by service. b. Determine, based on the preliminary findings, what additional information may be needed in this area to evaluate the historical uses of antibiotics. c. Determine whether an educational session with the chiefs of the services would be timely. The status of the data analyses will determine whether there is sufficient meaningful data, at this point, to make such an education useful. 	Days in Kerepestarca 2 Days in Karcag: 2 Days in U.S.: 1 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
December, 1994	4. Improve DRG coding by 10% over the current levels after one year.	<ul style="list-style-type: none"> a. Evaluate findings from Baseline Coding Review. b. Determine whether the findings from the Coding Review indicate a serious undercoding problem at either or both hospitals. c. Hold an educational session with the QA Directors and the Service chiefs to discuss the findings and to reinforce the importance of accurate coding on the hospitals' DRG management data and on its reimbursement levels. 	Days in Kerepestarca# Days in Karcag: 4 Days in U.S.: 4 Consultants: R. Kaden G. Arnone DRG Coding Expert

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
December, 1994	6. Develop standardized financial and statistical reporting as a foundation for peer comparison between the two demonstration site hospitals.	<ul style="list-style-type: none"> a. Review progress on the development and refinement of the Standardized Reporting. b. Meet with the Economics Directors to review the standardized reports from their hospitals and begin the process of exchanging information, particularly with regard to the performance benchmarks that have been identified. c. Discuss with the Economics Directors how the reports and the benchmark information can be used in their operating budget preparation. d. Review progress of use of "Grouper" software at both hospitals as a tool for pre-determining the hospitals' DRG assignments and for calculating their approved monthly revenue from NIF. 	Days in Kerepestarca 2 Days in Karcag: 2 Days in U.S.: 3 Consultants: Same
December, 1994	7. Bring departments which are operating inefficiently to break even.	<ul style="list-style-type: none"> a. Monitor profitability analysis b. Determine the additional information/software needs of the hospitals to successfully implement the Analyses by March, 1995. 	Days in Kerepestarca 3 Days in Karcag: 3 Days in U.S.: 4 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
January - March, 1995	1., 2., 4., 6., 7. (See Above)	<ul style="list-style-type: none"> a. Communicate with Economics Directors on the ongoing status of the management systems that were developed last Fall. b. Review copies of monthly Standardized Reports that are received from the Directors. c. Review DRG coding information reports to gauge whether the coding has improved since the inception of the project. d. Communicate with QA Directors regarding progress in gaining the cooperation of the medical staff in reducing the overall length of stay in each service. e. Communicate with the QA Directors and the Economics Directors on the progress being made to reduce antibiotics use by service. f. Communicate with the Economics Directors regarding the progress being made to develop the software necessary to implement the Profitability Analyses by Services. 	<p>Days in Kerepestarca0</p> <p>Days in Karcag: 0</p> <p>Days in U.S.: 8</p> <p>Consultants: Same</p>

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
March, 1995	1. Reduce case mix adjusted length of stay at each hospital by 10%.	<ul style="list-style-type: none"> a. Develop trend analysis report to measure the performance of each unit over the last 9 months with regard to length of stay of cases. b. Analyze individual physician average length of stay performance over the same period. c. Meet with the QA Director and with the Quality Team to evaluate physician performance and to develop an approach for reviewing the data with the individual "problem" physicians. d. Utilize case mix acuity data to "adjust" the average lengths of stay of the raw physician data. 	Days in Kerepestarca 5 Days in Karcag: 5 Days in U.S.: 4 Consultants: Same
March, 1995	2. Reduce inappropriate use of high cost antibiotics in Surgical Departments by 25%.	<ul style="list-style-type: none"> a. Review the six months actual data on antibiotics use that should be available by now. b. Meet with the Infection control team and the QA Directors to gauge the progress being made in achieving this indicator. c. Work with the Economics Directors in quantifying the financial impact of the change in the use patterns of high cost antibiotics. d. Participate in a general medical staff education session at which the findings on the antibiotics indicator will be discussed. 	Days in Kerepestarca 3 Days in Karcag: 3 Days in U.S.: 2 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
March, 1995	4. Improve DRG coding by 10% over the current levels after one year.	<p>a. Review the trend analysis of DRG coding and case mix acuity by service to determine whether there has been the improvement established by the indicator. If not, review the coders techniques to determine whether they are performing the medical chart reviews appropriately. If further education of the coders is necessary, it will be given.</p> <p>b. If there still remains a problem with the medical charts being incomplete, review this situation with the QA Director and the Service Chiefs.</p>	<p>Days in Kerepestarca 5</p> <p>Days in Karcag: 5</p> <p>Days in U.S.: 4</p> <p>Consultants:</p> <p>R. Kadcn G. Arnonc DRG Coding Expert</p>

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
March, 1995	6. Develop standardized financial and statistical reporting as a foundation for peer comparison between the two demonstration site hospitals.	<p>a. Analyze reports of "peer" cost and performance comparison between the hospitals. This information should be shared with the three observer hospitals to enable them to submit similar information for their facilities to enhance the meaningfulness and usefulness of this process.</p> <p>b. Identify, with the Economics Directors, the appropriate timeframes for the preparation of the peer cost comparisons. The period should cover several months, possibly quarterly, to provide meaningful data, eliminate aberrant data and to reduce the time commitments of the respective hospitals' financial staffs.</p> <p>c. Review the standardized financial and statistical reports with the Economics Directors and use them as an educational tool in demonstrating how this data is useful for managing under a DRG system.</p>	<p>Days in Kerepestarca 5</p> <p>Days in Karcag: 5</p> <p>Days in U.S.: 4</p> <p>Consultants:</p> <p>R. Kaden G. Arnone</p>

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
March, 1995	7. Bring departments that are operating inefficiently to break even.	<ul style="list-style-type: none"> a. Work with the Kerepestarca Hospital to implement the cost allocation techniques used at the Karcag Hospital in the preparation of Profitability Analyses by Service Department. b. Finalize the methodology for the Profitability Analysis by Service. c. Prepare Profitability Analyses for the first quarter of 1995, as the date is available. d. Review the data received from the Ministry of Health relative to the special study that it is conducting in resource consumption at the patient level. 	Days in Kerepestarca? Days in Karcag: 7 Days in U.S.: 2 Consultants: Same

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
April - June, 1995	1., 2., 4., 6., 7.	<ul style="list-style-type: none"> a. Communicate regularly with the Economics Directors regarding the management data that should now represent over 7 months of actual experience. b. Review the monthly reports which they will be forwarding to the Financial Team. c. Provide written critiques of the reports, using them as an educational tool in analyzing the results of operations at the hospitals. d. Monitor length of stay reports, which should be sent to both the Infection Control Team and to the Finance Team, by the QA Directors. e. Monitor the antibiotics use reports which should also be sent both to the IP Team and to the Financial Team. f. Review the monthly acuity reports by service to see if the trend indicates that coding accuracy is improving. g. Review the first quarter 1995 Profitability Analyses which should be available from the hospitals by the end of May, 1995. h. Comment, in writing, on the findings indicated 	<p>Days in KerepestarcaD</p> <p>Days in Karcag: 0</p> <p>Days in U.S.: 12</p> <p>Consultants: Same</p>

TABLE I
ACTION PLAN MATRIX

1. FINANCIAL MANAGEMENT DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
June 1995	Finalize Project	<ul style="list-style-type: none"> a. Prepare for attendance at National Conference to be held in Hungary in early June, 1995. b. Provide any written documentation necessary for the participants to present the results of this year long project at the conference. c. Attend the HSQA Conference. d. Prepare final report on the project. 	Days in Kerepestarca: 7 Days in Karcag: 7 Days in U.S.: 14 Consultants: Same

throughout this project to ensure that the program meets their operational needs. Modifications to the plan, if necessary, will be made as the project moves forward.

2. Quality Improvement/Infection Control Demonstration Project for Hungary

The HEI consultants with their Hungarian hospitals will accomplish the following:

- A. Perform comprehensive assessments of infection prevention in two Hungarian hospitals using validated survey instruments for the purpose of providing site-appropriate recommendations regarding:
 - 1. the development of an effective, self-sustaining infection prevention program;
 - 2. priorities for infection prevention activity;
 - 3. practical, cost-effective interventions that will substantially reduce transmission of nosocomial pathogens and the incidence of nosocomial infections;
 - 4. elimination of unnecessary, wasteful practices.

- B. Educate hospital infection prevention personnel about infection prevention principles and practices, the prevention of outbreaks of infection, and the reduction in rates of endemic infection through quality improvement methods.

- C. Maintain a collaborative relationship to monitor progress, address additional infection prevention issues as they arise, and train hospital infection prevention staff to develop and administer an ongoing educational program.

The following will be accomplished with counterparts representing the leadership of the HSQA:

- A. Select practical valid monitors (indicators) for key infection prevention processes and outcomes, including rates of infection and resistance to antimicrobials.

- B. Draft a national surveillance system for assessing and tracking hospital performance with respect to these indicators leading to proposed standards for hospital regulation and accreditation in Hungary.

- C. Demonstrate how basic infection prevention principles and strategies can be applied to a broad array of hospital health care processes and outcomes, leading to comprehensive quality improvement programs at the individual hospital and national levels.

- D. Establish national educational and training programs for infection prevention professionals and other health care workers so that these individuals will have the knowledge base and skills required to initiate and sustain improvement.

Kerepestarcsa Hospital and Karcag Hospital, in consultation with the HEI infection control team, will designate a team of a physician and a nurse with the responsibility, experience, and authority to implement an infection prevention program and other quality improvement activities at the individual hospital level. Each hospital also may designate a hospital administrator to be a member of its team, if appropriate. The Hungarian Society for Quality Assurance (HSQA) and the Hungarian Hospital Association (HHA) will designate a team to work with the infection control team and HEI on national infection prevention and quality improvement issues.

METHODS

Preparation

Following Dr. Edward O'Rourke's initial visit to Hungary in June 1994, assessment instruments will be tailored to the specific situation and objectives in the two Hungarian hospitals. In addition, hospital-specific educational materials will be prepared for use during Phases I and II. (10 person-days)

Phase I -- October 1994

- **Hospital Surveys**
- **Development of IC and QI Indicator Measurements**

An infection control team (Dr. Charles Huskins and a senior infection prevention nurse consultant) will perform a comprehensive 5-day survey of the existing infection prevention program in each of the 2 Hungarian hospitals (20 person-days total for the 2 hospitals). This survey will be performed using instruments and methods that have been extensively validated in other countries. The survey is designed to put infection prevention in the context of the hospital's governance, resources, personnel, patient population, and facilities and to provide a valid baseline for process and outcome measures. The survey has the following basic components:

1. Structured interviews with key personnel, including administrators, physician and nurse leaders, a representative sample of staff nurses, directors of relevant departments (e.g.: pharmacy, microbiology, central supply, OR), and infection prevention staff.
2. Direct observation of facilities and infection prevention practices on major hospital wards to verify information from the interviews and to collect quantitative and qualitative data that will be used as a baseline when assessing the success of improvement efforts.
3. A point prevalence survey of nosocomial infections, utilization of high risk invasive devices, and utilization of antibiotics. These data will also serve as a baseline to gauge improvement efforts.

Following this survey, the team will use a series of previously tested algorithms to determine appropriate improvements in infection prevention. These algorithms are designed to permit hospital officials to see the logic of the recommendations that will be made. In addition, hospital officials will be educated on how infection prevention can serve as a model for designing and implementing a more global quality improvement program. This debriefing process will take one day (4 person-days total for the 2 hospitals).

A written report will be prepared at the completion of this phase (6 person-days). This report will summarize the specific recommendations for each hospital, the measures of structure, process, and outcome that will be monitored to assess improvement, and recommendations for design and development of an overall quality assessment and quality improvement program.

Including travel, 36 person-days will be required to complete this phase of the project,

Phase II -- Nov. 1994 - Jan. 1995

- **Seminary/Workshop on Infection Control and Quality Improvement**
- **Follow up on IC/QI indicators (quarterly)**

The second phase of this project is designed to provide appropriate training in infection control and quality improvement methodology for teams from each hospital, with the aim of developing a surgical wound infection surveillance and infection rate reduction program.

Immediately following the completion of the Phase I surveys, a five-day seminar/workshop in fundamental aspects of infection prevention and its relationship to quality improvement will be offered in Hungary. This will be designed to start the process of "training the trainers" and ideally will be

conducted with collaboration from HSQA. A course on hospital epidemiology fundamentals will be given by a faculty consisting of Dr. Donald Goldmann or O'Rourke, Dr. Huskins and two infection prevention nurses. Dr. Huskins and one infection prevention nurse would already be in Hungary; the other two participants would arrive in time for the course. The team will develop a curriculum for training hospital personnel in infection prevention within a quality improvement model, as well as a strategy for conducting nosocomial infection surveillance in Hungary, monitoring improvement efforts, and setting up a quality improvement program in their institutions. Specific projects will be developed for surveillance and control of surgical site infection (SSI) rates by each hospital team. A three person team (administrator, physician, and infection prevention nurse) from each of the two primary hospitals (Karcag Hospital and Kerepestarcsa Hospital) as well as teams from other HSQA hospitals could attend this seminar/workshop. Two full-time interpreters would be required for the duration of the course and translation services would be needed for curriculum materials. An outline of the curriculum is appended. (Appendix K) This phase of the project will require 36 person days in teaching, travel, and preparation time and would also require the assistance of HEI staff to organize the local venue.

Phase III -- Feb. - Apr. 1995

- **Seminar on Implementation of IC and QI**
- **Review Infection Control Survey**
- **Follow up on IC/QI indicators (quarterly)**

The Hungarian teams will return to their hospitals to follow-up on the recommendations made at the initial assessment visit and to implement the educational curriculum and surveillance, monitoring, and quality improvement plans. This phase will last for approximately 3 months. O'Rourke or Goldmann will be available for FAX or phone consultation. Three days (3 person-days) have been allocated to staff consultations and preparation of any required supporting materials.

Phase IV -- Feb. - Apr. 1995

- **Seminar on Implementation of IC and QI**
- **Review Infection Control Survey**
- **Follow up on IC/QI indicators (quarterly)**

Approximately 4 months after the initial visit, Drs. Goldmann or O'Rourke and Dr. Huskins will visit each hospital in Hungary for 2 days (8 person-days) to monitor progress in the recommended improvements in infection prevention (including changes in structure and process and training of hospital personnel) and to recommend additional changes and monitoring procedures.

The team will review the hospitals' efforts to develop a global quality assessment and improvement program based on the infection prevention model and provide guidance concerning hospital-wide implementation of the program. In addition, a one day seminar will be presented for leaders from both hospitals as well as representatives from HSQA regarding implementation of quality assessment and improvement at the hospital level (2 person-days). The team will also meet with HSQA and HHA officials to discuss: 1) selection of practical, valid indicators for key infection prevention process and outcomes, including rates of infection and resistance to antimicrobials, suitable for use at regional and national levels; 2) design of a national surveillance system for assessing and tracking hospital performance with respect to these monitors, with the goal of establishing standards for hospital regulation and accreditation in Hungary; and 3) application of infection prevention principles and strategies to other health care delivery processes and outcomes, leading to a comprehensive quality improvement program at the national and local hospital levels (2 person-days). Upon returning to Boston, the team will prepare a written report (4 person-days). Assuming 2 days travel (4 person-days), the time allocated for Phase IV is 20 person-days.

Phase V -- May - Sept. 1995

- **Follow up on IC/QI indicators (quarterly + annual)**
- **Final Infection Control Survey**
- **Final Report**

Over the next 6-7 months, the Hungarian hospitals will continue implementing suggested improvements, honing their surveillance system, and developing and implementing hospital-wide quality improvement systems. Consultation will be available by FAX or phone (**2 person-days**).

Phase VI -- May - Sept. 1995

- **Follow up on IC/QI indicators (quarterly + annual)**
- **Final Infection Control Survey**
- **Final Report**

At the end of the project year, Drs. Huskins and a senior infection prevention nurse consultant will perform a final 3-day evaluation of each hospital to determine the extent to which recommended structures, processes, and outcomes have been improved (**12 person-days**). Dr. Goldmann or O'Rourke will then join the team to review the results of the survey with Dr. Huskins and the nurse consultant, as well as with hospital officials. Appropriate consultation regarding further improvements will be provided in each hospital (**6 person-days**). Hospital and national infection prevention leaders will conduct a one-day training seminar for staff from other Hungarian hospitals,

with Dr. Huskins, the nurse, and either Dr. Goldmann or O'Rourke providing expert commentary during the seminar and feedback to the trainers after the seminar (3 person-days). Dr. Huskins and the nurse will depart; Dr. Goldmann or O'Rourke will remain to discuss progress in quality assessment and improvement at both the hospital HSQA levels with the appropriate authorities, and to make plans for future work (4 person-days). A final report will be prepared, including recommendations for continued improvement (1 person-days). Including 2 days travel (6 person-days) and one lay-over day (3 person-days), the time allocation for this phase is 39 person-days.

Outcome Measures

Many aspects of the hospital's infection prevention program can be measured by the standardized instruments used in the interviews and observational studies. Extensive experience has demonstrated that improvements in many of these process measures can be linked directly to improvements in the prevention of nosocomial infections. Thus, elimination of contaminated multi-dose vials of medication inevitably leads to a reduction in outbreaks of infection due to gram negative rods. Proper use of intravenous catheters always reduces the risks of IV-associated sepsis. The consultants are certain that we will have the ability to detect even modest improvements in these process measures because of the sensitivity and specificity of our instruments.

It will be more difficult to detect significant reductions in the infection rate, itself, unless the initial rate of infection is very high and the improvement very great. This is because prevalence surveys generate relatively small sample sizes and it will take almost a year for the hospital's own surveillance system to mature and develop adequate baseline data. However, the prevalence surveys will detect trends towards improvement. An initial goal is to reduce the prevalence of surgical wound infections by 25% in one year after the introduction of a targeted infection prevention program. In addition, improvements in the use of invasive devices and antibiotics will be measurable.

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT *
		Phase I: <ul style="list-style-type: none"> ● Hospital Surveys ● Development of IC and QI Indicator Measurements 	Days in Kerepestarca: 16 Days in Karcag: 16 Days in U.S.: 10 Consultants: Huskins, Soule, R.N.
October 1994	1. Reduce case mix adjusted length of stay by 10%.	a. Work with finance team to develop appropriate DRG coding. b. Establish baseline LOS for past year if possible otherwise collect adjusted LOS data for Oct. 94-Dec. 94 as baseline.	
October 1994	2. Reduce inappropriate use of high cost antibiotics in surgical departments by 25%.	a. Work with finance team to account for antibiotic dispensing from central pharmacy to target medical and surgical services. <ul style="list-style-type: none"> i. Determine baseline use over past 12 months ii. Establish tracking/accounting system for the next year b. Review use of antibiotics with Chiefs of services and agree on optimal use strategy for empiric antibiotic therapy and also establish protocols for surgical wound prophylaxis. c. Begin educational campaign with "counter detailing" literature to promote strategy (b) above.	

