

# Assessment of compliance of Radiology request forms according to RCR-QSI Guidelines.

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## Introduction

- Radiology request forms are the primary communication tools between the referring clinicians and the radiologists.
- The appropriate filling of all the components of a radiology request form according to standard guidelines, ensures both safety and quality care of the patients.
- Demographic details helps in identification- to ensure that right report reaches the right person.
- Proper description of clinical data and appropriateness of investigation (as per American College of Radiologists - ACR appropriateness criteria) through suitable imaging modality helps in focussing on relevant areas and interpreting findings accurately.
- Mentioning name of the clinician ordering the investigation helps to know whom to follow-up if additional information or clarification is needed.
- Thus, good quality of radiology request forms helps in improving the quality of the radiology reports, thereby promoting smooth functioning and processing of the desired work.
- It helps to save time, resources and increases productivity of the entire health-care system in a hospital.

## Aims and Objectives

- Aim- To assess the compliance of the radiology request forms for various modalities with Royal College of Radiologists- Quality Standard for Imaging (RCR-QSI) Guidelines.
- Objectives- To meet the standards of good imaging services and help to achieve better patient care and outcomes.

## Methodology

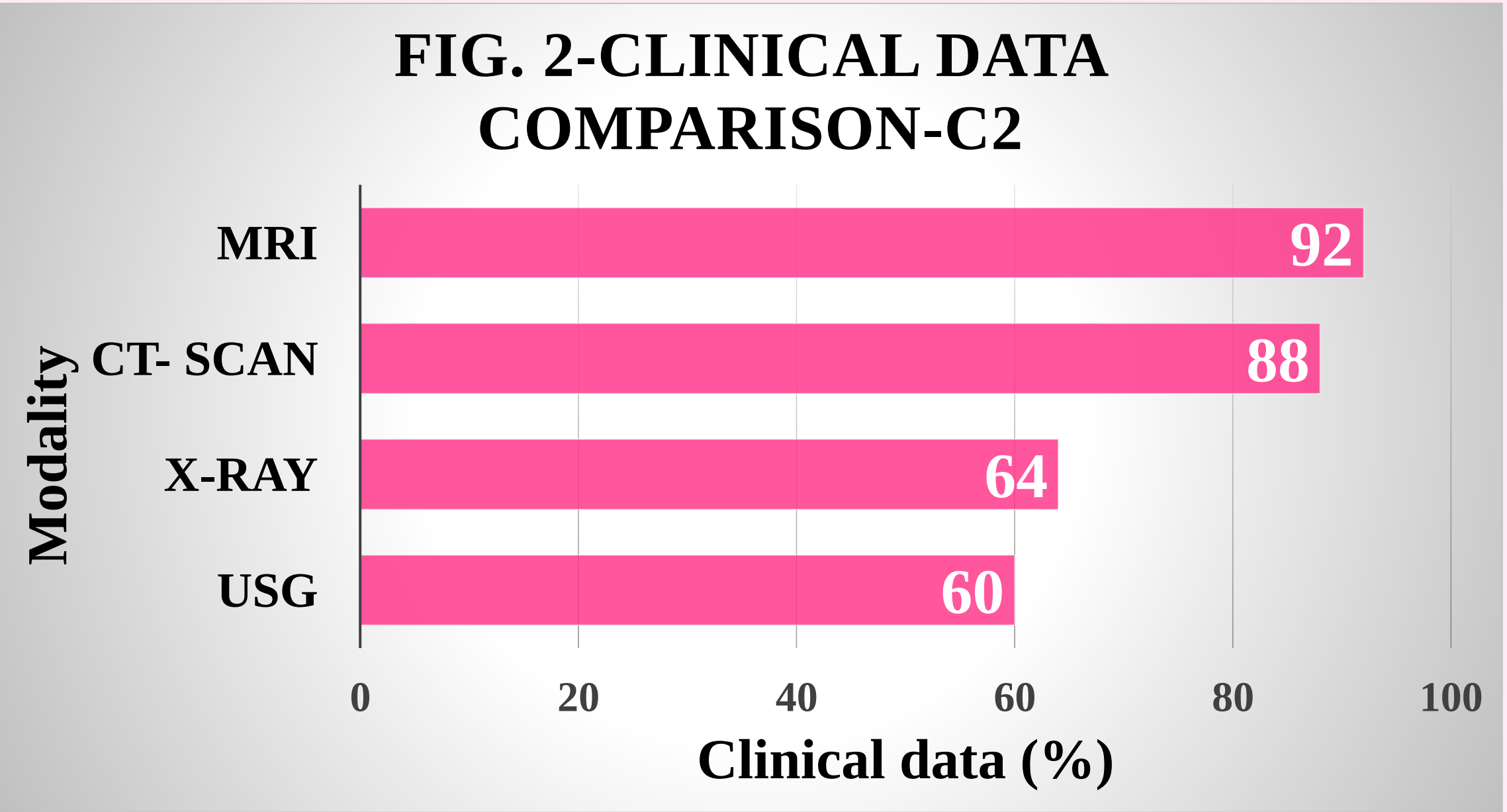
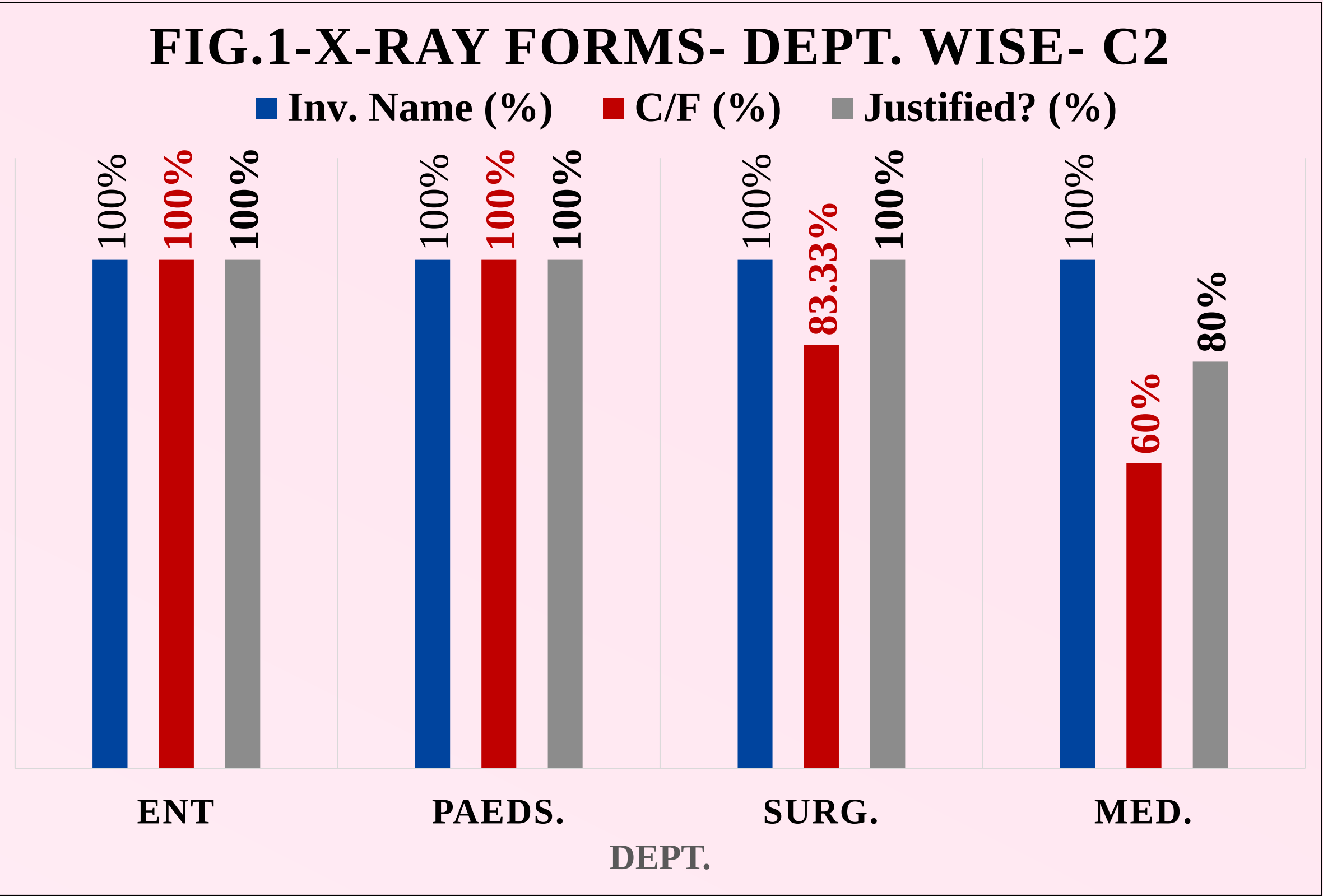
- The study was conducted in Department of Radiology- Symbiosis University Hospital and Research Centre in two cycles (C1, C2).
- After the 1<sup>st</sup> cycle, areas for improvement were assessed and necessary suggestions were informed to the clinicians of respective departments.
- 100 radiology request forms were analysed (USG, X-rays, MRI, CT scans- 25 each) in each cycle.
- Systematic random sampling technique was applied, wherein every 5<sup>th</sup> imaging requisition form from every modality on Monday and Thursday was selected.
- The data was collected from 1<sup>st</sup> January 2024 to 31<sup>st</sup> March 2024 and compared with the data collected from 1<sup>st</sup> cycle (from 1<sup>st</sup> October 2023 to 30<sup>th</sup> December 2023).
- Five parameters in every form were assessed- Demographic details of patient (Pt. info.), name of requested modality (Inv. name), clinical profile- data (C/F), appropriateness of investigations (Justified?), and name/ stamp of the person ordering the investigation (Dr. info.).
- One point was assigned to every aspect appropriately mentioned.
- No point was given for incomplete/ inadequate data.
- The data was analysed and McNemar’s test was used as the test for statistical significance ( $\alpha$ ).
- P-value <0.05 was considered as statistically significant.

