

Does Double Reading Change Patient Management in a Tertiary Level Hospital?

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Purpose

- To determine whether double reading CT and MR studies changes patient management in a tertiary level teaching hospital

Introduction

- Tawam is a 400 bed teaching hospital in the City of Al Ain managed by Johns Hopkins International.
- The hospital provides tertiary level care in cancer management.
- Quality Assurance programs have been started in most departments from 2009.

Methods

- 5% of daily CT and MR studies were randomly selected from the hospital PACS for blinded double reporting over a 9 month period.
- Double reports were compared with the original patient reports within 48 hours of generation in the hospital information system for major or minor discrepancies.

Methods

- A major discrepancy was defined as a difference that changed the diagnosis or impacted on patient management .
- A minor discrepancy was defined as a difference that did not change the diagnosis or impact on patient management.

Methods

- Discrepancy rates were generation monthly as part of a radiology quality assurance (QA) program.
- Data was incorporated into a three monthly report for the hospital QA committee.
- Intervention was verbal feedback as a monthly presentation by the author to colleagues at the departmental meeting from the first month.

Methods

- Major and minor discrepancy rates were compared from the first month of double reading and the ninth month.
- Statistical analysis was performed with Fisher's test with a significance level of $p < 0.05$

Results

- 210 reports were double read
- There were 83 CT (39.5%) and 127 (60.5%) MR reports
- 80% of studies were for oncological imaging and or staging.

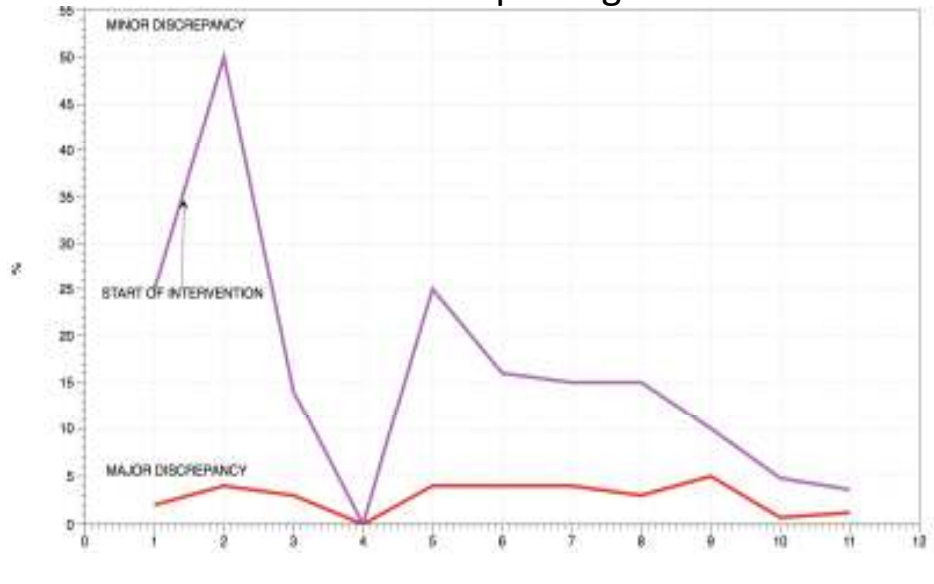
Results of 1st month discrepancy rates prior to intervention

- Major discrepancy rate 4%
- Minor discrepancy rate 50%

Results of Discrepancy rates at end of 9 months

- Major discrepancy rate 5%
- Minor discrepancy rate 10%

Major & Minor Discrepancy Rates vs Months of Double Reporting



Results

- There was a significant reduction in minor discrepancies over the 9 month period ($p < 0.05$) following feedback intervention BUT..
- There was no significant change in major discrepancies over the 9 month period.

Conclusions

- Simple monthly feedback to colleagues using double reporting led to a significant reduction in minor report discrepancies.
- There was no change in the major discrepancy rate following feedback intervention and therefore no change in patient management.

Conclusions

- The reason(s) for the absence of change of major discrepancy rate over the 9 month period is unknown.
- This may be due to system errors in the department or the wider hospital that require further investigation on a case by case basis.