* In Person Days.

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
October 1994	3. Determine baseline surgical site infection rate (SSI) at each facility and demonstrate a 25% decline over one year.	a. A point prevalence survey of nosocomial infections, utilization of high risk invasive devices, and utilization of antibiotics. These data will also serve as a baseline to gauge improvement efforts.	
October 1994	4. Facilitate the creation of an Infection Control Team at the demonstration sites.	a. Hospital officials will be educated on how infection prevention can serve as a model for designing and implementing a more global quality improvement program.	
October 1994	9. Perform comprehensive assessments of infection prevention in the demonstration hospitals.	a. Structured interviews with key personnel, including administrators, physician and nurse leaders, a representative sample of staff nurses, directors of relevant departments (e.g.: pharmacy, microbiology, central supply, OR), and infection prevention staff. b. Direct observations of facilities and infection prevention practices on major hospital wards to verify information from the interviews and to collect quantitative and qualitative data that will be used as a baseline when assessing the success of improvement efforts.	

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
		<p>Phase II:</p> <ul style="list-style-type: none"> ● Seminary/Workshop on Infection Control and Quality Improvement ● Follow up on IC/QI indicators (quarterly) 	<p>Days in Kerepestarca: 29</p> <p>Days in Karcag: 0</p> <p>Days in U.S.: 13</p> <p>Consultants:</p> <p>Two MD's (Goldmann, Huskins) and two RN's (Soule, O'Boyle-Williams) for the seminar workshop. One MD for feedback on quarterly summaries.</p>
Nov. 1994 - Jan. 1995	1. Reduce case mix adjusted length of stay by 10%.	a. Quarterly summary of adjusted LOS to be reported from finance group. Feedback and discussion with hospitals via internet or fax.	
Nov. 1994 - Jan. 1995	2. Reduce inappropriate use of high cost antibiotics in surgical departments by 25%.	a. Quarterly summary of antibiotic use to be reported from finance/pharmacy dept. and reviewed. Feedback to hospitals via internet or fax.	
Nov. 1994 - Jan. 1995	3. Determine baseline surgical site infection rate (SSI) at each facility and demonstrate a 25% decline over one year.	a. Quarterly incidence data for SSI will be reported by the local infection control teams and reviewed. Feedback and discussion with hospitals via internet or fax.	

**TABLE II
ACTION PLAN MATRIX**

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
Nov. 1994 - Jan. 1995	8. Facilitate the creation of an Infection Control Team at the demonstration sites.	a. A five-day seminar/workshop in fundamental aspects of infection prevention and its relationship to quality improvement will be offered in Hungary. Four U.S. faculty will be involved. (Presumed site of conference: Pest County Hospital) b. The seminar/workshop will focus on: i. hospital infection prevention within a quality improvement model ii. strategies for conducting nosocomial infection surveillance iii. monitoring improvement efforts iv. establishing quality improvement programs.	
	9. Perform comprehensive assessments of infection prevention in the demonstration hospitals.	a. November: A written report will summarize the specific recommendations for each hospital based on information collected during the comprehensive survey, the measures of structure, process and outcome that will be monitored to assess improvement, and recommendations for design and development of an overall quality assessment and quality improvement program.	

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
		<p>Phase III+IV:</p> <ul style="list-style-type: none"> ● Seminar on Implementation of IC and QI ● Review Infection Control Survey ● Follow up on IC/QI indicators (quarterly) 	<p>Days in Kerepestarca: 10</p> <p>Days in Karcag: 6</p> <p>Days in U.S.: 7</p> <p>Consultants: Two MD's (Goldmann, Huskins)</p>
Feb. - Apr. 1995	1. Reduce case mix adjusted length of stay by 10%.	a. Quarterly summary of adjusted LOS to be reported from finance group feedback and discussion with hospitals via internet or fax.	
Feb. - Apr. 1995	2. Reduce inappropriate use of high cost antibiotics in surgical departments by 25%.	a. Quarterly summary of antibiotic use to be reported from finance/pharmacy dept. and reviewed. Feedback to hospitals via internet or fax.	
Feb. - Apr. 1995	3. Determine baseline surgical site infection rate (SSI) at each facility and demonstrate a 25% decline over one year.	<p>a. Quarterly incidence data for SSI will be reported by the local infection control teams and reviewed. Feedback to hospitals via internet or fax.</p> <p>b. Dr. Goldmann or O'Rourke will visit each hospital for two days to focus on objectives 3, 4 and 5.</p>	

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
	4. Facilitate the creation of an Infection Control Team at the demonstration sites.	a. A one day seminar for leaders from both hospitals as well as representatives from HSQA and HHA regarding implementation of quality assessment and improvement. b. Drs. Goldmann and Huskins will visit each hospital for two days to focus on objectives 3, 4, and 5.	
	9. Perform comprehensive assessments of infection prevention in the demonstration hospitals.	a. Drs. Goldmann and Huskins will visit each hospital for two days to focus on objectives 3, 4, and 5. b. A comprehensive progress report will be generated after this visit.	

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
		<p><u>Phase V and VI:</u></p> <ul style="list-style-type: none"> ● Follow up on IC/QI indicators (quarterly+annual) ● Final Infection Control Survey ● Final Report 	<p>Days in Kerepestarca: 18</p> <p>Days in Karcag: 16</p> <p>Days in U.S.: 7</p> <p>Consultants:</p> <p>Two MDs (Goldmann, Huskins) and one RN (Soule).</p>
May - Sept. 1995	1. Reduce case mix adjusted length of stay by 10%.	a. Both quarterly and annual data on length of stay will be reviewed and discussed. Focus will be on analyzing those DRG's with potential for improvement by lowering of nosocomial infection rate.	
	2. Reduce inappropriate use of high cost antibiotics in surgical departments by 25%	a. Quarterly and annual data will be reviewed. It is anticipated that trends noted and discussed in previous quarterly audits will be used to summarize further steps to be taken to minimize the use of high cost antibiotics and to track trends to antibiotic use.	
	3. Determine baseline surgical site infection rate (SSI) at each facility and demonstrate a 25% decline over one year.	a. Quarterly and annual data will be reviewed. It is anticipated that trends noted and discussed in previous quarterly audits will be used to summarize further steps to be taken to minimize the incidence of SSI.	

**TABLE II
ACTION PLAN MATRIX**

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
	5. Recommendations to national decision makers.	Meet with HSQA to reach consensus on the following: <ul style="list-style-type: none"> a. Indicators for key infection prevention process and outcomes. b. Design of rational surveillance system. c. Application of infection prevention principles and strategies to other health care delivery processes and outcomes. 	
	8. Facilitate the creation of an Infection Control Team at the demonstration sites.	<ul style="list-style-type: none"> a. Dr. Goldmann will discuss progress in QI and IC made during the past year with leadership from both hospitals after the end of the one day seminar. b. Additional plans will be made, based on the results of the prior year, for activities to solidify and build up the role of the infection control team on a QI model. 	

TABLE II
ACTION PLAN MATRIX

2. QI/INFECTION CONTROL DEMONSTRATION PROJECT

DATES	INDICATORS	TASKS	EFFORT
	<p>9. Perform comprehensive assessments of infection prevention in the demonstration hospitals.</p>	<p>a. The physician/nurse infection control survey team (Huskins/Soule) will perform a final 3 day evaluation at each hospital.</p> <p>b. Dr. Goldmann will review the findings of the survey team in Hungary and all team members will meet with members of each hospital to review the results of the final survey as well as discuss further plans for continued infection control, surveillance and control activities.</p> <p>c. A final one day seminar for staff from both target hospitals will be given by Drs. Goldmann and Huskins and Barbara Soule.</p> <p>d. Participate in HSQA Conference June 8-10, 1995.</p>	

Consultants will also monitor progress towards establishing self-sustaining infection prevention and global quality improvement programs at the national and individual hospital levels, as well as the development of effective training programs.

H. COMMUNICATION

Maintaining open lines of communication is vital to the success of this project. The two demonstration hospitals agreed to exchange information and to discuss their respective progresses. Since this process can best be facilitated by the Medical Directors, QA Directors and Economics Directors, monthly meetings by them are essential and recommended. There will also need to be continuous communication between the Project Subcommittees and the parent QA Committees in each hospital.

The Finance Team has also identified the personnel in each hospital responsible for the various tasks of the Financial Plan. These personnel are aware of their respective assignments.

HEI Activity Manager James Janeski will coordinate all communication among the Finance Team Leader, the Infection Control Team Leader and the representatives at HSQA and at the demonstration site hospitals.

HSQA will provide overview and assistance, but not direct control, as needed to the two sites. They will identify an in-country Logistical Coordinator (non government, English speaking) to handle on-site issues, provide interpreter and translator services, and coordinate monthly progress reports from the QA Directors and the Economic Directors to the HEI Team. They will also provide essential lobbying and public relations efforts on behalf of the project. All information released to the public on this demonstration project will come through HSQA.

I. RESOURCES

Nosocomial Infection Control

Despite concerns expressed by the leadership of both hospitals, there are considerable existing resources in both hospitals on which excellent Quality Improvement programs can be built. These include adequate physical plants, although some improvements to them are needed. There are also impressive human resources available in each hospital to provide leadership and momentum for Q.I., although the imminent departure of the talented and committed Medical Director of Karcag City Hospital, Dr. Janos Szabo is cause for concern. The availability of nearby university graduate courses is an important resource and is actively utilized by both hospitals.

The support and leadership of the Hungarian Society for Quality Assurance is critical as the two demonstration hospitals develop strong Q.I. programs and acceptance of this new culture by the medical, nursing and administrative personnel. Finally, the commitment of the HEI/AID Team to continue its support of this program should be a strong, positive force, helpful to the leaders of Q.I. in each hospital and to the HSQA.

There are, however, specific needs which must be addressed and which will require financial support. These include:

- (1) Additional computer programs and capabilities.
- (2) Additional computers and printers (4 486/33 IBM compatible computers with 8 MB of RAM, 520 MB hard drive and 3.25 inch & 5.25 inch drives and 4 Inkjet or Laser Jet printers).
- (3) Computer networking programs, including E-mail and library tie-ins.
- (4) Better library facilities with pertinent reading materials.
- (5) Additional clerical personnel to collect and verify data.

These additional resources are essential if the Indicators are to be completed in the time recommended and accepted by the hospitals, HSQA and HEI/AID. Without these resources it would be difficult, if not impossible, to collect and evaluate the data, prepare and test new programs based upon the data, and institute the Q.I. program throughout the hospitals.

Financial

The Finance Team, in conjunction with the Economics Directors and the Informatics Chiefs, have identified the following resource needs for the Financial areas:

1. Expanded hardware capabilities in the Finance/Informatics areas at each hospital:
 - a. Four (4) 486/33 IBM compatible computers with a minimum of 8 megabytes of RAM, 520 megabyte hard drive and 3.25 inch & 5.25 inch floppy disk (two at each hospital).
 - b. Four (4) Inkjet or Laser Jet printers (two at each hospital).

2. Acquisition of spreadsheet database and word processing software such as Lotus 123, Excel, FoxPro Dbase IV, a graphics package such as Harvard Graphics and Word Perfect.
3. Acquisition of a DRG grouper similar to that used at the National Insurance Fund for the Hospital at Karcag.

Total estimated cost of the combined Quality and Finance Resource needs is in the \$30,000 to \$35,000 range.

J. PUBLICITY, CONFERENCES, SPONSORSHIPS

The Hungarian Society for Quality Assurance will serve as the focal point to disseminate outcomes of these projects to other hospitals in Hungary. This process will begin with inserts in professional journals describing the demonstration projects (September, 1994) and the outcomes of the projects (July, 1995).

In addition to the plan to provide HSQA with sufficient test data and material to facilitate a comprehensive presentation of the completed project at the 4th International Conference of the Hungarian Society for Quality Assurance in Health Care and the 3rd Central and Eastern European Study Group meeting of the International Society of QA June 8-10, 1995, HSQA has agreed to have the Societies which represent the Medical Directors, Hospital

Economists, and Nurses, as well as the Hospital Association and other pertinent organizations co-sponsor this event.

Further, the consultants we have offered to participate either directly or indirectly in association meetings and seminars held between September, 1994 and June, 1995 which coincide with their in-country visits. The Economics Directors are very active in several national associations where quarterly or semi-annual meetings are held. The consultants have asked to be included on the meeting agenda to describe the financial analyses that are being introduced in Hungary throughout this project.

HSQA and the demonstration hospitals will also be seeking sponsorship and support for this project throughout Hungary. Doctor Kovacs indicated that letters of support had already been solicited from a number of health care organizations.

To increase awareness of and participation in the Q.I. programs of each hospital, the staffs should be encouraged to submit ideas for Q.I. studies; a hospital wide newsletter should be used to inform all the hospital employees of the programs underway and those under consideration for study. As each program reaches the stage of implementation, the plan should be publicized in the newsletter; after an appropriate period to accumulate outcome data, the effectiveness of and cost savings from the program should be publicly announced.

K. SUMMARY

Significant impetus and interest exists at the two demonstration hospitals to affect the successful adoption of formal comprehensive quality assurance programs. The specific areas of concentration identified in the Action Plan will enable the QA Committees at the hospitals, in cooperation with the HEI Quality Team, to demonstrate tangible improvement in health care delivery by June, 1995.

Achieving the indications outlined herein will require significant changes in the existing organization of the QA process at the hospitals, specifically combining the existing divergent efforts of the physicians, nurses, and financial staffs into a single Quality Improvement Committee at each hospital.

Each quality program, as developed, must include not only a report of increased efficiency, but also an evaluation of cost savings, a process in which the financial staffs must actively participate.

The financial leadership has demonstrated an interest and an ingenuity in beginning to develop financial management systems, which are essential in identifying operational problems under a DRG System and in providing critical clinical data for the QI program. With some direction from the HEI Team and an upgrading of their computer capabilities, it enhanced management information systems, incorporating standardized reporting, peer

cost comparisons, product line profitability analyses, and exception reporting, should be in place within the time frames of the project.

APPENDIX A

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HUNGARIAN SOCIETY FOR QUALITY ASSURANCE IN HEALTH CARE
HUNGARIAN INSTITUTE FOR QUALITY IN HEALTH CARE

COUNTRY REPORT ON QUALITY ASSURANCE, 1994

1. PRELIMINARY

The whole chronicle of the quality assurance in Hungary was started with the COMAC/QA project.

The COMAC/QA Project: a concerted action programme on quality assurance in hospitals, was executed as a part of the Fourth Medical and Health Research Coordination Programme of the European Community.

In Hungary 17 hospitals were involved in this project with the financial help of the Dutch Ministry of Health.

The joint work on the four COMAC/QA topics (keeping of patients records, prophylactic antibiotic use in surgery, preoperative assessment and prevention and therapy in bedsores) resulted into the national quality assurance development.

2. PROJECTS

The Hungarian quality assurance programmes started in September 1991, and the first quality group was set up within few weeks. Over the last three years significant and increasing attention has been devoted to evaluate issues as a research project on different quality assurance subjects and their effects on improvement the quality of care with respect to:

2.1. Prevention and therapy of bedsores

At first the Society started with the decubitus project because, QA in nursing care is more developed and nurses have more interest in doing quality assurance than the doctors. Management and professionals in nine hospitals wanted to evaluate the incidence and prevalence of bedsores. No hospital had data on the incidence and prevalence of bedsores. Three hospitals had guidelines on prevention before this project. Guidelines endorsed only in some departments.

Main goals of the programme:

- (1) assessment of the actual nursing practice in different participating hospitals,
- (2) development of guidelines.

The pilot programme was completed and results were published in various medical, nursing and economic journals in 1993. The suggested guidelines were implemented in three hospitals after the pilot programme. The evaluation of the guideline employed in the daily rutin will be in June 1994.

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2.2. Keeping patients record

Main goals of the programme: to evaluate the minimal data set have to be collected in hospitals settings in order to create specific indicators and maintain quality of care. To analyze the power of the predictive value of different data set and analyze the cost-effectiveness and cost benefit ratios.

First results were published in the Health Management Review, Journal of the economic-directors of the Hungarian Hospitals (1993).

2.3 Prophylactic antibiotic use in surgery

The main purpose of this programme is to see the baseline situation and develop guidelines. Eleven hospitals were enrolled. This programme is being completed today.

2.4. Preoperative assessment in surgery

In Hungary the ASA (American Society for Anesthesiologists) status measures are non-existing. According to the result of the COMAC/QA Questionnaire for the Assessment Phase hospitals have no guidelines or protocols. Hospitals use a lot of routine preoperative tests. Every patients have chest X-ray, ECG and in average 10 lab. tests form the SMA12. Because record keeping is separated in the primary care, outpatient care and hospitals, the redundancy rate of the routine test is very high.

Initial programme in this field were not in general embraced by hospital management. Today hospital managers are seeking ways to reduce their costs under the pressure of the newly implemented prospective hospital reimbursement system.

First results were published in the Health Management Review, Journal of the economic-directors of the Hungarian Hospitals (1993).

2.5 Hospital nosocomial infection control

According to the chief public health officer, hospital-acquired infections represent a leading cause of death in Hungary.

Phase 1. programme were completed in 1993.

The main aim of this programme was to measure the baseline in this field. The Hospital Infection Control Working Party of the Hungarian Society for Quality Assurance in Health Care conducted a survey in 20 general and teaching hospitals in 1993. In the First Phase, anonymous questionnaires were distributed about the structure of the hospitals, patient flow, location of the departments, sterilization methods, continuous education, and quality assurance related activity. The study population represents 17 per cent of the total hospital bed capacity, and 18 per cent of the hospital admission. After the analysis of these questionnaires all hospital chief hygienists and the management got back detailed results about their hospital, and got an anonymous picture about all hospitals involved in the survey.

Phase 2. In the Second Phase, targeted postoperative infections surveillance are being done in 1994. Eleven hospitals are involved.

Initial experiences is presented in the 11th ISQA conference:
Laszlo Gulácsi, Zsuzsa Tatár-Kiss, Iren Szlcboda;
Hospital-Acquired Infection Surveillance in Hungary

2.6 Patient satisfaction among hospitalized patients

Interviewer guided questionnaire based survey were administered to 3,500 hospital patients at the point of discharge. This study is the satellite of the Quality of Care in Hospital Survey carried out in the USA, Canada and the United Kingdom 1993. In Hungary we used the adopted version of the questionnaire and more than 3,000 just discharged patients were involved. This survey was carried out with the kind assistance of Prof. Bosanquet.

