Hungarian health care in transition; studies on the improvement of the effectiveness of health care in Hungary by implementing quality assurance

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SUMMARY

This thesis focuses upon the improvement of the effectiveness of health care in Hungary by implementing quality assurance. The first chapters of the thesis discuss the population's health status and the Hungarian health care system as it developed between 1948 and 1998. The second part of the thesis focuses on the methods of quality assurance, the introduction of the quality concept in Hungary and a series of quality assurance studies on the quality of medical and nursing care in hospital (quality of hospital care: patient satisfaction and patients' reports, preoperative assessment in surgery, risk-adjusted surgical site infection surveillance, and the quality of nursing care; prevention and treatment of pressure ulcers in Hungarian hospitals) and primary health care (physicians' and patients' reports on system performance). This part is concluded with a chapter on effectiveness and cost-effectiveness of quality assurance.

The study was designed to answer the following research questions:
(i) Do quality assurance initiatives in Hungary improve the effectiveness of health care?
(ii) Do quality assurance initiatives in Hungary contribute to cost containment?

Based on international literature the following two hypotheses were formulated:

Hypothesis 1: Quality assurance can be implemented and used in Hungary in the transition period of the health care system.

Hypothesis 2: Once implemented, quality assurance activities can improve health care quality and contribute to cost containment.

Chapter one states that the Hungarian population's health status is poor, in terms of morbidity and mortality compared to countries of Western Europe. The average life expectancy is below 67 years for males and 76 years for females. In 1995, the difference between life expectancy at birth for Dutch and Hungarian men was 9.4 years in favour of Dutch men. For women the difference was 5.9 years, also in favour of the Dutch. In the first decade of the 21st century, men and women in the Netherlands can expect to live about 10 to 15 years longer than Hungarian citizens. Standardised death rates are high and increasing in almost all disease categories.

Some evidence suggests that an increasing effectiveness of medical care may be important for narrowing the life expectancy gap between the countries of Central and Eastern Europe and the countries of Western Europe.

Chapter two provides an overview of the Hungarian health care system between 1948-1998. The Hungarian health care system is organised on a county basis: 19 counties typically have populations of about 250,000 - 600,000 and the 20th is Budapest. To be admitted to a hospital, patients normally have to be referred by a GP. GPs in principle are free to refer patients to any hospital. The health care budget is fixed, the health care system is a
compulsory, premium based single pipe financed system. Employees and employers pay a premium to the National Health Insurance Administration, which is under the control of the Ministry of Finance and Ministry of Health. Pharmaceuticals are covered by the health insurance, with the insurance coverage varying between 100-0% on drugs, and the remainder of the expenses being paid out of pocket.

Hospitals are owned by the state, as well as the city and county assemblies (self-governing bodies), and are not-for profit organisations. (Some of them are owned by various churches, but this proportion is really marginal.) Hospital care is county based. Each county has its own county hospital, which are in most of the cases large, 1,500 - 2,000 beds public general hospitals. County hospitals provide a wide range of ‘basic level of care’, ‘medium level of care’ and some ‘top level of care’. Basic hospital care is provided by municipal hospitals. Top level health care is provided by university hospitals and national institutions. There exists a referral system. Hospitals are reimbursed by a special adaptation of the US DRG system. Hospital doctors are salaried employees.

The surgeries of doctors in general practice (family physician - háziorvos) and dental practice, are mostly privatised. This is a special type of privatisation it is called ‘functional privatisation’ because the building and equipment belongs to the local municipalities. Doctors are paid according to the German point system in the primary care setting.

The second part of the chapter provides an analyses, on the most important problem areas of the Hungarian health care system at present.

Chapter three examines the content area of quality assurance and key concepts of the thesis. These include key dimensions, of efficacy, effectiveness and efficiency of health care services. In this thesis a narrow focus of quality is used. The author is mainly concentrating on the issue of measurement and improvement of effectiveness of health care services. Based on literature review, the effectiveness, costs and cost-effectiveness of various quality assurance tools and programmes such as peer review, audit, accreditation, guidelines and feed-back to professionals are addressed.

Chapter four focuses upon the introduction of quality assurance in Hungary. Prior to 1989, quality assurance was not formally present in the health care system, largely due to political reasons. Since 1990, however, a major change has come about in the development of quality assurance. In the 1990’s several government resolutions, decrees and orders dealt with the quality of health care. The government declared its intention to address the quality issue as a factor of decisive importance in the development of the national economy as well as in health care. As required by the Act 154 of 1997 on Health Care’ today, quality assurance is increasingly present in the daily work of the Hungarian hospitals and other health care settings.

This chapter summarises the history of quality assurance in Hungary with its milestones and achievements between 1948 and 1998, with particular emphasis on: government regulation and legislation; the role of health care professionals; quality assurance in hospitals; and licensing and certification of health care organisations.

