Letters to the Editor

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References


Initiation of a Radiology Quality Assurance Program

Sir

There has been an increasing interest in the application of Quality Assurance (QA) in diagnostic radiology. Yet, there are hurdles of staff apprehension, management scepticism and time constraints. Quality has been described as "fitness for purpose." Continuous quality improvement (CQI) entails an collaborate combined effort for better performance. Initiation of a QA program is a challenging complex procedure. We describe our experience in starting a QA program and the selection of some indicators to identify problems in the work process and suggest specific improvements. The Social Insurance Hospital is a newly commissioned private hospital. Its radiology department contains a general radiology room, two fluoroscopy rooms, two ultrasound rooms, a CT scanners digital subtraction angiography equipment, a gamma camera and an MRI scanner. Staff consisted of three radiologists, 14 technologists, a nurse, a receptionist and a secretary. A department QA committee was formed. Its main objectives were to identify important indicators of care in a general radiology department, specify their standards and tolerance limits. These included correct filling in of request forms by the referring physician, time management studies, success of patient preparation, films reject analysis, quality of portable films, compliance to guide lines of female irradiation and fluoroscopy. The committee designed a yearly QA calendar and formulated a QA work sheet. Liaison was maintained with the hospital committee. The usual classification of various aspect of care to high volume high risk or skill demanding was adopted. As a first step proper request form filling and time management were selected for monitoring. The results are summarized in Tables 1 and 2. Assuming a threshold (standard) of 100% for proper filling of request forms, all of the criteria studied were below standard. In the time management study delay was alarming, mainly due to deficiencies in the system. For initiation of a QA program, it is important to start with simple easily measurable indicators. Incompleteness of the request form is a chronic problem in many hospitals (Table 1). Our results are comparable to others. The correct filling in of request forms by

Table 1 QA Worksheet for correct filling in of request forms

<table>
<thead>
<tr>
<th>Aspects of care</th>
<th>Criteria</th>
<th>Finding</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct service provision</td>
<td>1. Date of request</td>
<td>96%</td>
<td>Many indicators are below threshold. Request forms are incompletely filled.</td>
</tr>
<tr>
<td>Indicator</td>
<td>2. Name, number, DOB</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Proper filling of request form</td>
<td>3. Physician name</td>
<td>74%</td>
<td>Corrective Action</td>
</tr>
<tr>
<td>Sample size 2300 request forms</td>
<td>4. Time to be done</td>
<td>47%</td>
<td>1. In-service to nurses and ward clerks.</td>
</tr>
<tr>
<td>The standard = 100% all indicators should be properly filled</td>
<td>5. Transport method</td>
<td>55%</td>
<td>2. Memo to physicians</td>
</tr>
<tr>
<td></td>
<td>6. Clinical data</td>
<td>63%</td>
<td>Hospital Management decision</td>
</tr>
<tr>
<td></td>
<td>7. Previous X-rays</td>
<td>42%</td>
<td>1. Radiology Dept to reject improper requests</td>
</tr>
<tr>
<td></td>
<td>8. Allergies history</td>
<td>13%</td>
<td>2. Next audit shall break down result per clinic, ward and physician</td>
</tr>
<tr>
<td></td>
<td>9. LNMP, pregnancy</td>
<td>37%</td>
<td>Follow-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Immediate improvement following management decisions</td>
</tr>
</tbody>
</table>
Table 2  Time management QA worksheet

<table>
<thead>
<tr>
<th>Aspects of care</th>
<th>Criteria</th>
<th>Threshold</th>
<th>Finding</th>
<th>Conclusion</th>
<th>Corrective action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology and transcription services</td>
<td>1. Time from physician signing request to preparing films till presentation to radiologist</td>
<td>16 hours</td>
<td>30.5 hours</td>
<td>Alarming deficient timing</td>
<td>1. X-ray borrowal restricted to 4 hour maximum</td>
</tr>
<tr>
<td>Indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. X-ray loan against individuals, name and signature</td>
</tr>
<tr>
<td>Monitoring time elements for examination, dictation, transcription to destination in patient charts</td>
<td>2. Time taken for dictation, transcription, corrections and signature</td>
<td>24 hours</td>
<td>30 hours</td>
<td></td>
<td>Major hospital decision</td>
</tr>
<tr>
<td>Sample size</td>
<td>3. Time from signature to filing in the patient chart</td>
<td>48 hours</td>
<td>80.2 hours</td>
<td></td>
<td>Introduction of digital dictation and listening system through any hospital telephone</td>
</tr>
<tr>
<td>8212 patient records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

the physician authorizing the test is essential for appropriateness of service. It assures that exposing the patient to ionizing radiations would carry a justifiable purpose beneficial to the patient or the community. It informs the radiology staff of emphasis or test modifications. This saves time wasted in re-communication with physicians. The radiology consultation report is clinical information whose depth and value are proportionately dependent on a problem oriented choice and sequencing of tests.