Experiences can be seen in poster presentation during the conference:

- (1) Prof. Nick Bosaquet, Laszlo Gulacsi and Steve Bruster;
Measuring Quality of Hospital Care; Getting Usable Results in England and Central Europe
- (2) Laszlo Gulácsi, Attila Kovács and Prof. Gerald Pops;
Hospital Patient Access and Satisfaction in Hungary

2.7 Patient satisfaction in primary care

This programme is being conducted based on the modified Hungarian version of the PROSPER questionnaire. Five counties are involved. This programme is supported by the Hungarian National Health Insurance Headquarters.

3. EDUCATION: National Education Programme on Quality Assurance

Our education and training activity is focused towards the students and health professionals. The National Education Programme on Quality Assurance started in February, 1994.

Today, this programme is being piloted in 35 medical and nursing high schools. Textbook of Quality Assurance is being published in Hungarian.

The Programme will start in October, 1994.

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4. ORGANIZATION BACKGROUND

4.1. 1992: Creating national society on QA

The Hungarian Society for Quality Assurance in Health Care (HSQA) was set up in 1992 by 17 hospitals. In May, 1994 we have 65 member health care organizations.

4.2. 1993: Creating national institute of QA

In June, 1993 the Hungarian Institute for Quality in Health Care (HIQH) was created, by the founders of the HSQA.

4.3. Board, funding and staffing

4.3.1. Board

Board of the society (HSQA): includes 7 Board members. They are representatives of the providers (mainly hospitals), financiers (health insurance), regulators (department of health) and NGOs (Hungarian Hospital Association and Nursing Association). The Board of the society, are also the Board of Directors of the Hungarian Institute for Quality in Health Care (HIQH).

4.3.2 Funding

The budget of the society consist of:
(a) membership fees quarterly transferred by the 65 founder and member health care organizations, and
(b) programmes of the society and the institute are financed on a project basis by the involved health care organizations, sponsors, governmental agencies and foundations.

4.3.3. Staffing

The society and the institute (HSQA AND HIQH) employs one English speaking secretary and one accountant. Around 30 professionals are working together on a project basis.

5. CONFERENCES

5.1. 1992, June, Debrecen

1st Hungarian Seminar on Quality Assurance in Health Care

5.2. 1993, June, Eger

2nd Hungarian Seminar on Quality Assurance in Health Care
1st Seminar of the CEEC Working Party on Quality Assurance in Health Care

5.3. 1994, June, Zalaegerszeg

3rd Hungarian Seminar on Quality Assurance in Health Care
Satellite Conference of the 11th INTERNATIONAL THE CONFERENCE

6. LEGISLATION

6.1. 1992

In 1992 the government issued that Hungary accepted and started to implement the Quality Standards of the European Community. Among others the ISO 9.000 series, the EURONORM 45.000 series and the EURONORM 25.000 standards are became official standards in Hungary. In the same year the Department of Quality Assurance was established in the Ministry of Welfare.

6.2. 1994

In February 1994, the board of the Hungarian Society for Quality Assurance in Health Care was invited by the state secretary of the Ministry of Welfare to develop nationwide programme on quality assurance in health care.

7. INTERNATIONAL ACTIVITY

7.1 Membership

The Hungarian Society is a member of the International Society for Quality in Health Care

7.2. Projects

(a) BIOMED

The second Concerted Action Programme on Quality Assurance in Health Care are going under the auspice of the BIOMED/EC programme. The society is invited to participate in this programme by the project-leader. It is really a great pleasure and very beneficial for us in working together with the "CCMAC" countries.

(b) HOSPITAL BASED QUALITY ASSURANCE AND DRG PROGRAMMES IN HUNGARY

The US Agency for International Development assist the HSQA:

(a) to develop and maintain quality assurance programmes within HSQA member community hospitals for replication in other hospitals in the country,

(b) to adjust the new DRG payment system and improve the internal management in order to reallocate hospital resources to increase services and/or achieve improvement in the quality of care.

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HUNGARIAN SOCIETY FOR QUALITY ASSURANCE IN HEALTH CARE
HUNGARIAN INSTITUTE FOR QUALITY IN HEALTH CARE

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Economic Efficiency in the Hungarian Health Care"
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Health Management Review, 1993, 31, 6, 506-533
- (4) L. Gulácsi; The Development of Quality Assurance in the
Hungarian Health Care System; The Second Hungarian
Seminar and the First Central European Study Group
Meeting (English)
European Newsletter on Quality Assurance,
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- (5) L. Gulácsi, Zs. Jakab; Pressure Scores; A quality circle
investigation (Hungarian)
Health Management Review, 1993, 31, 5, 425-449
- (6) L. Gulácsi; Preliminary Considerations to the Seminar on
"Quality and Economy" (Hungarian)
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- (7) L. Gulácsi; Second Hungarian Seminar a Success (English)
CCOHTA UPDATE,
Issue 15, Summer 1993, p. 3 (English)
- (8) L. Gulácsi; More Tests - Less Information? Analysis of
Routine Tests Before Surgical Operations from the Point
of View of Quality Assurance (Hungarian)
Health Management Review, 1993, 31, 3, 249-276
- (9) Zs. Jakab, L. Gulácsi; Prevention and Treatment of
Bedsore in a Group of Hungarian Hospitals (Hungarian)
The Nurse, 1993, 5, 6, 33-59
- (10) Zs. Jakab, L. Gulácsi; Prevention and Treatment of
Bedsore (Hungarian)
Nursing Care, 1993, 2, 6, 20-28

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- (11) L. Gulácsi; Lessons for Others; Prospective Payment System in Hungary (Hungarian)
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- (14) L. Gulácsi, A. Balitzky; Health Status of the Hungarian Population Between 1970 and 2000; coping is not enough! (Hungarian)
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- (17) L. Gulácsi, A. Balitzky; Report on the First Seminar of the Quality Assurance in the Hungarian Health Care and on the Hungarian Association for the Development of Quality in Health Care (Hungarian)
Health Management Review, 1992, 30, 4, 258-265

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APPENDIX B

A. Scope of Work

I. Finance Team

The Finance Team met with the key personnel of each of the two demonstration hospitals to prepare jointly:

- a. A list of specific management processes and operations problems that are targets for DRG operations improvement and greater efficiency;
- b. Specific objectives of the DRG operations improvement demonstration project for each hospital and their relationship to quality improvements;
- c. Detailed action plans for implementing a DRG operations improvement plan in coordination with staff at each hospital;
- d. Identification of the Hungarian personnel responsible for the DRG operations improvement program in each of the demonstration hospitals;
- e. An illustrative schedule for providing technical assistance and training including assistance in the organizational development and planning to be conducted by hospital officials and facilitated by U. S. technical consultants. Training will include:

- (1.) Medical record coding employing the International Classification of Diseases, 9th Revision (ICD-9);
- (2.) How the DRG classification system works;
- (3.) Roles of various hospital personnel in implementing the DRG system;
- (4.) How to measure and monitor costs;
- (5.) Development and use of management and clinical reports;
- (6.) Economic strategies for achieving greater operational efficiency;
- (7.) Assessment of opportunities for the development of coordinated and improved primary care, home care and other alternative services as substitutes for costlier inpatient care;
- (8.) Examination of alternatives for "social" admission and long-term care services; and

(9.) Consideration of policy issues related to health system reconfiguration (i.e. downsizing) including: unemployment and alternate methods for finding appropriate lower levels of care (e.g., primary care, extended care facilities, and home care).

f. A process for evaluating the DRG operations improvement program, progress in addressing targeted management and operations goals and identifying and resolving obstacles to implementation; and

g. Plans for a generic user's manual and guide to hospital DRG operations improvement to support technical development at other Hungarian hospitals. Plans will include distributing the manual (translated into Hungarian), establishing on-site internships at the two demonstration hospitals to serve as technical training centers for additional hospitals, and participation in workshops at two to four additional hospitals.

2. Quality Team

The Quality Team conferred with key managers at both demonstration hospitals to:

a. Identify of the leaders of quality improvement projects at each hospital

and the teams who will implement the program:

- b. Specify objectives for the quality improvement demonstration program for each hospital and procedures for identifying problems, collecting and analyzing data, applying interventions, monitoring clinical procedures and evaluating both clinical and financial results;
- c. Cite management and clinical problems that are targets for quality improvement;
- d. Prepare action plans for implementing a Quality Improvement Plan in coordination with staff at each hospital;
- e. Develop a schedule for the providing technical assistance and training in implementing the hospital quality improvement programs. Training will focus on the objectives identified and will include:
 - (1.) Techniques for continuous study and improvement of the processes of delivering health care services and products to meet the needs and expectations of customers;
 - (2.) Measurement techniques for assessing the technical and interpersonal aspects of health care and the outcomes of

that care;

(3.) Statistical techniques for reducing variations in the processes of delivering health care services and products;

(4.) Development of criteria for evaluation of the process;

(5.) Strategies for achieving greater clinical effectiveness; and

(6.) Implementation of utilization review and peer review activities.

f. Plans for evaluating progress of the Quality Improvement Program; and

g. Plans to compile protocols for Quality Improvement activities undertaken and to produce a user's guide for implementing quality improvement in other Hungarian hospitals.

3. Combined Finance/Quality Teams

a. Planned periodic on-site training to facilitate the development of the programs.

- b. Developed a plan for communicating results of the demonstration programs and educating other hospitals during the HSQA's 1995 annual conference which will be co-sponsored by the Hospital Association.
- c. Prepared an illustrative Implementation/Action Plan to be reviewed, approved and signed by representatives of HSQA and HEI/AID.

B. TEAM BACKGROUND

The Team which participated in the trip and in the development of the overall Action Plan consists of the following individuals:

Team Leader

Raymond J. Kaden, Executive Director of Kaden Amone, Inc., a hospital financial management consulting company. He has over 27 years of experience in various aspects of financial management, accounting, auditing, training, administration, and third party reimbursement systems including DRGs. During this trip, he was responsible for overseeing the activities of the Finance and Quality Teams, coordinating the final integrated Financial and Quality Improvement Plans, directing the technical education sessions, and preparing the trip report.

Quality Team

Walter F. Ballinger, M.D., Professor of Surgery Emeritus, Washington University School of Medicine. As Chief of Surgery for eleven years, Dr. Ballinger has been involved in instituting numerous aspects of hospital quality improvement programs. With the Washington University Program in Health Administration, he has taught TQM/CQI and implemented quality improvement techniques in health care facilities in St. Louis and Southern Illinois as a consultant. He is focusing on the involvement of physicians in the quality improvement process.

Edward J. O'Rourke, M.D., Assistant Professor of Pediatrics, Harvard Medical School and Chief, Infants and Toddlers Service, Children's Hospital, Boston, MA. He is a member of a team which has implemented hospital infection control programs internationally, and he focused on this aspect during this mission.

James O. Hepner, PhD.FACHE, Director and Professor, Washington University School of Medicine, Graduate Program in Health Administration. As former Regent, Governor and later Chairman of the American College of Healthcare Executives, Dr. Hepner was heavily involved in bringing the first courses in TQM/CQI into the curriculum of its annual Congress. At Washington University, he conducts an annual seminar for physician executives on TQM/CQI management and clinical approaches. During this mission, he focused on the application of the quality improvement process to hospital operations.

Finance Team

Eugene M. Arnone, Executive Director, Kaden Arnone, Inc., a hospital financial management consulting company. He has over 22 years of experience in various aspects of financial management, accounting, auditing, training, administration and third-party reimbursement systems including DRG'S. During this trip, he was responsible for the analyses and assessment of the financial operations at the two hospital sites, and for identification of technical issues to be addressed in the Financial Plan.

Walter J. Unger, an independent health care management consultant specializing in the areas of finance and provider reimbursement including the DRG-based system. He was responsible for assessing the policy issues and financial implications of the quality improvement plan and identifying economic and operational barriers, if any, to its implementation.

Activity Manager

James F. Janeski, FACHE, HEI Vice President.

APPENDIX C

S U M M A R Y

of Quality Assurance and Control Activity carried out in Karcag Hospital

Goals and Objectives

There were great political changes in our country during the past few years which led to great changes in Health Care, too. The most important point is that former base financing system has been replaced with a performance oriented financing system.

Though today we are still in the studying phase of performance oriented financing system and we are sure that there will be several modifications and changes in this system it has already turned out that the hospitals have much more interest in the improvement of hospital services.

We all know that we have to meet the market requirements in the field of health services where the patient is a customer. Those health institutes not being able to meet this challenge will irreparably fall behind.

This is why we were the first to join the Hungarian Association of Development of Health Services Quality and Profitability founded in 1992.

We are in daily contact with the Association as the director of our hospital is also a member of the Board of Directors.

Quality Assurance Activity carried out in our hospital during the last two years.

1. We joined the Hungarian Association of Development of Health Services Quality and Profitability founded in 1992.
2. Our director who is also a member of the Board of Directors was involved in working out the General Rules of the Association.
3. In 1993. one of the doctors has been appointed by the director of our hospital to co-ordinate quality assurance job.
4. We actively took part in introducing the Association in Hungary and in organising the Second Session of the Association in Eger.
5. In July 1993. at the Second Session of the Association in Eger two lectures were held by our colleagues. Our nursing director held one about the results of a several-year-survey about the patients' satisfaction in the hospital and a colleague from the

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Surgery Department had another lecture about Antibiotics Prophylaxis in our Surgery Practise.

6. We take part in the following projects of the Association:

✓ - Decubitus survey, prevention, cure.

- Survey of patients' satisfaction in the hospital.

- Analysis of routine examinations prior to operations.

7. We've founded a breast committee in our hospital and created professional standards so that we could meet both the national professional principles and the local conditions, too.

✓ 8. We've made a study in connection with the urgent lab analysis and tests.

9. We've investigated the quality of the documentation in our hospital and checked the medical and nursing documents of dead patients applying to a half-year-period. There was a lecture held about the results of this survey at the third session of the Association in Zalaegerszeg.

10. We've created an information group and we're working on introducing a complete computer system for information services. This system would supply us quick and precise information.

11. In some wards and in the public area of our hospital we posted some info signs and notice-boards.

12. We've purchased sophisticated instruments (like laparoscope, microscopes for operations, echo, etc.) to be able to improve the professional level of our services.

Plans and Objectives

When speaking about quality assurance our basic objective is to focus always on improving the level of curing activity.

1. We'll take part in the further programs of the Association.

2. We are going to join the program referring to a survey of hospital infections.

3. Further extension and improvement of our information system.

4. We'd like to appoint more people at each workplace as quality

assurance people so that we could control this activity more effectively.

5. We'd like to work out professional standards for each working area by adopting national professional methodology letters to local conditions.

6. Though there is no hospital with complete quality assurance system in Hungary we try to make use of any useful experiences from other hospitals. To this end we'll take part in all sessions and programs in connection with quality assurance system.

We'd like to keep continuous contact with the Institute of DOTE (Debrecen University of Medical Sciences) which was appointed by the Ministry of National Health Services as a basic institute of quality assurance.

7. Last but not least we hope we can get great help from the excellent specialist of USAID having a lot of experiences in the field of quality assurance in hospitals.

We're sure that it'll facilitate to develop a complete quality assurance and control system in our hospital.

I wanted to summarise briefly as above our activity and objectives in the field of quality assurance in our hospital.

Dr Herskó Gyula

(responsible for quality assurance in Karcag Hospital)

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APPENDIX D

S U M M A R Y

of the Report on Quality Assurance in Nursing in Karcag Kátaí Gábor Hospital

Quality Assurance - as a termination - includes insuring and controlling very good quality health service. It's very important to have a structure, to complete the procedure, to have standards for output results and to evaluate the standards.

The structure is a factor influencing the control of the services and the process itself. The structure includes the principles, processes, equipment and training of the appropriate employees. The process shows how the service is carried out.

The output result means the final result of the services, the output of the process.

Our nursing mission is "to nurse and serve the patients with great care while holding each others' personality in consideration and do the service to the patients' greatest satisfaction."

Our objective is to improve loyalty to nursing and curing activity.

Our hospital is a general hospital with 711 beds.

Number of headcount is as follows:

1. doctors	85
2. other university degrees	10
3. nurses (by bed)	282
4. nurses working in one shift (30 persons unqualified)	181
5. administrators	52
6. assistants	267

All nurses by beds, nurses working in one shift, assistants and administrators in wards report to the nursing director.

Rate of nurses vs. doctors is 5.4 %.

Number of recovered patients in 1993. : 15,299 (including Tiszafüred).

Dead patients in 1993. : 540 persons.

The unemployment rate is very high in our region (18,9 % in this region (including Karcag, Kunmadaras, Berekfürdő) and

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17,3 % merely in Karcag).

Though there is a special secondary school with faculty of health care sciences in our town we still have some vacant jobs (about 13). We'd like to hire qualified persons for these jobs.

After finishing their studies at the secondary school our employees can attend special professional evening courses. Earlier these courses were available only in Szolnok but we managed to move them to Karcag Secondary School. It's a great help for us because 24 people can attend these evening courses now vs. 8-9 people in the past years.

Advanced courses are attended by 2-3 people per year (operation assistant, anaesth. assistant, special assistant in intensive care units) and 2 persons attend management training courses.

We have 4 employees with College of Health Care Sciences degree and three more persons are attending this college today.

We've arranged for local training for our employees (12 people, 70 lessons).

We've a monthly training schedule for our employees.

This year 30 people joined some of the training programs of ETI (Central Training Institute of Health Service People). Our objective is to employ more and more people with at least college degree.

< Our serious problem is that we can hire new people in even the busiest wards only if a senior colleague is retired. So we can hire 2-3 young nurses by sharing the senior colleague's salary among them.

Furnishings and Equipment

As our hospital was built 25 years ago it needs reconstruction. The beds, mattresses, stretchers and other equipments are in worn-out condition. Instead of 4 changes of bedclothes we've only three.

Of course not the latest ones but we have all necessary tools and equipments like disposable injection pins, syringes, infusion tools, gloves etc.).

We could purchase 24 nursing trolleys, 2 patients lifters and 5 hairwashers in 1993. We succeeded buying a cleaning machine for the operation theatre.

We use disposable diapers and pants for our incontinent patients.

We've won 500,000 Ft in an application for improving our nursing technical background. We'd like to spend it on

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purchasing some special equipment for prevention of decubitus.

We also placed another application with the National Social Insurance Company for a closed blood taking system.

We've installed some hand desinfectors in the nursing rooms. We plan to supply further desinfectors in the patients' rooms too.

We were promised to have a cytostatic box by the end of the year.

Financial background

Purchase of our equipment is covered by the hospital budget or by application money.

Gross average salary of our nurses in 1993:

assistants	15,229 Ft
nurses	14,176 Ft

Due to the law about the civil servants' rights issued in 1994. the salary base and supplementary salary are as follows:

assistant	24,659 Ft
nurses	22,981 Ft

We've introduced a special incentive program in our hospital. All our patients get a so-called "smile-cheque" which serves for naming those nurses giving the best quality service. This card is to be passed to the matron of the ward. Those three nurses having the most cards at the end of each quarter will be granted a bonus of 5,000 Ft each.