Chapter five investigates the quality of hospital care through patient satisfaction and patients’ reports questionnaires in Hungarian hospitals. In three study rounds 8,200 patients
in 31 hospitals were enrolled in a patient satisfaction questionnaire survey called National Survey of the Quality of Hospital Care between 1993 and 1997. Existing mechanisms for measuring patient satisfaction were investigated also in another 59 hospitals. In 1995-1997 a new quality improvement tool named 'Creative-Interactive Quality Improvement Pages' (CIQIP) was created, piloted, and implemented in 9 hospitals, based on the results of the earlier studies.

Patients gave in general very positive responses to satisfaction questions despite the problems highlighted by their answers to more direct questions. The principal problems reported by patients concern communication, information about patient rights, pain management and admission and discharge planning. Often patients had not been given important information about the hospital and its routine, their condition or treatment and particularly about which tests and operation they were to have. One of the most interesting findings of the survey is the striking difference of the pictures to be drawn based on the reports and satisfaction ratios reported by the patients. The most important limitation of this kind of survey in Hungary is that there are no standards for care implemented in Hungarian hospitals. Due to this fact comparison between standards and the real practice cannot be made, although quality assurance is especially designed to do this. Having no standards, interpretation and intervention are guided by the individual manager's perception of what good care and standards should look like if they existed. Another problem is that the providers' and patients' views about quality might not be the same.

Chapter six reports the results of a study on the quality assurance activities in the field of preoperative assessment in surgery in Hungarian hospitals that was conducted between 1992 and 1997.

Preoperative assessment aims to reduce the risk connected with surgery and anaesthesia and to enhance rehabilitation after surgery. Routine assessment often include chest radiography, electrocardiography and laboratory testing of urine albumin, urine glucose, urine sedimentation, urine reduction, blood ESR/viscosity, blood haemoglobin, blood haematocrit, blood white cell count, creatinine, sodium, potassium, sGPT, gGT, thrombocyte account, blood glucose, APTT, PTT, clinical clotting time. There is evidence from the literature that the numbers of diagnostic tests performed in hospitals could be reduced without affecting outcomes to patients, and with significant concomitant reduction in cost. Even more, outcome could be improved through performing smaller numbers of diagnostic tests. This is an area where one can demonstrate that 'too much is poor quality'. Needless tests cause anxiety, unnecessary surgery costs lives, repeated exams create inconveniences for patients, routine tests create confounding data and lead to unnecessary further examinations and treatment of 'false positives' and excess hospital stays create hospital infection risk.

Our questionnaire surveys conducted in 1992/93, 1995 and 1997 indicated that practice in Hungary concerning routine preoperative assessment was different compared to a group of hospitals located in the countries of Western Europe and varied significantly from hospital to hospital. There was little, if any, control of test requests in Hungary in 1992/93 when preoperative assessment was first evaluated in 17 hospitals. Laboratory tests were clearly overused. There were various reasons for which tests were requested, not closely
related to preoperative assessment, such as: for screening, diagnosis, treatment, documentation, practice of defensive medicine, risk assessment and income generation purposes. Underdeveloped quality systems and inappropriate, often implicit and verbal, anecdotal ‘guidelines’ and old habits of the physician and surgeons were the factors underlying over-utilisation of the tests of preoperative assessment.

As the result of this study and quality assurance efforts, the second study in 1995 and the third study in 1997 showed a dramatic decrease of the number of preoperative tests used in the participating hospitals.

Chapter seven contains the results of the risk-adjusted surgical site infection surveillance in Hungarian hospitals. A prospective survey of the incidence of SSI after 12 defined procedure types in a cross-section of 20 hospitals was performed in Hungary during 1996. This study represents the second application of NNIS SSI benchmarks to a multi-institutional analysis of SSI rates outside of the United States, and is the first reported from Europe. We found that the NNIS risk index stratified SSI rates are much better than wound class alone, a finding consistent with the original analysis of this risk index in United States hospitals. Data were reported for 6,074 procedures in the twelve defined procedure types. Four procedure types accounted for 85% of the procedures reported: cholecystectomy (44.6%), herniorrhaphy (20.4%), appendectomy (10.6%), and open reduction of a fracture (9.4%). Cholecystectomies were almost equally divided between open (45%) and laparoscopic procedures (55%). One hundred sixty-eight SSIs were identified after these procedures for an overall infection rate of 2.9 per 100 procedures. Eighty-two percent of all procedures were in risk category 0 or 1; 91% percent of all procedures were classified as clean or clean-contaminated.

