

“SHOULD WE STOP IMPROVING WHEN BENCHMARKS ARE MET?”

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Introduction

Getting along with rapidly changing pace of emerging and converging technology is a challenge face by all, but its impact on the health care industry is very significant. Wide availability of information and quality consciousness has dramatically changed people's expectation and so has changed the patterns of delivery of healthcare. During this time the pressure on hospital services has increased. This is due to number of factors of which the pressures to reduce expenditure, improve efficiency and increase throughput are the most significant. The role of departments of clinical radiology is central to delivering these changes in patient care. And focus is to assess the change in delivering of Radiological services with involvement of advance computer based system.

What one expects today is correct diagnosis, minimum waiting time at low cost and with sense of security of life. The four basic parameters are Cost, Time, Defects and Customer satisfaction. Continuous improvement of processes and quality has been the prime focus of Radiology department at Aga Khan University Hospital, which enables it to meet and exceed customer's expectations. One of the modes frequently used by Radiology for improvement is through performing clinical audits.

Undertaking a clinical audit encourages individuals to self examine different aspects of their clinical practice, to implement improvements where the need is identified and re-examine, from time to time, those areas, which have been audited to ensure that a high quality of service is being maintained or further improved.

Quality Assurance in Radiology

Whenever and wherever the subject of quality

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assurance in Radiology comes, first thing that comes to mind is the control of radiation exposure. Amongst the various important areas of improvement, minimizing the film rejection rate holds a high value, as its one of major areas of minimizing the unnecessary radiation dose and this decrease in rejection or retake rate results in reduction of cost of quality, patient waiting time etc.

— According to WHO “An organized effort by the staff operating a facility to ensure that the diagnostic images produced by the facility are of sufficient high quality so that they consistently provide adequate diagnostic information at the **lowest possible cost and with the least exposure of the patient to radiation.**” (W.H.O, Derrick & Nigel, 1988)

Audit with Deming Cycle

To assess this PDCA cycle approach of Quality Guru Sir, Edward Deming was adopted,

Plan: The objective of audit was to assess the standards of procedure performance. Bring Rejection Rate according to international standards. Identify the weak areas of performance and rectify them. To develop and standardize a dedicated quality assurance program for mammography. Methodology adopted to collect all the rejected films of all mammography procedures and analyze the data with tables and graphs in Excel Current process was described as **Radiation Exposures > Film Processing > Radiographers Film Assessment for repeat / pass > Radiologist film assessment > Filing & Reporting** It was found that IDEAL Film rejection rate recommended by the Royal Australian College of Radiologists is 2% and less than 5% is adequate. We collected and analyzed the data and found that our film rejection rate was 2.34%. Comparatively, ours was well with in the internationally accepted standards. But still the team decided to explore and the all reject reasons were analyzed to identify further areas of improvement.

Major reasons found responsible for rejection of films were **Patient Movement, Positioning Error, and Processing Fault & Artifacts**. Root cause analysis was done with brainstorming by Radiographers, Darkroom Technician, Radiologists and Medical Physicist to identify the reasons contributing towards these rejection reasons.

Do (Take action): Discussion generated various possible solutions which were discussed and best felt were implemented for the trial run.

Check (Assess the effect of Action): The second cycle of assessment of film rejection revealed the film rejection has dropped from 2.34 to 1.55% which is 52.56 reductions.

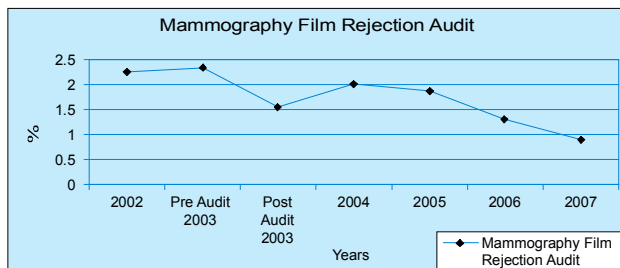
Act: It was decided to standardize the solutions recommended and hold the gains and continues with strategy and do reject analysis on monthly basis. Standards are met or not are well demonstrated through audits. For continuous improvement changes needs to be introduced and if recommendations for change are ignored then the time spent carrying out an audit is wasted. Audits succeed when all participants retain responsibility, information gathered is kept confidential, when audits are relevant and not too much time is spent and finally results are communicated.

and innovation. Its natural reflection of attitude when institutions restructure. It's these wild ideas like "Should we stop improving when benchmarks are met?" that at times brings the desired results. Other than that, its responsibility of the institution to have a well structured frame work of Total Quality Management.

References

1. http://www.fda.gov/CDRH/MAMMOGRAPHY/rob_ohelp/quarterly_equipment_quality_control_tests.htm.
2. Mammography quality control, radiologists, radiologic technologist's & medical physicist's manual by The Royal Australian College of Radiologists; radiologists technologists manual pg 46.
3. http://www.phac-aspc.gc.ca/publicat/qdobcsp-dqpodcs/chap_4_e.html.
4. <http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ijra/vol8n1/artefacts.xml>.
5. <http://www.cancerscreening.nhs.uk/breastscreen/publications/nhsbsp63.pdf>.

Rejection	Year 2002	1st Quart 2003	2nd Quart 2003	Average Reject %	3rd Quart 2003	4th Quart 2003	Average Reject %	Year 2004	Year 2005	Year 2006	Year 2007
	Rej. %	Rej. %	Rej. %		Rej. %	Rej. %		Rej. %	Rej. %	Rej. %	Rej. %
Total											
Total Films Used	2.25%	1.93%	2.75%	2.34%	1.47%	1.67%	1.55%	2%	1.87%	1.29%	0.89



Conclusion

In this era of 21st century Change is the name of the game, and rapid change brings about more creativity

6. <http://www3.ha.org.hk/ntwc/clinical/pdf/dr-01.PDF>.
7. <http://breast-cancer-research.com/content/8/S1/P73>.
8. <http://en.wikipedia.org/wiki/PDCA>.