Two years ago we founded a Nursing Survey Committee with 7 people. It is responsible for checking the activity of the ward nurses at random. then the committee members prepare a report on their job for the director and the consultant of the ward. They also give some suggestions for solving the arising problems. This committee does its job on yearly basis.

Two years ago we introduced a "matron on duty system" to support and co-ordinate the nursing activity when the nursing director is away.

Our jobs to be solved:

- to work out professional standards
- gradual introduction of nursing process and creating its personnel and material conditions.
- to solve the cleaning problem of clothes

- creating central disinfection equipment for the beds
- to purchase cleaning machines for all wards and public area
- to work out special questionnaires for each wards to get feedback from the patients. It would be a great help for us to know which are the fields where improvements are highly required.

Mészárosné Hakucsák Erika
Nursing Director

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APPENDIX E

REPORT OF QUALITY IMPROVEMENT (Q.I.) TEAM

INTRODUCTION

A request was submitted by the Hungarian Society for Quality Assurance (HSQA) for technical assistance and training in the area of quality improvement (QI). In response, a quality team of Q.I. experts was formed under the auspices of HEI/USAID, consisting of Edward J. O'Rourke, M.D., James O. Hepner, PhD. FACHE and Walter F. Ballinger, M.D. Dr. O'Rourke is an expert in the study and prevention of nosocomial (hospital acquired) infections. Dr. Hepner is nationally recognized as an expert in leadership and in management quality control. Dr. Ballinger is primarily involved in the study and teaching of clinical quality improvement. Each member of the Quality Team had received in advance useful materials to review in preparation for the trip to Hungary which was from June 12 through June 23, 1994. Because of the obvious overlap in the involvement of physicians in the quality improvement process and the application of the quality improvement process to hospital operations, Doctors Ballinger and Hepner worked together as a sub-team in the interview program while Dr. O'Rourke participated in some of these interviews with the entire quality team, but often found it necessary to work on a separate interview schedule with nurses and doctors involved with the specific problems of nosocomial infections. Nevertheless, the three members of the Quality Team met together several times daily to discuss their findings and to propose

further schedules. All of the interviews were conducted within the two previously selected demonstration hospitals (Karcag City Hospital and Pest County Hospital) and included hospital medical directors, associate directors, physicians and nurses, as well as the Board members of HSQA. At the end of the visit to Hungary, a verbal summary and discussion was held at the Budapest office of U.S.A.I.D. on June 22, 1994.

At all times, the quality team recognized the importance of the relationship between cost and quality and the well known fact that improvement in quality almost always resulted in cost savings, often savings of great significance. Several examples of this were made during the visit, including reduction in the use of unnecessary and expensive antibiotics, increased efficiency in operating room management and in the diagnosis and treatment of many illnesses. Thus, at each meeting, the goal of reducing costs through improvement of quality was stressed.

During the interview process in each hospital, the members of the Quality Team were received graciously and considerable information was obtained. Nevertheless, the members of the Team detected some concern by the Hungarians as to whether our mission would be productive and useful for them. Furthermore, it was almost universally expressed that within the power structure of Hungarian hospitals, the Chiefs of Services, who in line of authority were below the Hospital Medical Director and the two Associate Directors, wielded inordinate power that could well

... which might prove unpopular to them or

detrimental to their income. We quickly learned that "grey money" was a major force in physicians' (and to a lesser extent, nursing) practices. In effect, a fee-for-service system existed within the overall framework of a prepaid national Healthcare program.

Another concern for the future of Q.I. programs was the result of the recent elections in Hungary and the gaining of control by the leftist Socialist Party. Although considered somewhat unlikely, there appeared to be justification for a fear that some of the changes already accomplished in the previous four years (which most of the physicians and nurses with whom we conversed were in favor of) might be reversed. This could have some effect on quality improvement programs even though such programs might demonstrate either short term or long-range cost savings or both.

THE INTERVIEWS

The members of the Quality Team found a few extraordinarily well informed individuals in each hospital. Our first interview was with Dr. Janos Szabo, Medical Director of the Karcag City Hospital. Dr. Szabo was a Member of Parliament in the previous administration, a founder and Director of the Hungarian Society for Quality Assurance and clearly an effective, intelligent leader. He gave us a brief review of the Hungarian Health System and the structure of a city hospital within that system. In a Hungarian hospital there are two other important members of the Administrative Staff, and they are the Nursing Director and the

Economics Director. Beneath this triangular structure are the members of the Doctor's Council which included the Chiefs of Services which meets monthly. Also impacting on quality programs within the hospital are the Pharmacy Committee, the Committee on Medical Technology which works closely with the Nursing Director, a recently formed Infection Control Committee and a Computer technology group. Within the past year, Dr. Hersko was appointed as Quality Director, but he has had no previous experience with Q.I. Dr. Szabo was firmly behind Quality Improvement programs although little had been accomplished on the medical side. However, the Director of Nursing had clearly begun a number of Q.I. programs. She explained that there was a Quality Committee for doctors only and another Quality Committee for nurses only with little, if any, overlap. The nurses have developed a Quality Improvement program of their own, reviewing the care of decubitus ulcers, as an example. On the other hand, The Doctor's Quality Committee apparently had not met and there were no programs underway. It was obvious that the physician Director of this program knew little about quality improvement. However, we learned somewhat later that Dr. Judit Pere of the Karcag staff is currently at the Cleveland Clinic in the United States and will return as a gastroenterologist to Karcag and will head the Quality Program.

Dr. Szabo stated three reasons for the failure of Quality Improvement Programs to date. First was the dire need for improved equipment. He pointed out this responsibility to the

owner of the hospital; namely, the City Council of Karcag. However, he does not seem too hopeful in this regard. Second, it had been impossible to develop a mission statement regarding quality since all the hospital staff had not signified approval of the concept of Q.I. Third, it was impossible to exercise professional control over all the physicians because of the administrative structure already mentioned. For example, he could not establish good peer review systems to educate and, if necessary, restrict poor surgeons.

In the interview with the Director of Nursing there was a clear understanding of the need to structure more quality programs. She emphasized the need for a Standards of Nursing Care based on best patient care paths. She noted that nursing documentation was poor and should be improved. Third, she believed there should be individual nursing records for each patient which apparently was not currently a practice. Fourth, there was a need for specific nursing equipment to simplify the tasks for the nurses. Fifth, they needed a better physical plant for the patients. All of these she felt would improve quality within the hospital. She had a clear understanding of how to organize the quality improvement program and the ability to identify the various steps. It was impressive that she takes management courses including hospital management and organization, communications, financial management and budget preparation. She knows that there are not many quality programs in the hospital and that most, if not all, originate within the

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nursing services. In fact, this past year she received a national award for a quality program she developed. Some of these programs are listed in the Appendix. However, it should be noted that they are either planned or in progress, not completed.

The second hospital, Pest County Hospital, was located in Kerepestarcsa, just outside of Budapest. Kerepestarcsa and Budapest combined contains approximately one third of the entire population of Hungary.

We met first as the combined team and heard some background from the Hospital Director, Dr. Andras Szabadjfalvi, who explained that the leadership of the hospital, which included himself and a few others, first accepted the concept of quality improvement about three years ago. Leaders in the hospital have taken courses in management and many continue to take courses with the Healthcare Faculty of Economics at the University of Budapest. These courses include human resources, communication, economics, and quality assurance. These courses are conducted every Saturday. Dr. Szabadjfalvi is preparing a thesis on "Present and Future of The Pest County Hospital as an Organization." The Medical Director is also Secretary of the National Hospital Infection Control Committee in Hungary.

The Quality Assurance Committee of this hospital was established in late 1993. Dr. Laszlo Vass accepted the Chairmanship of this committee. It was pointed out by Dr. Szabadjfalvi that the top leadership of the hospital adapts to

... is understood to be for the benefit of the

patients and to improve the efficiency of the operation. However, as in Karcag, the Medical Chiefs of Service found it hard to accept changes and resisted them. At levels below this, however, there seems to be no resistance to change and some approach it with enthusiasm.

The Quality Improvement Committee headed by Dr. Vass consists of five permanent members, all of whom are physicians. They thought they could add other people depending on specific issues. The Nursing Director also has her own Quality Assurance Committee and as in the hospital in Karcag, there is interchange between the two. Weaknesses in the system were described and the most important is, as in Karcag, is the perception that there is not enough equipment to do the jobs they believed were required for quality improvement. They thought there were not enough data to measure and evaluate various problems that had been brought to their attention. Also, there were not enough professional protocols (best clinical paths) and there were few efficiency minded people in the hospital organization. Other weaknesses included the utilization of the pharmacy as this is the second biggest budget item in the hospital. This is an area where considerable cost savings could be expected with appropriate quality improvement programs. Over eighty medicines were stored on the clinical nursing floors and there has been no control of utilization of these drugs. However, two years ago, a pharmacy management committee was organized and a process was developed for pharmacy distribution of drugs with an eventual savings of

six million forints, approximately \$60,000. A budget for the pharmacy was developed for each department. It was emphasized that there was a great need for a unit dose system to be organized in Hungarian hospitals. The unit dose dispensing systems, which permit medications as needed per patient delivered at specific time intervals to each floor from the pharmacy could eventually save 30% of the pharmacy expense budget for the hospital.

In the interview with the Nursing Director of the Pest County Hospital followed. She believed that the quality concept came to Hungary because patients pushed for it. She noted that there were separate physician and nursing Quality Assurance Committees. She formed her own Quality Assurance Committee of seven members which includes clinical head nurses, the operating room head nurse and the infection control nurse. The Committee develops an annual plan and twice a year has an audit of programs underway. Most of their programs are concerned with nursing care evaluation including nursing records. They are also involved in developing programs for sterile procedures and for improving the efficiency of the laundry. We were not certain as to how she accumulated data for these studies or evaluated the data for eventual action. Much could have come from anecdotal sources.

The Nursing Director also was taking university graduate courses in organization, management and communication. She believed it was important for her to know something about financial management of the hospital in order to work well with

the head nurses on the wards. When we presented a typical quality problem to her, that of inadequate messenger and orderly services, she said that she would investigate the problem and she would solve the problem herself. She did not see this as a systemic problem wherein the entire messenger and orderly system might need revision to improve services and save money. She thought the institution as a whole was not ready for continuous quality improvement because they are not yet at that level of understanding. They must first improve at the basic level and then develop CQI. She emphasized the need for equipment for patient comfort and that she needs an increase in staffing. Only then can they reach the level to begin continuous quality improvement. These latter comments were important because they seem to reflect the level of education and training and capability of the leadership of both hospitals. There was little understanding that some problems could be looked at inexpensively and quickly. There was a consistent perceived need for more data and an unawareness of how easily some of the data could be accumulated. There was little awareness of the ease with which performance indicators could be established and used as internal benchmarks.

These interviews illustrate the fact that there are, within these hospitals, centers of excellence and understanding of quality improvement. However, these are rare and there is an overwhelming lack of information and understanding of the need for quality improvement. In fact, as mentioned, there is

considerable opposition to Q.I. since it could change existing systems, processes and financial rewards for many of the leaders in the medical power structure of the hospital.

In other interviews the same problems were reemphasized. Lack of equipment, inadequacy of budget, inability to collect data but above all, resistance by the Board of Physicians which, in practical terms, meant the Clinical Chiefs. There is little understanding of problem identification within systems or with the process of system analysis.

There were two other interviews which indicated a much higher degree of understanding of quality improvement in a very few members of the staff. The first was with Dr. Zsolt Pecsvarady, who was a computer expert and had received graduate training in cardiology at the University of Southern California. He was currently involved in developing a computer program evaluating the cost of drugs per physician per ward. He believed that some of the Chiefs were always imposing their views on younger staff which inhibited progress and especially, the use of quality improvement. It was his opinion that the Hungarian mentality needed to change so that cost consciousness became more prominent. He also thought that money was needed to develop better computer networking which would help improve the quality program. It was interesting that his work was fully supported in concept by the Medical Director of the hospital.

An interview with Dr. Laszlo Vass, a pathologist who is the Director of Quality Assurance, was impressive. He is also

important in the Hungarian Society for Quality Assurance. Only this year did this hospital develop its Quality Committee and he emphasized that it has only physician members, including some younger "second line" physicians to avoid membership by the Chiefs who were, in general, resistant to change. He believed the only way that Q.I. would get a fair start in Pest Hospital would be to convince the Chiefs of its importance which would be difficult but possible. He emphasized the need for committed members of his committee. However, we were told by others that the committee had not met since its formation and this left us with some doubt as to whether progress was really being made in this area. Dr. Vass interestingly suggested that the Chiefs could be brought around to quality control because they are now worried about costs due to their individual budget responsibilities. Dr. Vass seems to be a committed quality individual and is dedicated to teaching and an excellent pathology service. His role in the Hungarian Society For Quality Assurance makes him play an important role both in this hospital and nationally.

As, at Karcag, we had many interviews but have detailed here the ones with physicians and nurses who seemed most positive and committed.

OBSERVATIONS AND FINDINGS

On Saturday, June 18th, the entire finance and quality team met with the Hungarian Society For Quality Assurance Directors in Kerapestarcsa to review our observations and to develop an

overall plan for the proposed demonstration program. At this time the Quality Team was able to report on its observations and findings and to present an action plan and timetable which followed the overall Scope of the Project and the Tasks as originally outlined. The Quality Team had met with the senior managers at each of the two demonstration hospitals. As a result of these meetings, the visiting Quality Team was able to identify leaders of Quality Improvement Projects at each hospital and the teams to implement the programs. In general, it was emphasized that the Medical Director of each hospital must provide continuing leadership and commitment to the Quality Assurance Programs. There was no question that Dr. Szabo at the Karcag City Hospital and Dr. Szabadfalvi at Kerapestarcsa, The Pest County Hospital, exemplified and understood this type of leadership. However, it was learned that Dr. Szabo would be leaving soon from his position as Medical Director at Karcag and no one knew who would succeed him. The leaders of the Quality Assurance Committees at each hospital were clearly identified and several interviews were obtained with each of these individuals. Dr. Voss at Pest County Hospital is clearly a leader in the field of Q.I. and provides a valuable resource for the development of quality programs in the hospital. On the other hand, it was believed that the leadership of the Quality Assurance Committee at Karcag was weak and that little had been done to implement the Q.I. program there. We were informed that the trainee currently at the Cleveland Clinic, Dr. Judit Pere, would be returning to

Karcag soon. Her abilities in the Q.I. area, her leadership and her effectiveness remain to be determined.

SPECIFIC OBJECTIVES FOR THE QUALITY IMPROVEMENT DEMONSTRATION PROGRAM

Objectives for each hospital were discussed and it was agreed that the primary objective was to improve quality in each institution and that, as specific projects were determined, cost effectiveness of quality improvement would be an important criterion for judgment of priority.

Procedures for identifying problems were discussed and it was agreed that projects would be submitted to each Quality Assurance Committee by various members of the staff. Sub-Committees would be chosen for involvement with the project, timetables would be established and possible solutions submitted to the Quality Assurance Committee for approval before interventions were established. The use of performance indicators and the collection and analysis of data were discussed thoroughly. It was agreed that practical materials would be sent to the HSQA for its use as well as for distribution to each of the demonstration hospitals. These materials would be most helpful in organizing Q.I. programs.

The question of applying interventions and monitoring clinical procedures was discussed and the current sensitivities of clinical chiefs and others was taken into consideration. Nevertheless, it was proposed that this could be accomplished by obtaining approval. Test monitoring could be established without

significant disruption of existing procedures until all members of the medical staff could be convinced of the effectiveness of the Q.I. innovative intervention. It was agreed that once several of these were recognized, not only for improving quality but for reducing costs, that wider acceptance for Quality Improvement would follow in each institution.

During this meeting, Dr. Laszlo Gulacsi, General Secretary of the HSQA, noted that it was difficult for us as visitors and consultants to fully understand the conditions under which Hungarian hospitals are operating. They are required to work under current management rules but they are aware that they are not optimal. He stated that there are well defined job descriptions and standard protocols from the Ministry of Health. In addition, there are contracts with the Insurance Administration under which they work and by which they must judge their work. This is the basis on which they must measure their progress. He also thought that the HSQA could not anticipate that others will "flock" to this work. Newer standards would have to be adopted by outside organizations. Thus, individual hospitals can not do it alone. In certain instances, hospitals would not have sufficient numbers of patients to be statistically valid for studies nor would their recommendations be necessarily adopted by the Ministry of Health. In the long-run there would have to be agreements by users, providers and payors. These comments by Dr. Gulacsi were most helpful.

All the participants in this meeting emphasized the need for more education of their colleagues. At present, they believed education and training was vague and inadequate. As a result, it caused resistance, often due to misunderstanding, in important quality improvement areas. The problem of "grey money" was again mentioned as a deterrent to Q.I. areas. Dr. Vass emphasized that the key words were education and demonstration of results. He believed that support from HSQA and results from within the two demonstration hospitals would do much to develop interest and support for quality improvement. Dr. Szabo noted that it was important to define the responsibilities of the visiting American team, responsibilities of the two demonstration hospitals and the responsibilities of the HSQA. He also noted that each hospital must report in the one case to its city government and the other to the county government.

During this meeting there was considerable discussion of definitions of quality programs. Dr. Gulacsi noted that the American team indicated that Total Quality Management (TQM) involved the entire hospital whereas, in Europe it was felt that this was a vertical management process that involved one sector rather than the entire hospital. It was agreed that there was little difference in the sense that American hospitals did not necessarily involve the entire organization in quality improvement programs but selected certain areas where priorities would be established and quality improvement programs begun.

In the case of Hungary, it was very important to establish priorities both based on need as well as acceptance and, of course, potential cost reductions.

INDICATORS

There was considerable discussion of indicators for the Q.I. demonstration program and an agreement was reached on the following:

- 1) Reduce case mix adjusted length of stay (LOS) by 10%.
- 2) Reduce inappropriate use of antibiotics by 25%.
- 3) Determine an infection rate and demonstrate a death declined over one year to a target of 20%.
- 4) In association with the finance team, participate in improvement in DRG coding practices (since physicians complete these forms, an education program by the Q.I. team and the hospital Q.I. Committees will be necessary.

It was emphasized that cultural changes cannot occur abruptly but that better techniques and management improvements can be expected. Cultural change within a hospital occurs following demonstration of significant improvement to quality programs. It was also pointed out that certain lengths of stay could not be reduced but that others could so that the overall length of stay is the indicator, not that of individual clinical units. It was proposed, but not necessarily agreed upon that as an incentive to Chiefs of Service, as a follow-up of successful quality programs, 50% of the cost savings be designated to the

hospital budget and the other 50% to the Chiefs to be used as they wished for the improvement of their services.