SSI rates for cholecystectomy in Hungarian hospitals were higher than NNIS benchmarks across all risk categories, and were more than two-fold higher for risk categories 0, 2, and 3. These latter three categories include open procedures, whereas risk category 1 is comprised exclusively of laparoscopic procedures. Cumulative SSI rates were also significantly higher among Hungarian hospitals for risk category 1 of open reduction of fracture and the combined 0 and 1 risk categories of mastectomy. These differences were due to high rates of infection in a few hospitals. SSI rates for herniorrhaphy and appendectomy were similar among Hungarian and NNIS System hospitals and the rate for risk category 3 of colon surgery was significantly lower in Hungarian hospitals. Differences in rates for other procedures were not significant, due to the relatively small number reported from the participating Hungarian hospitals.

Chapter eight examines the quality of nursing care; prevention and treatment of pressure ulcers (PU) in Hungarian hospitals between 1992 and 1998. This study suggests that actual prevalence of PU is estimated to be 16–27 folds higher (3.7%–5.7%) than the officially published rate (0.18–0.21%) in Hungary and on average only 1.0% – 2.5% of the direct costs of PU treatment, along with the estimated one to five days prolonged hospitalisation are reimbursed under the current DRG financing mechanism.

This study held three objectives: To determine the baseline prevalence and incidence of PU, within patients nursed in acute care hospitals and considered to be at risk of pressure ulcer (PU) development. To establish the current patterns of preventive and treatment interven-
tions and to investigate the economic burden imposed by the prevention and treatment of PU within the hospital population. To improve the quality of both PU prevention and treatment through the creation, dissemination and implementation of quality assurance programmes in hospitals.

Data were collected from several sources: 1) Retrospective PU data gathered during the quality assurance activities undertaken in 37 general hospitals between 1992 and 1997. 2) Retrospective national data describing the prevalence of PU between 1993 and 1998. 3) Retrospective chart review to identify PU management across 1,200 adult patient records drawn from 7 hospitals in 1994. 4) Analysis of the national financial reimbursement of the in-hospital PU cases in 1994. 5) Prospective active surveillance of 705 adult patients in one county hospital. 6) Prospective active surveillance of 2,702 adult patients along with the costing of 100 PU patients (1,350 PU patient–days). 7) Changing PU prevention and treatment practices through the use of clinical protocols and guidelines.

Chapter nine assesses the quality of primary health care services. It is focusing on patients' reports about health system performance, to obtain data on current practices of primary health professionals regarding the utilisation of specialist services, oral medication, co-ordination and continuity of care. The long term aim of the project was to improve the effectiveness and quality of primary health care and preventative medicine. An attempt was made to assess the utilisation of general practice related to the ‘drug and associated laboratory and examination uptake’ of the ‘standard practice’ in a ‘standard population’. Continuity and co-ordination of primary health care is also discussed.

A self-administered questionnaire (the Patient Reports on System Performance, PROSPER) was used in 91 general practices from 9 different regions, representing both urban, semi-rural and rural primary health care practices. The questionnaire was distributed to a random sample totalling 4,819 patients that had visited the general practice in the previous twelve months and met the entry requirements. Data were also abstracted from medical records to compare patients' reports with recorded data. The questionnaire contains seven sections (oral medicines; drug prescribing practices and drug taking patterns in primary health care, chronic conditions, referrals, blood tests, x-rays, prevention in women, prevention in both genders) and elicits data concerning access, co-ordination and continuity of care as well as overall satisfaction.

Differences between patients' reports and GPs' answers (written medical record) were identified in the field of referrals (when referred 7.6% of the patients had not managed to see a specialist), oral medicines (prescribing practices vs. drug taking patterns), chronic conditions and prevention (screening mammography and PAP smear). Significant weaknesses were identified in the quality of working contacts and information flows between GPs and outpatient-clinic, hospital, national public health and national officers service and the county chief physicians which seems to have a negative impact on the quality of patient care.

Chapter ten reports how studies presented in this thesis demonstrate that quality assurance can be implemented and used in Hungary in the transition period of the health care system, effectiveness of health care quality can be improved by quality assurance initiatives and quality initiatives might contribute to cost containment. This thesis provided direct evidence that quality assurance in the field of patient satisfaction, preoperative as-
assessment in surgery, risk-adjusted surgical site infection surveillance and prevention and treatment of pressure ulcers can be implemented and used and the effectiveness of health care services can be improved in a group of Hungarian hospitals and primary health care settings. According to the results of the various quality assurance programmes of this thesis, failures of quality are more often due to poor organisation than to a lack of resources. Based on the findings of the quality assurance studies of the thesis recommendations are made to assist further improvement.

In the second part of the concluding chapter the need for evaluation of the effectiveness and cost-effectiveness of quality assurance programmes is discussed and a list of necessary steps are listed how to improve the strategical decision making on what quality assurance activities to start.

In summary, based on empirical data from the quality assurance studies presented in this thesis, it is concluded that quality assurance can be implemented and used, the effectiveness of health care services can be improved and this thesis provided some evidence that quality assurance initiatives might contribute to cost containment in Hungarian hospitals and primary health care settings.