Results of the time management study were below threshold (Table 2). The hospital working hours schedule was a split shift (8-12.00 noon, 4.00pm-8.00pm) due to climatic and marketing demands. This created an inevitable delay during the mid-day recess. The transcription department was at a distance from the radiology department. Runners were employed for delivery of request forms, forwarding dictated reports to and from transcription department for corrections, signature and distribution. This caused a lot of delay. The hospital administration made two key decisions: (a) a transcriptionist from the central pool was assigned within the Radiology Department and (b) a digital dictation system was purchased. This time management study illustrates how statistical evidence helped to prompt a major hospital management decision to purchase an advanced digital dictation system. This allows dictation of examination by the radiologist into the hospital telephone network soon after the end of an examination. In turn physicians can listen to the result even before the patient leaves the radiology department. The transcriptionist can simultaneously access the system and start typing the report. The commitment of the hospital management was crucial for application of this QA plan. The main difficulties encountered were the hesitance of some staff to contribute initially. During the application there were errors in extracting data. Re-auditing the auditors was necessary. It is not possible to evaluate all aspects of care within a years time. Repetition of same monitors was not done to document progress. There was, however, satisfactory improvement. Results of film repetition, fluoroscopy time, patient preparation studies were satisfactory. The medical aspects of QA were not included in this study namely appropriateness of radiologic examinations, percentage of positive examinations, pathologic correlation and discrepancy rate on exchange reading of films between two radiologists. Equipment QA and designate personnel monitoring were conducted by a part time Medical Physicist. It is feasible to start a QA program in a step wise fashion. In this respect, there is no difference between private and non-profit making health care organizations. QA helped to bring about major improvements of the system and individuals performance, a better patient care and resource management. The work sheet format is recommended.
Letters to the Editor

References
5. Bluth E, Harrilla M, Blakemen C. Quality improvement techniques: Value to improve the time lines of prospective chest radiographic reports. AJR 1993; 160: 995-998.

Bronchial asthma

Sir,

Mzayek has brought out the complex mechanisms involved in the pathogenesis and treatment of bronchial asthma in a nutshell. In view of the current developments, it is worthwhile considering the genetic susceptibility to asthma and its severity as well as in the pathogenesis. Hence tomorrow's target of bronchial asthma would likely be gene therapy and protection of environment. Apart from that, doctors of today and tomorrow should understand the social and emotional impact of asthma during treatment and act accordingly. In addition training of nurses involved in asthma cases should be considered for effective management and for better compliance.

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References

Sir,

Report of a meeting.

IXth International AIDS Conference, Vancouver, Canada (7-12th July 1996).

'Slight light in the AIDS tunnel!' Please, no incautious optimism!

As a follow-up to the previous AIDS Conference the author reports on the Vancouver Conference's events and breakthroughs. Approximately 15,000 delegates attended this meeting from different walks of life, among them were AIDS activist groups. Brief exceptions from the Conference are given below.

Robert Gallow from the Institute of Human Virology, Baltimore, Maryland, USA reported on new evidence of a correlation between the levels of chemokines and the natural ability to resist the HIV infection. His final prediction was that special types of chemokines could pave the way to HIV control. Director of United National Program on Aids (UNAIDS) gave recent up-date figures of HIV/AIDS. He stated that there are now 22 million HIV+ve persons (worldwide), 90% of whom are from developing countries. The incidence rates have diminished in the USA (40,000 cases only this year) and also in Thailand and Uganda due to the success of health and sex-educational programs. However, the incidence in India has reached 5 million new cases (HIV+ve status). Researchers from New York's Aaron Diamond AIDS Center, USA reported on the three-drug regimen (nucleotide reverse transcriptase inhibitors (AZT + non-nucleotides reverse transcriptase inhibitors (NNRTI) (Lamivudine/3TC) and the new protease inhibitors (Ritonavir/Indinavir/ABT/538).

Patients who had been on this regimen for 10 months were followed up and results showed no signs of HIV replication. It was felt that should this combination therapy program keep HIV from replicating until the HIV infected cells had died, then it would have reversed the disease process. The team also mentioned a two-drug combination program ([AZT + protease inhibitor (Ritonavir)]. However they felt that the 3-drug regimen was the better choice of program. Roy Gulick, New York University, USA reported on 7 cases of advanced AIDS patients who were given the 3-drug cocktail

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