ORGANIZATIONAL STRUCTURE FOR PROGRAM IMPLEMENTATION

As indicated, Quality Assurance Programs have been recognized in both demonstration hospitals and their leaders identified. It was noted again that at Karcag City Hospital, a physician returning from Cleveland might take over the Quality Assurance Committee. It was also recalled that Dr. Szabo, Medical Director of Karcag City Hospital, would be leaving shortly and that this important leadership position was not yet filled. This is important since continuous support of quality programs by hospital leadership is essential for success. The September visit by the Quality Team will serve as an important opportunity to review the quality leadership at this hospital.

It was agreed that the Quality Assurance Committee of each hospital should meet at least monthly and preferably early in the program, every two weeks. Each Quality Assurance Committee would request to the hospital community that problems be submitted to them and that they would attempt to prioritize these problems and organize sub-committees to deal with them in a Quality Assurance Program.

The role of HSQA was also discussed and it was agreed that although HSQA would not dominate or dictate to the hospitals their organizational structure or implementation of the program, the Association should both monitor progress and provide advice when requested. It was recognized that an enormous degree of

talent existed within HSQA to help further these programs. Another important role for HSQA would be that in association with each Hospital Director, information can be supplied to the important people in the healthcare field in Hungary so they are aware of the progress of the Q.I. program. Support by these individuals is deemed extremely important.

In summary, each hospital would have a committee responsible for quality assurance in that hospital. HSQA would setup a Task Force Committee of high ranking individuals which would both monitor progress in each hospital and provide important linkage with individuals in the healthcare field in Hungary. These items were agreed upon by the participants.

It was strongly urged that Quality Assurance Committees be setup as soon as possible in the other three hospitals which were invited to participate as observers but not serve as demonstration hospitals.

ACTION PLAN

The following timetable was presented and agreed upon in principle:

June - September, 1994:

- 1) Organize immediately with programs of education and training throughout the entire hospital structure for the two demonstration hospitals. These programs should be organized by the Quality Committees of each hospital and given active support and approval by hospital leadership. Appropriate materials listed in the

appendix will be provided both to HSQA demonstration hospital for this purpose.

- 2) Quality committees in each hospital will become more active, enact regularly at specified intervals. Through an information and education program, the staffs in each hospital will become aware of the Committee's work and will be encouraged to submit problems for consideration.

September, 1994:

- 1) The HEI/AID Team will return to evaluate progress thus far and to provide further education and training for each hospital. If requested, talks could be given to the entire hospital staff at each hospital or to both hospitals simultaneously at a common location. The three observer hospital staffs should also be invited to attend these talks.
- 2) Conferences will be held with the members of the Quality Assurance Committees in each hospital in order to assure that the teachers are well trained ("teaching the teachers"). Assurance will be sought that each member of the Committee act throughout the hospital as an advocate for the Quality Program.
- 3) The visiting team will ascertain the level of commitment and understanding by the medical and nursing staff.
- 4) Review of interchange and cooperation between

physicians and nurses will be undertaken.

- 5) Educational programs consisting of techniques of statistical analysis, performance measurement, problem prioritizing, how to differentiate extrasystemic problems and importantly, the identification of cost savings through quality improvement.

September - December, 1994:

- 1) The Quality Committees complete case studies of proposed projects, as listed in the indicators, including methodology, expected results and cost savings.
- 2) Some projects should be well underway and the data gathering forms should be available.
- 3) The concepts of Continuing Quality Improvement (CQI) will be presented. The visiting team would receive data and some analysis from the projects underway.

December, 1994:

- 1) The HEI/AID Team would be in a position to evaluate staff commitment through previous education and training in each hospital.
- 2) Analysis of programs underway will include overall organization, participant makeup, data gathering and statistical evaluation and the proposed solutions, if any, to data. Plan for test trials and the proposed solutions, if any, to data. Plans for test trials and implementation will be discussed and approved.

- 3) The Team would provide more sophisticated educational seminars for the Quality Assurance Teams and would include the top leadership of each hospital in these programs. The concepts of Continuous Quality Improvement (CQI) will be presented.

December - March, 1994:

presented to the HEI/AID Team for review and critique which would be submitted back to the Quality Assurance Committees for further study and implementation.

- 2) Other proposed projects should have been prioritized and approved plans made for study and analysis.
- 3) Meeting with the three observer hospitals should be held to discuss and help in their organization of Q.I. programs.

March, 1995:

- 1) Evaluation of initial outcomes based on performance measures are complete and reviewed.
- 2) Evaluation of new projects should be continuing.

- 6) Involved personnel from both hospitals come together for a joint meeting during this team visit. The data and proposals for implementation can be made in this joint meeting.

March - June, 1995:

- 1) Implementation of new projects should be well underway.
- 2) All indicator projects would begin to show targeted results.
- 3) The concept of continuous quality improvement can now be introduced for the earlier projects which would involve reevaluation of improvement and suggestions for continuing improvement. This would be a major presentation by the HEI/AID Team at the June meeting.

RESOURCES

In spite of concerns expressed by the leadership of both hospitals, there are considerable existing resources in both hospitals on which excellent Quality Improvement programs can be built. These include an adequate physical plant, although many improvements are needed. There are impressive human resources available in each hospital to provide leadership and momentum for Q.I. In this report, we have expressed concern about the imminent departure of the talented and committed Medical Director of Karcag City Hospital, Dr. James Szabo. The availability of nearby university graduate courses is an important resource and is utilized by both hospitals.

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The support and leadership of the Hungarian Society for Quality Assurance is critical as the two demonstration hospitals develop strong Q.I. programs and acceptance of this new culture by the medical, nursing and administrative personnel. Finally, the commitment of the HEI/AID team to continue its support of their program should be a strong, positive force, helpful to the leaders of Q.I. in each hospital and to the HSQA.

There are, however, specific needs which need to be addressed and which will require financial support. These are:

- 1) Additional computer programs and capabilities.
- 2) Additional computers.
- 3) Computer networking programs, including E-mail and library tie-ins.
- 4) Better library facilities with pertinent reading materials.
- 5) Additional clerical personnel to collect and verify data.

These additional resources are justified if the indicators are to be completed in the time recommended and agreed upon by the hospitals, HSQA and HEI/AID. Without this additional support it would be difficult, if not impossible, to collect and evaluate the data, prepare and test new programs based upon the data and to institute the Q.I. program throughout the hospitals.

PROGRAM EVALUATION

The following seven items were agreed upon:

- 1) There must be collection of valid and reliable data a)

using as much as possible the same method of collecting data at each site, b) using the same collection forms and c) using people trained in the same techniques.

- 2) There must be consensus as to the number of cases necessary to obtain statistical significance.
- 3) There needs to be standardization of analysis of the raw data which may be separated into statistically significant groups.
- 4) There needs to be a description of common outcomes.
- 5) An analysis of outcome outliers is required in order to determine why they are different.
- 6) There needs to be an analysis of interventions which are purposeful or coincidental.
- 7) An evaluation needs to be made as to whether the quality improvement interventions provide not only better quality but cost savings beneficial to patients and the institution as a whole.

These program evaluation items can be stressed in quantitative terms:

- 1) The number of cases and the result and amount of data collected.
- 2) The percentage of improvement over the time of the study.
- 3) Explanation and analysis of interventions which may or may not have permitted the plan goal.

COMMUNICATIONS

It was agreed that maintaining open lines of communication is vital to the success of this program. The two demonstration hospitals agreed to exchange information and to discuss progress and this could be conducted by the two hospital Medical Directors and the Chairmen of the Quality Assurance Committees. This should be done at least monthly. This would require, of course, continuous communication between the Project Sub-Committees and the parent Quality Assurance Committee in each hospital.

There must be a continuous flow of information between the demonstration hospitals, individually, to the HEI/AID Consultant Teams. The purpose of this is to provide progress information during the interim between the proposed September, December, March and June visits by the team to Hungary and also for the team to assist, as needed, in the utilization and conduct of the overall program and its components.

As noted above, HSQA would provide overview (but not control) and assistance as needed to the demonstration hospitals as well as providing a lobbying function with important individuals in the healthcare program throughout Hungary.

RECOMMENDATIONS

In addition to the programs and timetables listed in this report, the following additional recommendations are submitted:

- 1) The Quality Improvement Committees in each of the

distinct and separate committees, one composed entirely of physicians, the other entirely of nurses. Neither committee had members from the financial-administrative staff. Many, if not most, of quality problems intimately involve all three groups. It is, therefore, strongly recommended that a single Quality Improvement Committee be structured in each hospital with significant membership from the physician, nursing and financial staffs. Subcommittees, with membership appropriate to the problem, should be organized for the study of each indicator listed in this report and these subcommittees should report to the parent Q.I. committee at regular scheduled intervals. The parent committee should meet twice a month for the first year, possibly monthly thereafter.

- 2) As the program begins to implement the recommendations of the Q.I. committee, the concept of Continuous Quality Improvement needs to be introduced. This will permit re-review of the effectiveness of new Q.I. programs so that quality improvement will be a continuous process and be a part of the culture of the hospital.
- 3) Each program, as developed, should include not only a report of increased efficiency, but also an evaluation of cost savings and that the financial staff representative on the Q.I. Committee participates in

this report.

- 4) In order to increase awareness of and participation in the Q.I. programs of each hospital, the staffs should be encouraged to submit ideas for Q.I. studies and, further, that a hospital wide newsletter continue to inform all the hospital employees of the program underway and those under consideration for study. As each program reaches the stage of implementation, the plan should be in the newsletter and after an appropriate period to accumulate outcome data, the effectiveness and cost savings should be publicly announced.
- 5) Suggestions for Q.I. programs should be evaluated not only for effectiveness and cost savings in the individual hospital, but also for its usefulness in the entire Hungarian healthcare system and these program designs and results need to be publicized and transmitted to the Ministry of Health, possibly through the HSQA.
- 6) It is finally, and also strongly recommended that the following reading materials be sent to HSQA, one copy each to HSQA and the two demonstration hospitals, total three copies:
 - a) Implementing Quality Improvement Case Studies in Health Care

- b) Process Improvement Models: Case Studies in Health Care
- c) Using Quality Improvement Tools in a Health Care Setting
- d) A Pocket Guide to Quality Improvement Tools

These are valuable tools in Q.I. programs and all are published by the Joint Commission on Accreditation of Health Care Organizations, One Renaissance Boulevard, Oakbrook Terrace, Illinois 60181.

APPENDIX F

Healthcare Enterprise International, Inc.
Hospital Based DRG Operations Improvement
and Quality Assurance Demonstration Project
Detailed Work Plan for Demonstration Sites
Finance Team

A. DEVELOPMENT OF BACKGROUND INFORMATION AT DEMO SITES

1. Identification of Financial Management Process

a. Review Current Accounting System

- (1) Detailed Chart of Accounts ?
- (2) Identification of Costs by Function/Department
- (3) Frequency of Recording of Transactions
- (4) Existence of Charge/Cost Capturing System ?

b. Statistical Data

- (1) Sources of Data
- (2) Responsibility for Accumulation of Statistics
- (3) Existence of Verification Process ?
- (4) Consistency of Data Over Time ?

c. Periodic Management Reporting

- (1) Types of Reports
- (2) Frequency of Reports

- (3) Uses of Reports
- (4) Existence of Performance Benchmarks ?
- (5) Degree of Inclusion of Clinical Data in Management Reporting Process

d. Budgeting Process

- (1) Participants in Budgeting Process
- (2) Timing of Budget Preparation
- (3) Basis for Budgets (Historical or Peer Comparisons?)
- (4) Flexible Budgeting (Volume Variability ?)
- (5) Ongoing Performance Evaluation ?

2. Computer Capabilities

a. Review Current Computer Capabilities

- (1) Use of Network ?
- (2) Numbers and Capabilities of PCs in Use
- (3) Departments Using PCs ?
- (4) Degree of Accuracy of Input Data (Any Verification?)

b. Programs Used ? (Financial Only or Clinical ?)

c. Modelling Capabilities ?

d. Historical Data Stored and Maintained ? How Long ?

3. Staffing Capabilities

a. Number of Personnel by Function

b. Formal Training of Personnel

c. Experience of Personnel

4. Identification of Operational Problems

B. DEVELOPMENT OF SPECIFIC DRG OPERATIONS IMPROVEMENT PLAN

1. Identification of the Kind and Frequency of Data to be Collected

2. Establishment of Benchmarks

3. Establishment of Target Dates

4. Assignment of Tasks

APPENDIX G



Joint Commission
of Accreditation of Healthcare Organizations

The Joint Commission's Performance Measurement Initiative

- Performance measurement of providers of health care is fast becoming a social mandate.
- The purpose of measurement is twofold:
 - To serve as a basis for improvement by the health care organization
 - To serve as a basis for decisions or judgments by the Joint Commission or others.
- The Joint Commission uses performance measurement to evaluate and accredit health care organizations.
- The credibility and validity of the accreditation decision are increasingly important to all parties involved — to the Joint Commission, to accredited organizations, and to those who use the decision to make judgments about a health care organization.
- Given its importance, it is essential that the accreditation decision be based both on state-of-the-art measures, and on the use of measurement and decision-making processes that are consistent, uniformly applied, relevant and fair.
- The development of an indicator-based performance measurement system for accredited health care organizations is a fundamental component of the Joint Commission's Agenda for Change.
- Implementation of an indicator measurement system is essential because accreditation, in the future, will be based on actual performance — as reflected by patient care provided (performance achieved to date) and compliance with performance-based standards (a proxy for the likelihood of achieving good outcomes in the future). Any measurement approach short of this will lack relevance and credibility among interested parties.
- An indicator measurement system is intended to provide information that can be used by health care organizations to assess and improve their services, by the Joint Commission to measure and guide improvement in accredited organizations, and by the public in making decisions about their own care.
- The Joint Commission's Indicator Measurement System (IMSystem) includes performance measures which have demonstrated sufficient relevance, reliability and validity in field testing or, based on this testing, have been revised to meet these requirements.

- more -

- When performance data are to be factored into the accreditation decision, the same data must be used by organizations so that it can be consistently (for the data's users) and fairly (to the accredited organizations) used in the accreditation process.
- Specifically, this requirement for uniformity means that each organization must:
 - Collect data for each of the required indicators that are applicable to the organization's services.
 - Use the Joint Commission's definitions of data elements for each indicator.
 - Comply with reporting timeframes and other important logistical requirements.
- Participation in the system by accredited and accreditation-seeking organizations will be required once indicator information is fully integrated into the accreditation process. This could be as early as 1996 for hospitals.
- The Indicator Measurement System will be implemented for voluntary participation by hospitals in 1994. It will include 10 fully-tested indicators in 1994, approximately 20 in 1995, and approximately 30 in 1996.
- Hospitals will be encouraged to participate during the optional phase of the indicator measurement system at an annual enrollment fee of \$2,000.
- The Joint Commission's IMSystem database is being developed and will be maintained by Computer Sciences Corporation (CSC).
- Data collection and submission specifications that apply to software development were released by the Joint Commission in September 1993. The provision of these detailed specifications allows hospitals to develop their own efficient system solutions. Among other considerations, this should facilitate continued participation by these hospitals in other data projects.
- A stand-alone, PC-based, software solution will also be available.
- Hospitals will be asked to submit data quarterly through electronic transmission (modem) or magnetic media (diskette or tapes) only. The Joint Commission is willing to work with any organization to improve the efficiency of the data submission process for the IMSystem.
- Comparative reports will be provided quarterly, initially comparing a hospital to all other participants, and will reflect risk-adjusted rates.
- The Joint Commission strongly encourages medical staff involvement in performance improvement activities. The Joint Commission will monitor hospital uses of performance information.

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JCAHO 10/93



JOINT COMMISSION ON
ACCREDITATION OF HEALTHCARE
ORGANIZATIONS



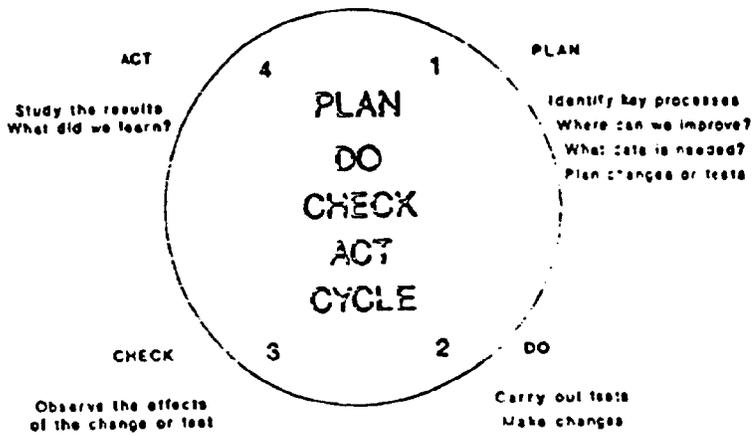
Performance Measures — 1994

1. **NUMERATOR** — Patients developing a central nervous system (CNS) complication within two post-procedure days of procedures involving anesthesia administration.
DENOMINATOR — All patients undergoing surgical procedures involving anesthesia administration and having an inpatient stay.
2. **NUMERATOR** — Patients developing a peripheral neurological deficit within two post-procedure days of procedures involving anesthesia administration.
DENOMINATOR — All patients undergoing surgical procedures involving anesthesia administration and having an inpatient stay.
3. **NUMERATOR** — Patients developing an acute myocardial infarction (AMI) within two post-procedure days of procedures involving anesthesia administration.
DENOMINATOR — All patients undergoing surgical procedures involving anesthesia administration and having an inpatient stay.
4. **NUMERATOR** — Patients with a cardiac arrest within two post-procedure days of procedures involving anesthesia administration.
DENOMINATOR — All patients undergoing surgical procedures involving anesthesia administration and having an inpatient stay.
5. **NUMERATOR** — Intra-hospital mortality of patients within two post-procedure days of procedures involving anesthesia administration.
DENOMINATOR — All patients undergoing surgical procedures involving anesthesia administration and having an inpatient stay.
6. **NUMERATOR** — Patients delivered by cesarean section.
DENOMINATOR — All deliveries.
7. **NUMERATOR** — Patients with vaginal birth after cesarean section (VBAC).
DENOMINATOR — Patients delivered with a history of previous cesarean section.
8. **NUMERATOR** — Live born infants with a birth weight of less than 2500 grams.
DENOMINATOR — All live births.
9. **NUMERATOR** — Live born infants with a birth weight greater than or equal to 2500 grams who have at least one of the following: an Apgar score of less than 4 at five minutes, a requirement for admission to the NICU within one day of delivery for greater than 24 hours, a clinically apparent seizure or significant birth trauma.
DENOMINATOR — All live births greater than or equal to 2500 grams.
10. **NUMERATOR** — Live born infants with a birth weight greater than 1000 grams and less than 2500 grams who have an Apgar score of less than 4 at five minutes.
DENOMINATOR — All live born infants with a birth weight of greater than 1000 grams and less than 2500 grams.