## Observations

| Table I: Comparison of parameters in all forms in cycle 1 and cycle 2. |      |      |                                                                      |          |              |
|------------------------------------------------------------------------|------|------|----------------------------------------------------------------------|----------|--------------|
| Parameters                                                             | C1   | C2   | Improvement                                                          | p-value  | ( $\alpha$ ) |
| USG                                                                    |      |      |                                                                      |          |              |
| Pt. info.                                                              | 72%  | 100% | 28%. Optimum in 2 <sup>nd</sup> cycle.                               | 0.008    | Y            |
| Inv. name                                                              | 100% | 100% | Stable optimum result (S)                                            | -        | S            |
| C/F                                                                    | 24%  | 60%  | 36%                                                                  | 0.00269  | Y            |
| Justified?                                                             | 76%  | 96%  | 20%                                                                  | 0.025    | Y            |
| Dr. info.                                                              | 96%  | 100% | 4%. Optimum in 2 <sup>nd</sup> cycle.                                | 0.317    | N            |
| X-ray                                                                  |      |      |                                                                      |          |              |
| Pt. info.                                                              | 84%  | 100% | 16%. Optimum in 2 <sup>nd</sup> cycle.                               | 0.045    | Y            |
| Inv. name                                                              | 96%  | 100% | 4%. Optimum in 2 <sup>nd</sup> cycle.                                | 0.317    | N            |
| C/F                                                                    | 80%  | 64%  | 16% statistically significant decline (D) in 2 <sup>nd</sup> cycle.  | 0.045    | D            |
| Justified?                                                             | 24%  | 88%  | 64%                                                                  | 0.000063 | Y            |
| Dr. info.                                                              | 100% | 96%  | 4% statistically insignificant decline (D) in 2 <sup>nd</sup> cycle. | 0.317    | D            |
| CT-Scans                                                               |      |      |                                                                      |          |              |
| Pt. info.                                                              | 88%  | 100% | 12%. Optimum in 2 <sup>nd</sup> cycle.                               | 0.083    | N            |
| Inv. name                                                              | 100% | 100% | Stable optimum result (S)                                            | -        | S            |
| C/F                                                                    | 60%  | 88%  | 28%                                                                  | 0.00815  | Y            |
| Justified?                                                             | 68%  | 96%  | 28%                                                                  | 0.00815  | Y            |
| Dr. info.                                                              | 100% | 100% | Stable optimum result (S)                                            | -        | S            |
| MRI                                                                    |      |      |                                                                      |          |              |
| Pt. info.                                                              | 88%  | 92%  | 4%                                                                   | 0.317    | N            |
| Inv. name                                                              | 100% | 100% | Stable optimum result (S)                                            | -        | S            |
| C/F                                                                    | 80%  | 92%  | 12%                                                                  | 0.083    | N            |
| Justified?                                                             | 92%  | 100% | 8%                                                                   | 0.157    | N            |
| Dr. info.                                                              | 92%  | 100% | 8%                                                                   | 0.157    | N            |

## Conclusion

- Highest compliance- MRI and CT-Scan request forms (96.8%), followed by USG (91.2%) and X-ray forms (89.6%).
- Highest compliance- the domain of-name of requested modality (100%), followed by, name/ stamp of the person ordering the investigation (99%), demographic details (98%), appropriateness of investigation (95%) and clinical data (76%).
- Highest compliance- forms sent by Department of ICU, ENT, respiratory medicine, and Paediatrics followed by OBGY and Orthopaedics, with the least compliance seen in the forms of Department of Medicine and Surgery.
- The significant improvements in the forms in 2<sup>nd</sup> cycle sent by different departments indicate that the changes implemented after the first cycle- informing clinicians to fil forms completely had a positive impact.



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