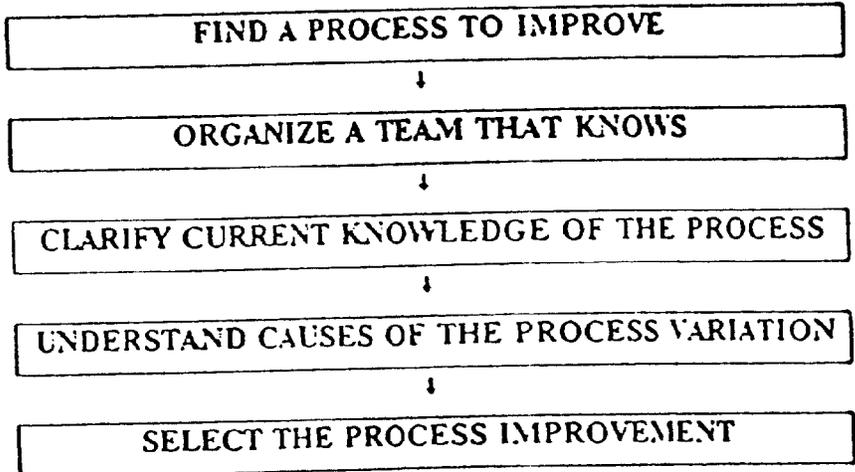
APPENDIX H

QUALITY IMPROVEMENT PROCESS MODELS

THE CONTINUOUS IMPROVEMENT CYCLE (Shewhart/Deming Cycle)



FOCUS-PDCA (Hospital Corporation of America)



PHILOSOPHIES OF TOTAL QUALITY MANAGEMENT:¹

- Improving quality by removing the causes of variations in the system inevitably leads to improvement.
- The person doing the job is the most knowledgeable about that job.
- People want to be involved and do their jobs well.
- Every person wants to feel like a valued contributor.
- More can be accomplished working together to improve the system than having individual contributors working around the system.
- A structured quality improvement process using graphical techniques produces better solutions than in an unstructured process.
- Graphical quality improvement techniques let you know where you are, where the variations lie, the relative importance of areas to be improved and whether the changes made have had the desired impact.
- The adversarial relationship between labor and management is counterproductive and outmoded.
- Every organization has undiscovered "gems" waiting to be developed.

PHILOSOPHIES COMMON TO THE QUALITY GURUS

DEMING	◆	Provide leadership and personal commitment
	◆	Develop quality policy and definition
	◆	Create quality infrastructure to guide change
	◆	Set unifying goals for improvement
	◆	Establish quality measurements
JURAN	◆	Respond to customer needs and expectations
	◆	Emphasize process improvement
	◆	Use teams for problem solving
	◆	Provide training and retraining at all levels
CROSBY	◆	Adopt a new attitude about quality
	◆	Recognize and reward employees
	◆	Focus on continuous improvement

¹ *The Memory Jogger: A Pocket Guide of Tools for Continuous Improvement*. Goal/QPC, Methuen, MA: 1988, 4-5

Costs	\$	2,468,000
Financial Benefits	\$	17,774,000
NET CONTRIBUTION	\$	15,306,000

Return on Investment: 620 Percent

(Fiscal Year 1991 Present Value. Program activities between fiscal years 1987-88 and 1990-91.)

In the Operating Room, multidisciplinary teams were able to:

- ◆ Decrease turn-around time by 20% by decreasing preparation time for the next surgery
- ◆ Standardize sutures, with suture inventory reductions that saved \$400,000
- ◆ Initiate other inventory reductions that saved \$700,000

In Nursing, a nursing resource pool QI team met between 1987 and 1988 to reduce the use of external agency nurses.

- ◆ Increased use of internal nurses resulted in a net savings in costs of \$530,000
- ◆ Nursing turnover decreased from 27% to 1%

³ Mangano, J. "The costs and savings of quality improvement", Quality Management Update, March 1992, p. 15

APPENDIX I

**Diagnosis
Related
Groups
DRG'S**



Case Mix

Diagnosis Related Groups

Official Definition

A HOMOGENOUS GROUP OF PATIENTS UTILIZING THE SAME LEVEL OF RESOURCES FOR THEIR PATIENT CARE.

Practical Application

DEFINITION OF HOSPITAL OUTPUT/PRODUCTS

What Is The Principal Diagnosis?

IT IS THE CONDITION
ESTABLISHED AFTER STUDY
TO BE CHIEFLY RESPONSIBLE
FOR THE ADMISSION
OF THE PATIENT TO THE HOSPITAL

Reasons For Developing Case Mix Measures

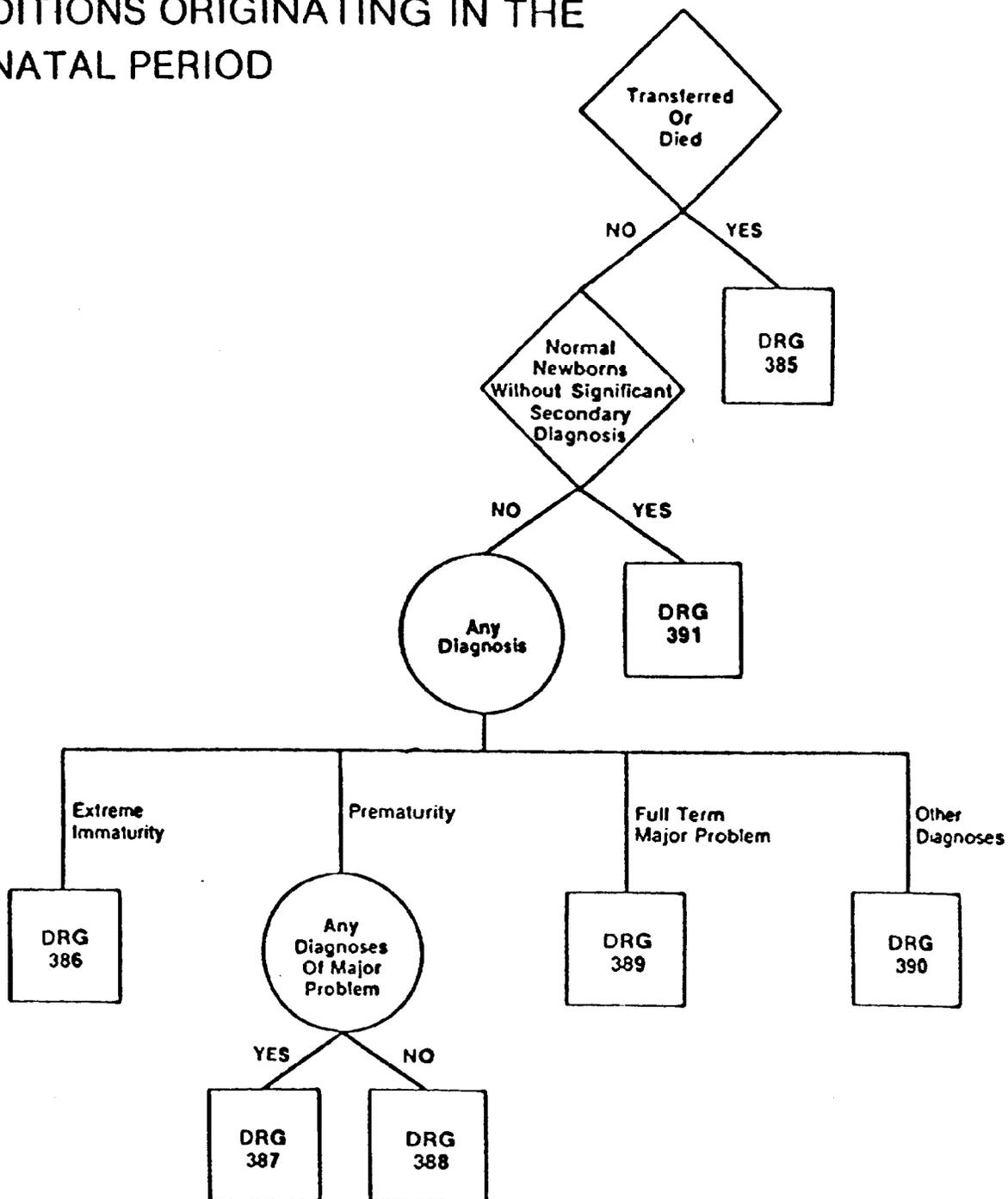
- UTILIZATION REVIEW
- QUALITY ASSURANCE
- REIMBURSEMENT (Payment)
- MANAGEMENT APPLICATIONS

Components To Classify A DRG

1. PRINCIPAL DIAGNOSIS
2. LENGTH OF STAY
3. AGE
4. SEX
5. PRESENCE OF SURGERY
6. SECONDARY DIAGNOSIS
7. PROCEDURES

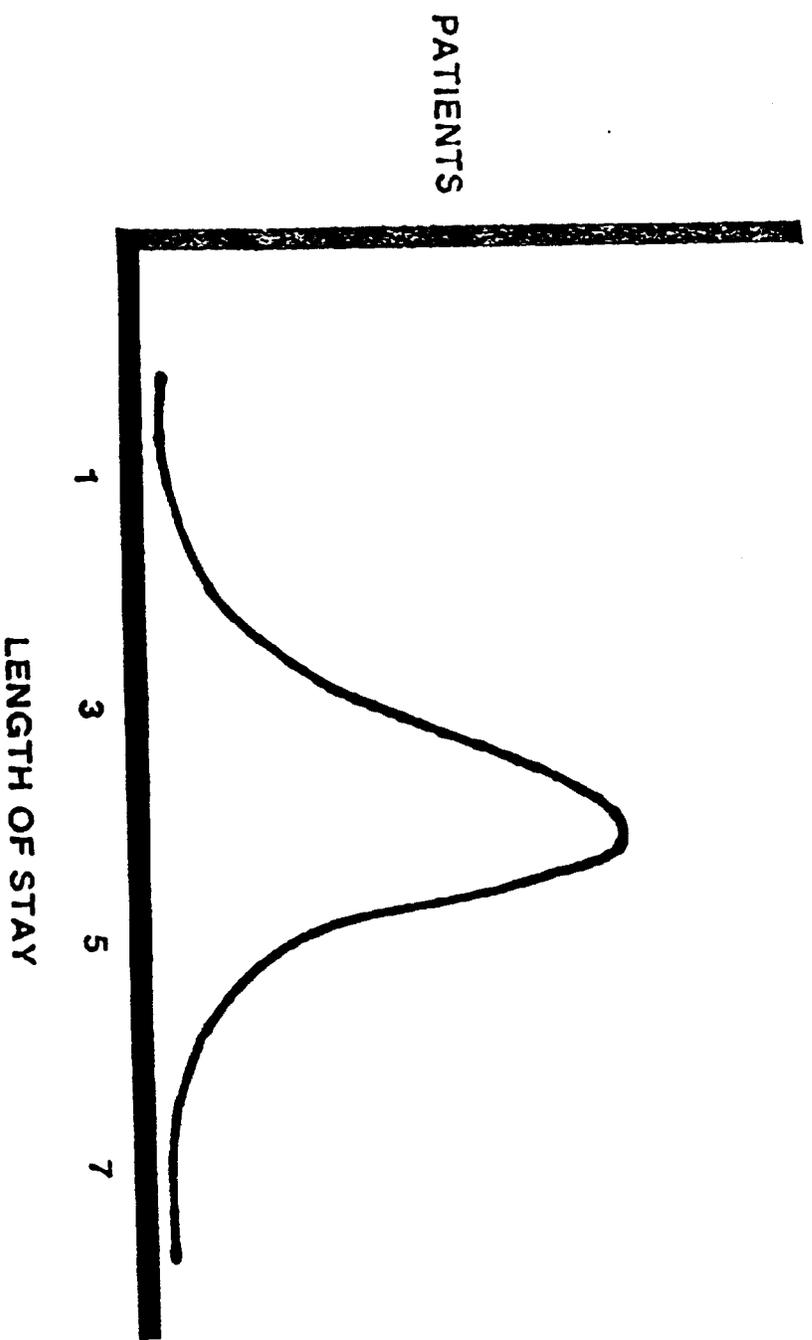
Major Diagnostic Category 15

NEWBORNS AND OTHER NEONATES WITH
CONDITIONS ORIGINATING IN THE
PERINATAL PERIOD



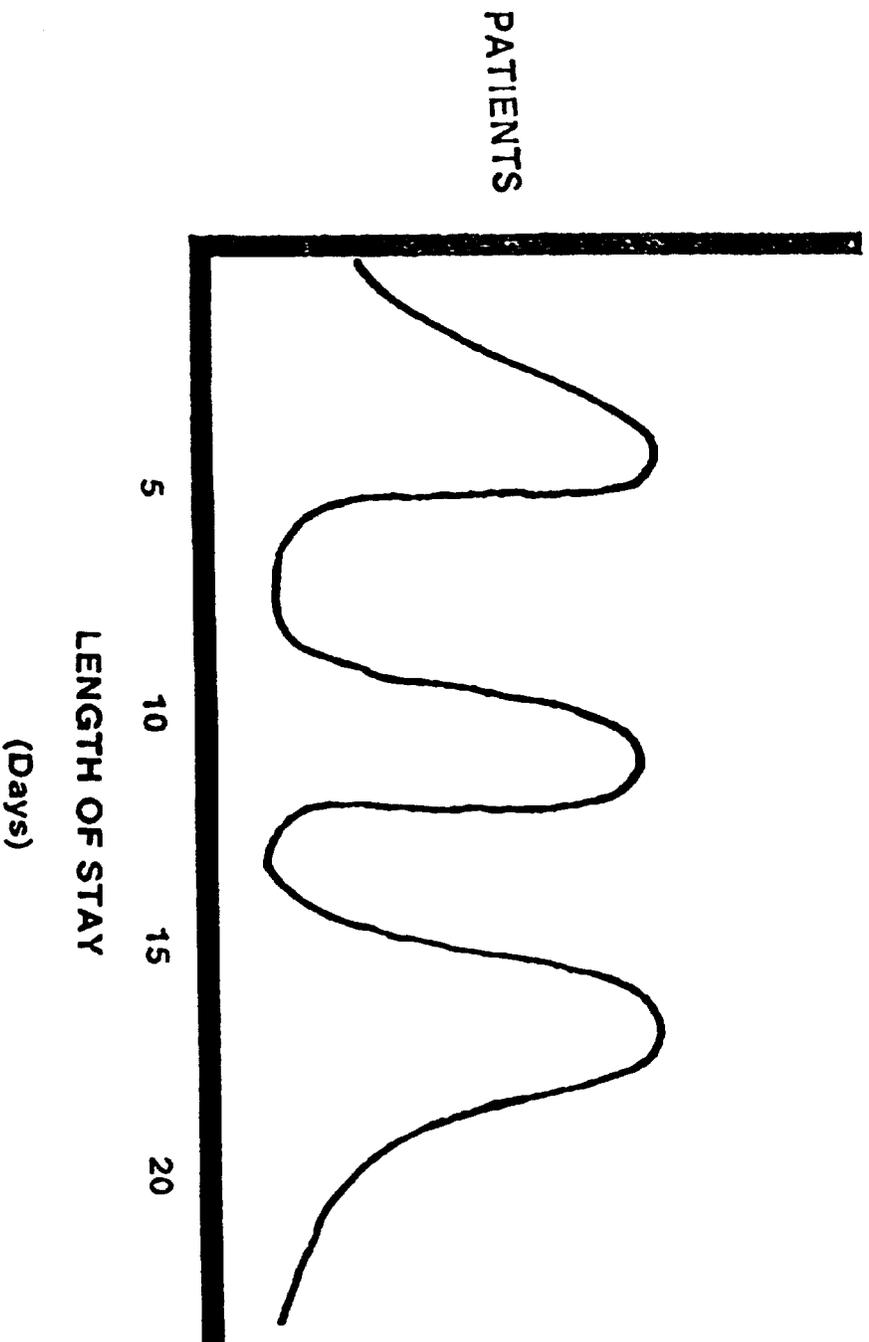
Normal Newborn Baby

(DIAGNOSIS RELATED GROUP 391)



Newborns and Other Neonates

(MAJOR DIAGNOSTIC CATEGORY 15)



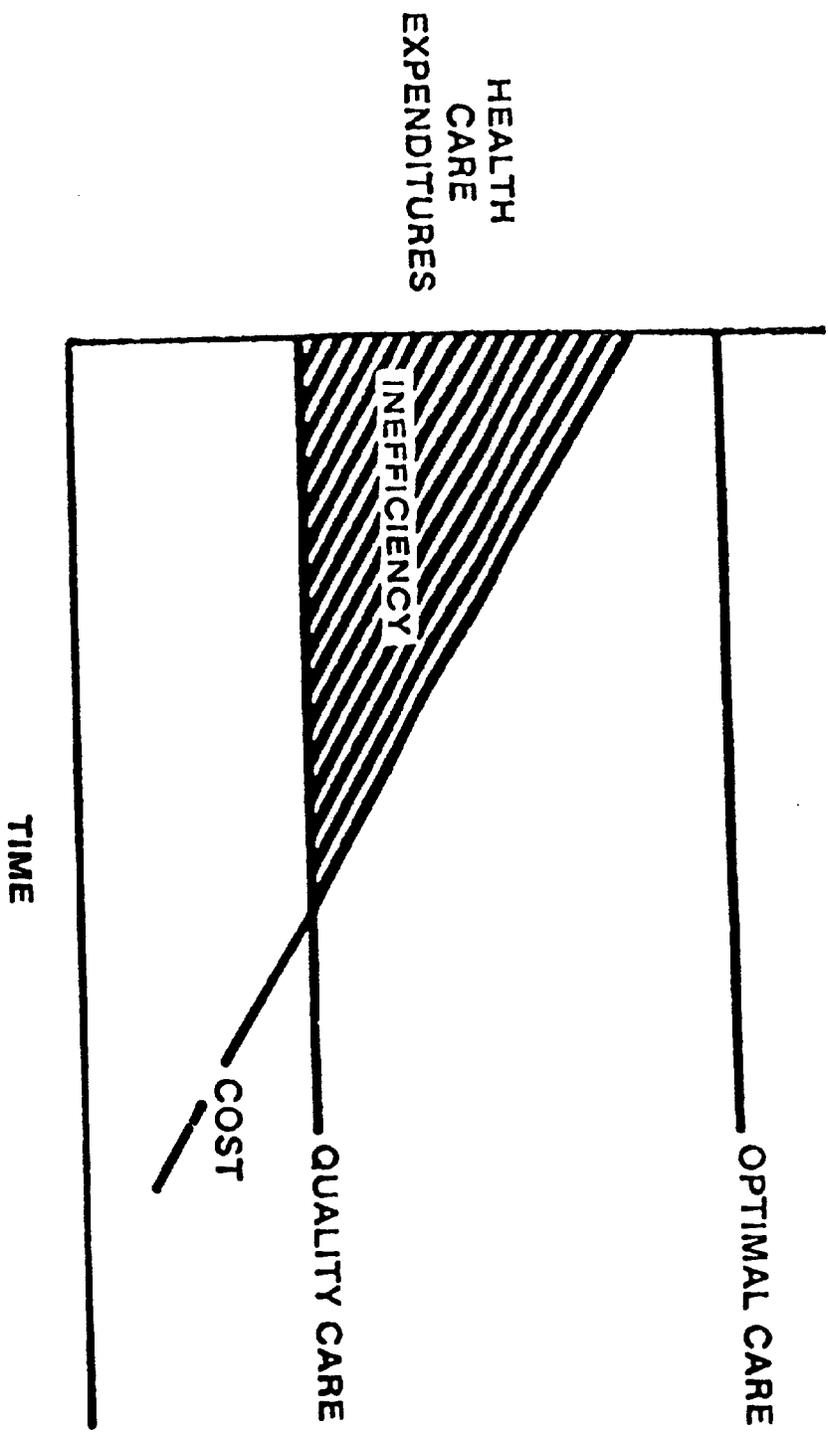
Characteristics Of A Patient Classification Scheme

- DEFINITION OF PATIENT CASE TYPES SHOULD BE BASED ON INFORMATION NORMALLY COLLECTED ON PATIENT ABSTRACTS
- THERE SHOULD BE A MANAGEABLE NUMBER OF PATIENT CASE TYPES
- EACH PATIENT CASE TYPE SHOULD CONTAIN PATIENTS WITH A SIMILAR PATTERN OF RESOURCE INTENSITY
- EACH PATIENT CASE TYPE SHOULD CONTAIN PATIENTS WHO ARE SIMILAR FROM A CLINICAL PERSPECTIVE (i.e., Each case type should be medically meaningful)
- COVERS ENTIRE RANGE OF PATIENT CODES WITHOUT OVERLAP

History Of Disease Classification Schemes

- REVISED EVERY 10 YEARS SINCE MID 19th CENTURY
- PURPOSE -
 - CLASSIFY PATIENTS BY ILLNESS
 - DESCRIBE MORBIDITY & MORTALITY
 - UTILIZATION REVIEW
 - HEALTH STATISTICS

Cost versus Quality



N.J. DRG Payment Rates

ASSUMPTIONS

STANDARD COST	\$1,000
PERCENTAGE STANDARD.....	50%
HOSPITAL "A" COST	\$900
HOSPITAL "B" COST	\$1,100

RATE CALCULATION

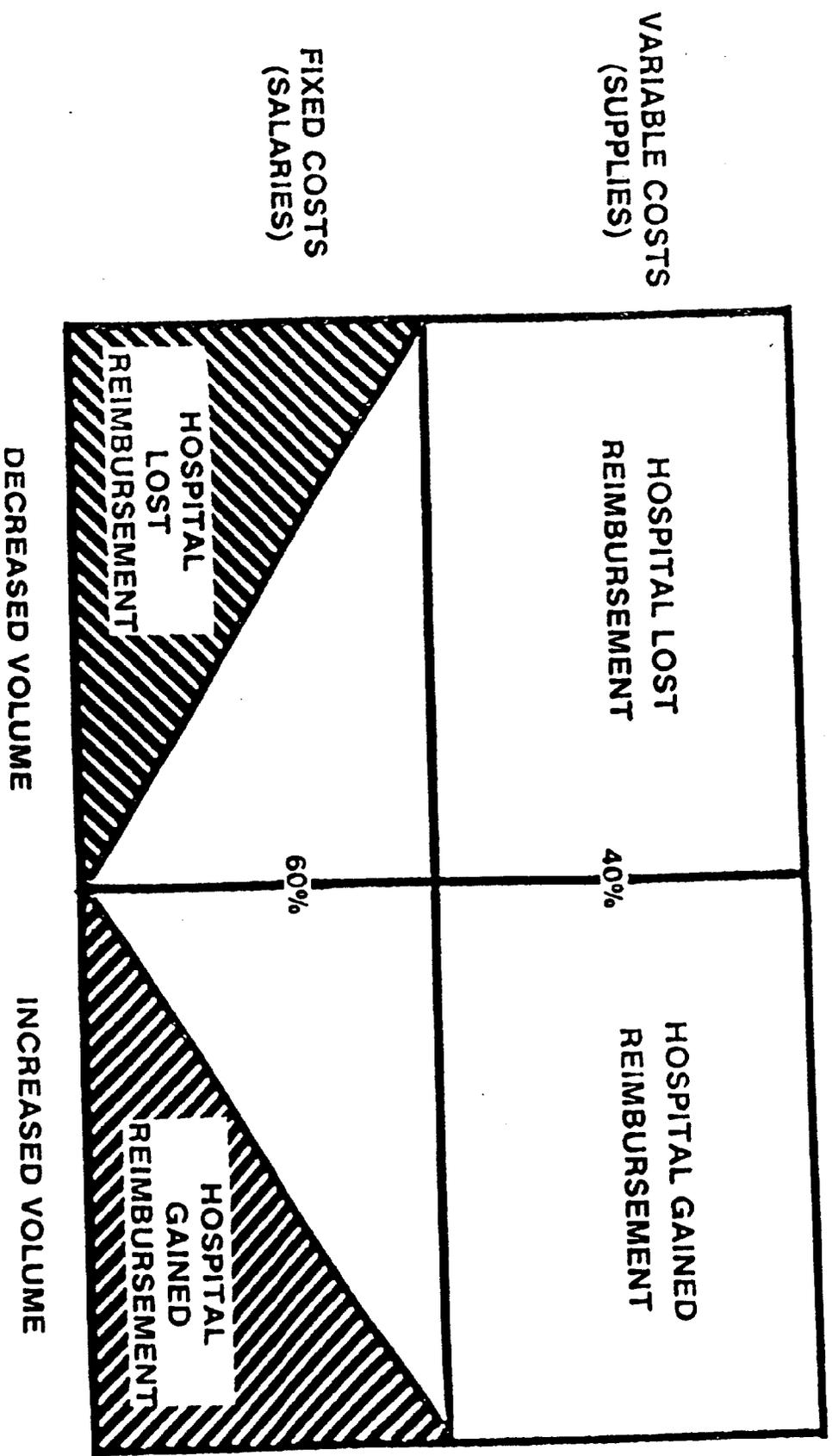
HOSPITAL "A"

HOSPITAL COST X 50%	\$450
STANDARD COST X 50%	\$500
PAYMENT RATE.....	<u>\$950</u>

HOSPITAL "B"

HOSPITAL COST X 50%	\$550
STANDARD COSTx 50%	\$500
PAYMENT RATE.....	<u>\$1,050</u>

Marginal Revenue Volume Variability Adjustment



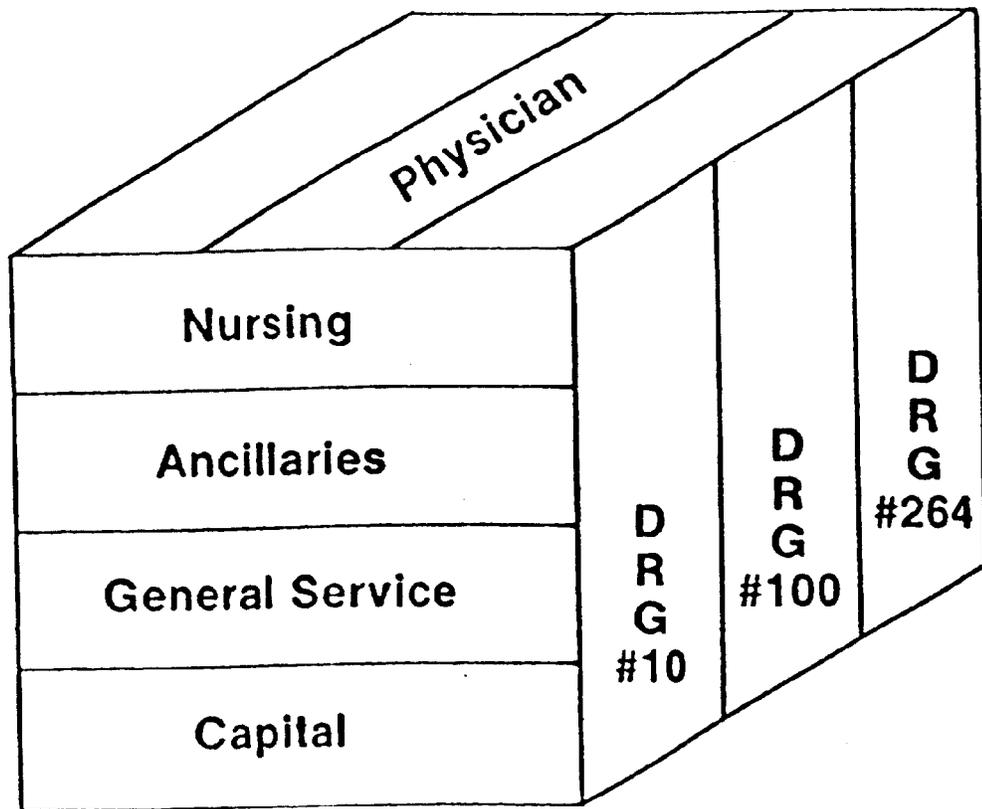
Product Line Management

FUNCTIONAL APPROACH

Nursing
Ancillaries
General Service
Capital

Product Line Management

1st GENERATION APPROACH



2nd GENERATION APPROACH

4th Dimension - Market Area

Vertical Integration Of Health Care

PRIMARY CARE CLINICS

EMERGENCY CARE

SAME DAY SURGERY

ACUTE CARE

SKILLED NURSING FACILITY

HOME HEALTH CARE

Surgicenters

- Definition**
- MINI-SURGERY, LOCAL AND GENERAL ANESTHESIA
 - NO OVERNIGHT STAY, BUT HOSPITAL TRANSFER CAPABILITY
- Benefits**
- HIGHER SURGICAL VOLUME POSSIBLE
 - POTENTIAL FOR PROFITABILITY
- Costs**
- NEGATIVE IMPACT ON O.R. UTILIZATION AND COSTS
 - SITE CHOICE MAY EFFECT SURGEON SATISFACTION
 - COMPETITION WITH PRIVATE PHYSICIANS

Urgicenters/ Primary Care Clinic

- | | |
|-------------------|---|
| Definition | <ul style="list-style-type: none">• WALK-IN, NON EMERGENT MEDICAL FACILITY• 12-16 HOURS/DAY, 6-7 DAYS/WEEK |
| Benefits | <ul style="list-style-type: none">• "NEW" PRIMARY CARE MARKET• POTENTIAL FOR PROFITABILITY• FEEDER FOR ADMISSIONS |
| Costs | <ul style="list-style-type: none">• MAY WEAKEN E.R. VOLUME• MAY THREATEN PRIVATE PRACTITIONERS |

Eldercare/ *Life Care*

- Definition**
- IP. AND OP. SERVICE COMPONENTS
 - OP. INCLUDES AMBULATORY CARE CENTERS, HOME CARE, SCREENING, ETC.
- Benefits**
- GROWING MARKET FOR IP. REFERRALS
 - POTENTIAL FOR PROFITABILITY
- Costs**
- PHYSICIAN RESISTANCE TO NEW SPECIALTY
 - IF SUCCESSFUL, HOSPITAL COULD BECOME GERIATRIC CENTER ONLY

GLOSSARY OF TERMS

<u>TERM</u>	<u>DEFINITION</u>
CASE MIX	THE DISTRIBUTION OF PATIENTS BASED UPON UNIFORM DISEASE CATEGORIES AND TREATMENT PATTERNS.
CO-EFFICIENT OF VARIATION	STATISTIC USED TO MEASURE HOW WELL THE DEFINITION OF EACH DIAGNOSIS EXPLAINS THE EXPECTED COST FOR THAT DRG.
COMMON AUDIT	AN EXAMINATION MADE BY A FINANCIAL INTERMEDIARY WHICH VERIFIES THE FINAL LEVEL OF REIMBURSEMENT FOR A HEALTH CARE FACILITY.
ECONOMIC FACTOR	AN ADJUSTMENT TO APPROVED PAYMENT RATES FOR COST OF LIVING CHANGES WHICH UTILIZE STANDARD MEASURES OF INFLATIONARY TRENDS IN 32 EXPENSE CATEGORIES.
EFFICIENCY STANDARD	THE MEDIAN, EQUALIZED, NON-PHYSICIAN COST PER CASE PER DRG AMONG ALL HOSPITALS UNDER CHAPTER 83; CALCULATED SEPARATELY FOR MAJOR TEACHING, MINOR TEACHING AND NON-TEACHING CATEGORIES.
INCENTIVE STANDARD	THE MEAN, EQUALIZED, NON-PHYSICIAN COST PER CASE PER DRG AMONG ALL HOSPITALS UNDER CHAPTER 83; CALCULATED SEPARATELY FOR MAJOR TEACHING, MINOR TEACHING AND NON-TEACHING CATEGORIES.
INLIERS	INPATIENT CASES WHO DISPLAY COMMON OR TYPICAL PATTERNS OF RESOURCE USE IN THEIR TREATMENT PATTERNS.

INTENSITY	THE DEGREE OF SERVICE OR LEVEL OF TECHNOLOGY THAT IS UTILIZED IN A PATIENT'S TREATMENT PATTERN.
OUTLIER	PATIENTS WHO DISPLAY ATYPICAL CHARACTERISTICS RELATIVE TO THE MAJORITY OF PATIENTS WHICH EXPERIENCE SIMILAR DIAGNOSTIC CHARACTERISTICS.
OUTPATIENT SURGERY	SURGICAL PROCEDURES PERFORMED ON AN OUTPATIENT BASIS WHICH DO NOT REQUIRE GENERAL ANESTHESIOLOGY NOR A FULLY EQUIPPED OPERATING ROOM.
PRIVATE OUTPATIENT	INDIVIDUALS REFERRED TO THE HOSPITAL BY PHYSICIANS FOR TESTS AND PROCEDURES.
SAME DAY SURGERY	PATIENTS ADMITTED TO THE HOSPITAL FOR A SURGICAL PROCEDURE AND HAS: (1) A ZERO-DAY LENGTH OF STAY; (2) SURGERY PERFORMED IN A FULLY EQUIPPED OPERATING ROOM; AND, (3) A NORMAL DISCHARGE.
VOLUME	QUALITY OF ADMISSIONS, VISITS OR PROCEDURES.
VOLUME VARIABILITY	RATE ADJUSTMENT TO DETERMINE THE MARGINAL REVENUE ALLOWED A HOSPITAL FOR THE REIMBURSEMENT OF THE ACTUAL COSTS OF TREATING A MORE INTENSE OR LARGER PATIENT LOAD.

APPENDIX J

Defining Terms

Continuous Quality Improvement (C.Q.I.):

The ongoing monitoring, evaluation, and improvement of processes.

Total Quality Management (T.Q.M.):

Encompasses C.Q.I and the management systems that foster such activities: communication, education, etc.

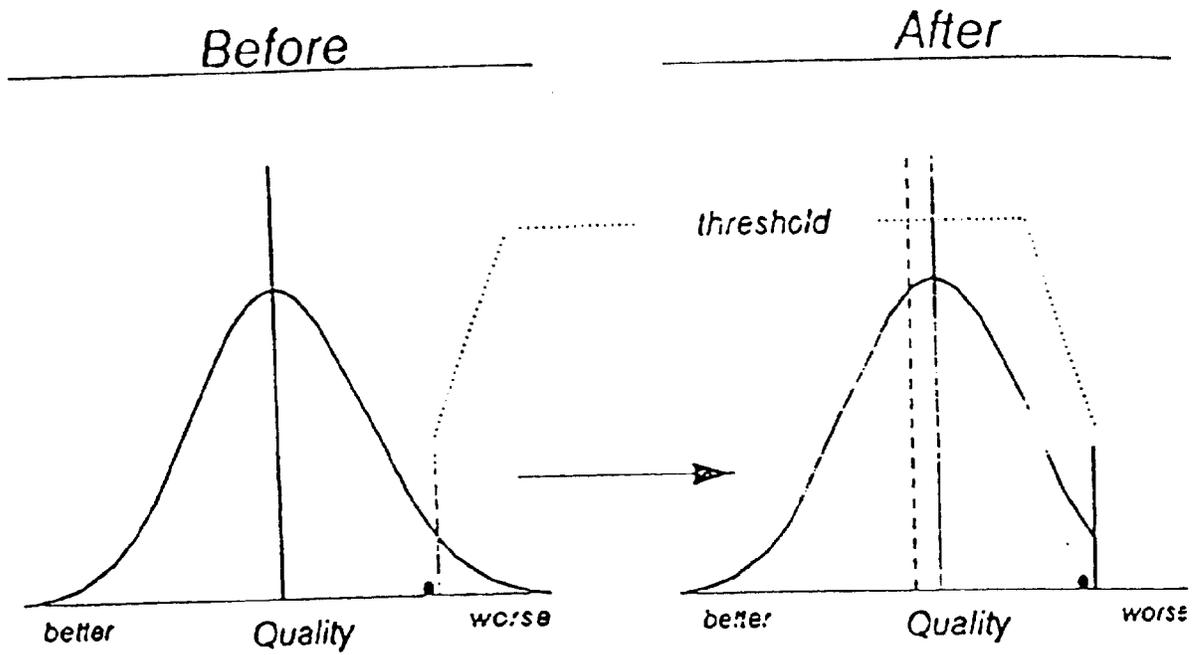
Quality Assurance:

Term no longer current, assumes high quality static

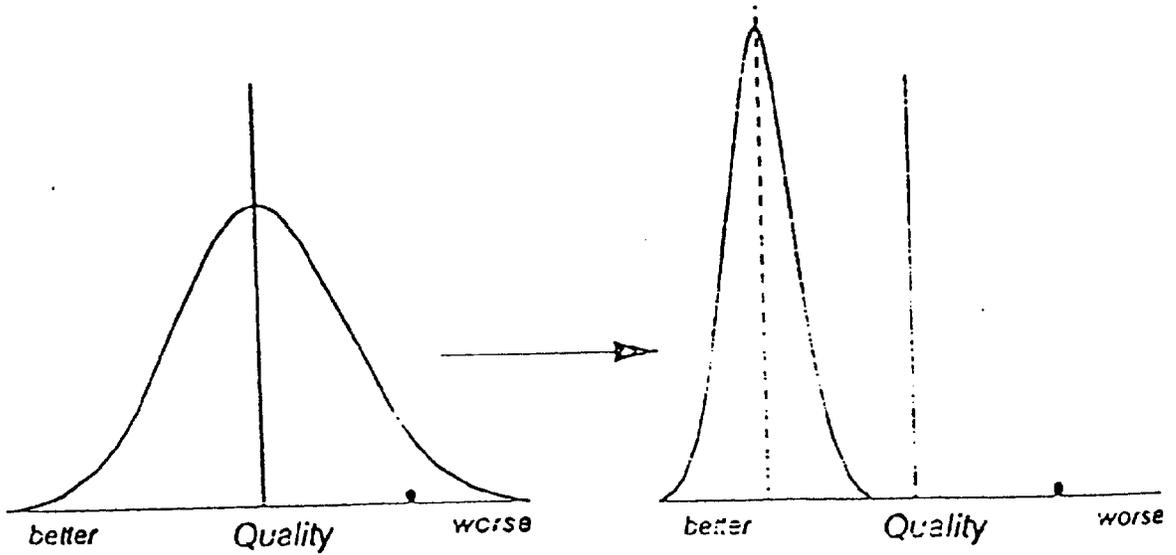
Generally C.Q.I., Q.I. and T.Q.M. considered the same.

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Traditional Quality Assurance



Quality Improvement



Tail analysis

. . . assumes that, if serious failures are inspected and eliminated, what remains is somehow excellent . . .

QUALITY

1. a peculiar and essential character, an inherent feature.
2. a degree of excellence.

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Quality

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

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Quality of care is a judgment shaped by interests of the individual or group making the judgment.

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Value: Am I getting my money's worth?

Cost: May be high or low, independent of value

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Quality controls cost

More accurately,

Quality and cost are two sides of
the same coin . . .

you cannot talk about one without
talking about the other.

$$\text{Value of service to users} = \frac{\text{Quality of Service}}{\text{Cost of Service}}$$

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Therefore, value is a judgement based on quality.

BEST AVAILABLE COPY

But quality judgment is increasingly shaped by performance data

BEST AVAILABLE COPY

Quality Improvement

The rigorous application of the scientific method to the day-to-day practice of medicine . . .

Performance

Refers to the way in which a health care organization carries out or accomplishes its important functions.

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Performance, in contrast to quality, is something an organization does as in process, or achieves, as in outcomes. Performance can be measured and compared with other similar measure.

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Definition: A process

- is a series of linked, often sequential steps designed to *cause* some set of outcomes to occur (the idea of causality is critical).
- transforms *inputs* into *outputs*.

Process management

- Brings together
 - quality improvement (CQI/TQM)
 - case management
 - practice guidelines / protocols
 - clinical research (including outcomes research)
 - technology assessment

- with an aim to
 - eliminate inappropriate variation
 - document continuous improvement

SYSTEM

A sequence of actions by, and interactions between, functional units that bring about the manufacture of a product or the delivery of a service.

An organization forming a network especially for distributing something or serving a common purpose.

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This approach emphasizes the need for relevant organizational performance indicators and data and information that describe actual levels of performance relating to these indicators.

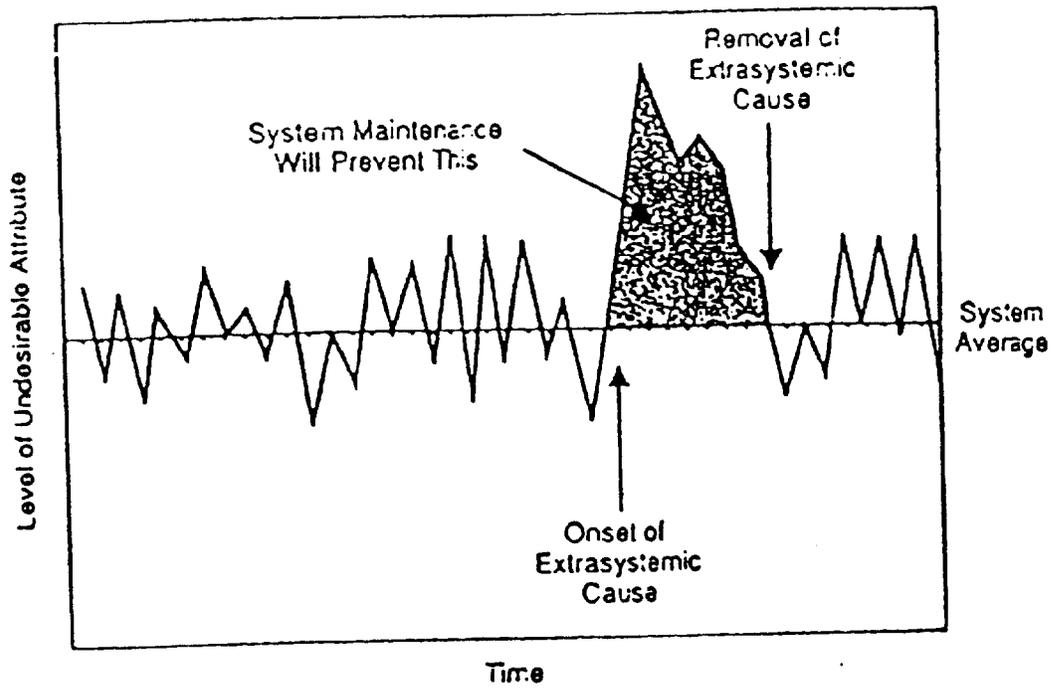
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Failure to Achieve a Desired Level of Quality

Intrasystemic (common)

Extrasytemic (attributable, special, assignable)

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Characteristic of Extrasystemic Problems

1. tend to cluster by person, place and time
2. occur only when special cause operating
3. superior performance causes good outcomes to cluster

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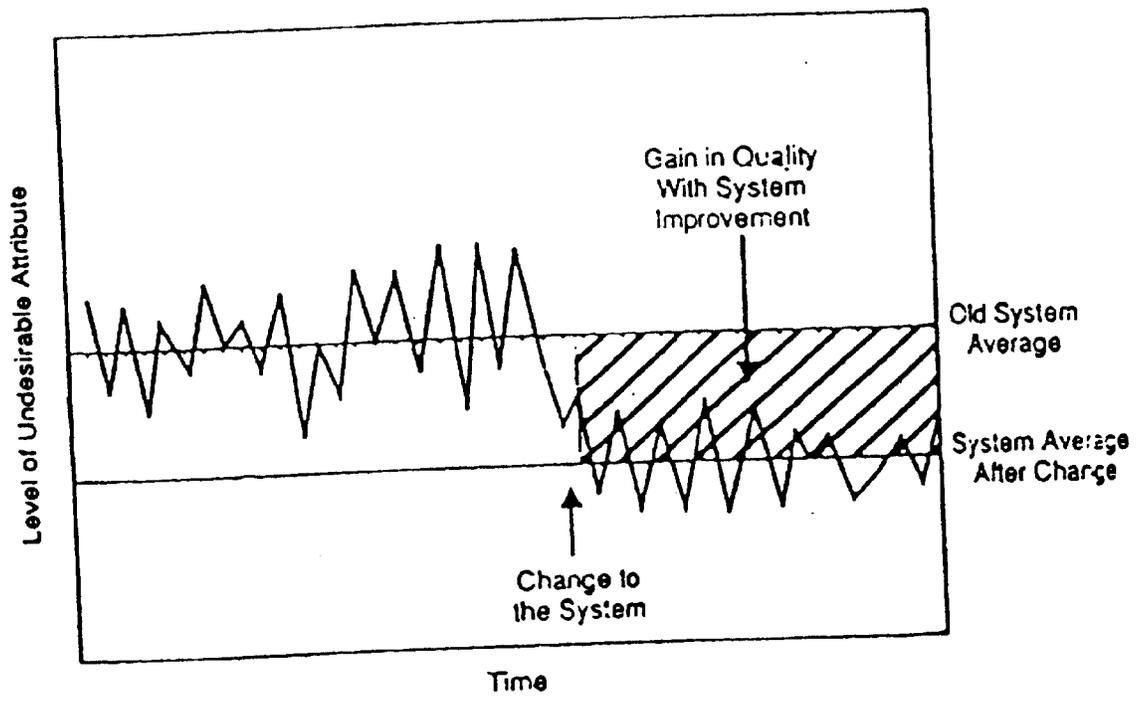
Importance of correcting extrasystemic problems
must be emphasized: they can cause serious,
often abrupt consequences, but...

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Cardinal Rule

The overall level of quality is determined by the system,
not its outliers.

BEST AVAILABLE COPY



Characteristics of Systemic Problems

1. every person in the system at risk
2. rate of occurrence predictable over long run
3. rate of occurrence will fluctuate over short run

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System Changes

1. enhanced training
2. technical innovations
3. procedural improvements

Result

The premise that quality improvement best achieved by singling out and punishing those who fail to provide "acceptable care"

The Customer

External
Internal

Two Big Mistakes

1. Most health care monitoring focuses only on extrasystemic causes
2. Most focus on individuals rather than the environment

CAUTION

1. Both phases require managers and front-line employees
2. Changes in one part of a system should not be to the detriment of another

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Statistical Tools

check sheets
run charts
scatter diagrams
histograms
Pareto diagrams
control charts

No one Q.I. method inherently better than others

No formula exists for selecting right method for your organization

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CQI: Industry vs Health Care Setting

1. **Industry - one management structure**
H.C.S. - three management entities:
administration, nursing & medical staffs.

2. **Industry - manager not the worker**
H.C.S. - physicians & nurses manage and work

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Two Phases Leading to Improvement

1. Diagnostic phase:

- a. Understanding current system
- b. Understanding factors in failures to achieve desirable level of quality

2. Remedial Phase:

Implementation of change to improve system

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Evaluation of System Changes

1. Process evaluation - verifies that the planned change has occurred
2. Outcome evaluation - assesses the influence of change to the system on the outcomes
3. Changes in outcome may reflect not only changes to the system but changes to the input of the system

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Involving Physicians

Vast majority of physicians genuinely committed to quality
Also they are truly committed to learning new things

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The practice of medicine

- **Every physician commits:**
 - To track the treatments they give to their patients
 - and the outcomes they achieve
 - with an aim to improve treatments and outcomes for future patients
- **Every physician also knows the necessity of objective data when assessing treatments and outcomes**
- **So why do we all, in the actual practice of medicine, assess our treatments and outcomes subjectively — in our heads?**

Some Conflicts

Continuing demand for new professional standards
Turf protection
Time commitments
Perceived and actual loss of autonomy
Need to work closely with non-physician groups

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"Managed care" means
"managing processes of care";
not "managing physicians" (and nurses).

Often, managing a process of care depends upon getting the right data—on process and outcomes for well-defined cohorts of patients—into the hands of those who deliver the care, then letting them make decisions based upon those data

Generating guidelines

- 20% science, 80% consensus
- Consensus is hard to achieve and limited in scope:
 - Different groups, different participants (specialty mix), different locations, different time periods, different levels of sophistication (formal techniques), and different objectives generate different guidelines
 - True consensus covers a relatively small range of practice
- How can we know whether a particular guideline represents best patient care?
- How do we know that physicians actually follow guideline recommendations?
- How do we update and improve a guideline once it is in use?

The science of medicine

- Of what we do in routine medical practice, what proportion has a basis in published scientific research?
 - Williamson (1979): < 10%
 - OTA (1985): 10-20%
 - OMAR (1990): < 20%
- The rest is *opinion*
 - That doesn't mean it's wrong — much of it probably works;
 - but it may not represent the best patient care

Building a Clinical Lab

"... how does one structure a health system so that every patient treated routinely contributes to valid clinical knowledge ..."

Implementing guidelines

- Carefully-developed repeat C-section guideline

- Distributed by professional society

- Physician survey:

- "agreed with content": 87-94%
- "changed practice": 33%

- Measurement:

- test on guideline contents: 67% understood
- actual repeat C-section rate: 15-49% above self-report
- "slight change in actual practice"

Lomas *et. al.* Do practice guidelines guide practice? *New Engl J Med* 1989; 321(19):1306-11 (Nov 9).

Strengthening Physician Involvement

- Demonstrate top-down commitment
- Involve physician leaders
- Involve physicians in planning
- Build on physicians' existing interest in quality
- Emphasize processes
- Emphasize data
- Involve physicians in cross-functional projects
- Set realistic expectations
- Communicate results

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No two organizations will follow the same path to quality improvement.

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General Guidelines for Finding Useful Method

- Choose method that best matches processes already in place
- Choose method that focuses on problem leaders find most important
- Choose method leaders comfortable with
- Consider methods that have worked for others

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Issues

- **Ownership** (who generates the guidelines?)
- **Control** (who will enforce them? how?)
- **Time** (how much physician time is required?)
- **Leadership** (who will oversee and lead implementation?)
- **Format** (e.g., critical paths vs. flow charts)
- **Structure** (integrated clinical records or a layer on top?)
- **Data and analysis** (who will collect, manage and prepare the data for presentation?)

Benefits of allowing staff members to choose improvement topics:

elimination of problems that nag staff

Q.I. tools and techniques will become part of staff members' daily work life

increased enthusiasm among staff for Q.I. improvement

empowerment of staff

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Who decides whether health services have increased the likelihood that desired health outcomes will occur?

What are the desired outcomes?

Are these universally agreed upon?

How are quality judgements made?

Who makes decisions as to whether health care services provided are consistent with current professional knowledge?

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Leaders Demonstrate Commitment

- Establish mission and vision statements
- Involve the right people
- Live the commitment
- Write a quality plan

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Education and Training

Who should be taught

What should be taught

How it should be taught

When it should be taught

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Time Frame

Not a quick fix
Requires basic alterations in organization
attitude and behavior

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Benchmarking

Comparing current activities and performances against
the best of the competition

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One user may weigh one dimension of performance more heavily than another user when making judgments about quality and value.

e.g. efficiency of service vs availability of service

Results University of Michigan

Number incorrectly scheduled cases decreased from 13% to 3%
Cancellations decreased by 25%
Number extended days in hospital related to OR availability-scheduling
decreased by 50%

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Results University of Michigan

One time inventory reduction saving \$400,000.
Better purchasing practices, one time saving \$700,000.

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Deep Post-Operative Wound Infections at LDS Hospital

	<u>1985</u>	<u>1986</u>	<u>1991</u>
% prophylaxis given at optimal time	40%	58%	96%
% infections	1.8%	0.9%	0.4%
Est. decrease in infections relative to 1985	--	33	51
Est. savings at \$14,000 / case (in thousands)	--	462	714

National standard: 2 - 4% infection rate

Larsen RA *et. al.* Improved perioperative antibiotic use and reduced surgical wound infections through the use of computer decision analysis. *Infect Cont & Hosp Epi* 1989; 10(7):316-320.

Classen DC *et. al.* The timing of prophylactic administration of antibiotics and the risk of surgical-wound infection. *New Engl J Med* 1992; 326(5):281-6 (Jan 30).

Communication and Celebration

Enthusiasm for and commitment to Q.I. grow as staff learn more about the process

Staff will believe their efforts are recognized and appreciated

Today, being good is not enough:
getting better is a way of life.

Dennis S. O'Leary, M.D.
President Joint Commission

APPENDIX K

**Training in Infection Prevention
for Hungarian Health Care Professionals**

Phase II Seminar/Workshop in Hungary

Curriculum Overview

Days 1,2,3: Infection Prevention Content

Project: Surgical Wound Infection Outbreak Investigation

1. Introduction to Infection Prevention
2. Fundamentals of Quality Improvement
3. Infection Prevention as a Model for Quality Improvement
4. Surveillance of Nosocomial Infections and Other Adverse Events
5. Introduction to the Use of Computers in Quality Improvement and Infection Prevention
6. Project: Surgical Wound Infection Outbreak Investigation

Days 4,5: Infection Prevention in Practice

**Project: Reducing Endemic Rates of Surgical Wound Infection in
a Hungarian Hospital**

1. Project: Reducing Endemic Rates of SWI in a Hungarian Hospital

**Training in Infection Prevention
for Hungarian Health Care Professionals**

Seminar/Workshop in Hungary

Curriculum: Part 1

Topic	# Particip. Hours
1. Introduction to Infection Prevention Patterns of Transmission of Microorganisms Epidemiology of Nosocomial Infections and Pathogens Organization of an IP Program Responsibilities and Authority of an IP Program Roles of the Hospital Epidemiologist & Infection Prevention Nurse IP Policies and Procedures Isolation Precautions Occupational Health Microbiology Support/Antimicrobial Usage and Resistance Monitoring	9
<u>Learning Objective:</u> The participants will be able to describe: <ol style="list-style-type: none"> a. patterns of transmission of microorganisms and provide examples of each; b. major risk factors for specific nosocomial infections; c. general trends in resistance to antimicrobial agents; d. key features of an effective infection prevention program. 	
2. Brief Introduction to Quality Improvement Quality Assurance, Outcome Measurement, Total Quality Management, Clinical Practice Guidelines/Algorithms	2
<u>Learning Objective:</u> The participants will be able to describe: <ol style="list-style-type: none"> a. differences between quality assurance and total quality management; b. techniques for measuring quality; c. approaches to improving quality and cost-effectiveness; d. purposes of clinical practice guidelines/algorithms and approaches to developing and implementing such clinical decision aids 	
3. Infection Prevention as a Model for Quality Improvement	1
<u>Learning Objective:</u> The participants will be able to describe how infection prevention can be used as a model for quality assessment and improvement in their hospitals.	

4. Surveillance of Nosocomial Infections and Other Adverse Events 6
- Definitions
 - Data Collection
 - Calculation of Rates
 - Risk Adjustment
 - Reporting
 - Special Studies (Outbreak Investigations)
 - National Nosocomial Infection Surveillance System and inter-hospital comparison of nosocomial infection rates
 - Other National Systems for Outcome Measurement

Learning Objective: The participants will be able to describe:

- a. methods of data collection;
- b. different ways to measure the frequency of nosocomial infection and other outcomes and their advantages and disadvantages;
- c. the purpose of risk adjustment and provide examples of several measures of intrinsic risk;
- d. methods for reporting surveillance data.
- e. important issues related to inter-hospital comparison of outcomes.

5. Introduction to the Use of Computers in Quality Improvement and Infection Prevention 1

Learning Objective: The participants will be able to describe:

- a. types of computer software useful for quality improvement and infection prevention efforts.

6. Project: Surgical Wound Infection (SWI) Outbreak Investigation 2

Learning Objective: The participants will utilize their epidemiology training to analyze a case study of a SWI outbreak.

Curriculum: Part 2

Topic	# Particip. Hours
7. Project: Reducing Endemic Rates of SWI in a Hungarian Hospital	9

Learning Objective: The participants will use the skills they have developed thus far to develop an approach to reducing endemic rates of SWI in their institutions. Specifically, they

- will discuss their plan to:
- a. develop a multidisciplinary approach,
 - b. measure rates of endemic SWI;
 - c. analyze risk factors for SWI;
 - d. describe and analyze processes of care which may have an impact on SWI;
 - e. develop a strategy for improvements in these processes of care;
 - f. monitor the implementation of improvements;
 - g. measure the impact of these improvements;
 - h. establish a mechanism to "hold the gain".

Total Hours--5 days

30

Particip. Hours = the number of hours spent by each participant