



Using Information Technology To Improve The Efficiency Of Issuing Special X-ray Examination Orders In Healthcare Center

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Objectives

The health center performs an average of 20 specialized X-ray examinations daily. Each examination requires a manual form and takes 2-3 minutes to print a patient information label. Affixing the form and checking inspection item codes for 20 patients takes an average of 40-60 minutes. Between 2023/8/1 and 8/7, the X-ray examination room reported 14 unclearly checked items, requiring confirmation calls to the health clinic center. Additionally, four subjects' basic information was missing, necessitating the nurse's visit to the room to add label stickers. The X-ray examination order completion rate was only 81.4%. Aiming to improve work efficiency and examination quality, the health center hopes to exceed a 95% completion rate for special examination orders in the X-ray department through information technology advancements, as mandated by their specialty KPI indicators.

Method

- We cooperate with the Information Management Section and the Radiology Examination Unit to carry out improvement measures from 2023/9/1-11/30.
1. Informationization of the "X-ray Special Examination" of the Health Center, **development and construction of X-ray Special Examination Inspection information system**.
 2. **Education and training** on the operation of the "X-ray Department Special Examination" information system for health center staff.
 3. Throughout the implementation period of the new X-ray examination system, from September 1st to 10th, health center staff will be vigilant in identifying and addressing any operational issues that may arise.

Results

The results of the implemented measures were reviewed from 2023/12/1-2024/1/31.

1. **The completion rate of special examination** orders in the X-ray department increased **from 81.4% to 100%**.
2. **The daily processing time of special examinations** in the X-ray department dropped **from 40-60 minutes before the improvement to 6.7 minutes** (an average of 20 people).

Conclusion

We identified challenges with processing special examination requests in the X-ray department and, through cross-departmental collaboration, developed an information system to streamline this process. While previous manual processes resulted in incomplete orders and extended processing times, the information system will facilitate clear communication and efficient workflow between departments, ultimately supporting consistent and high-quality examinations..

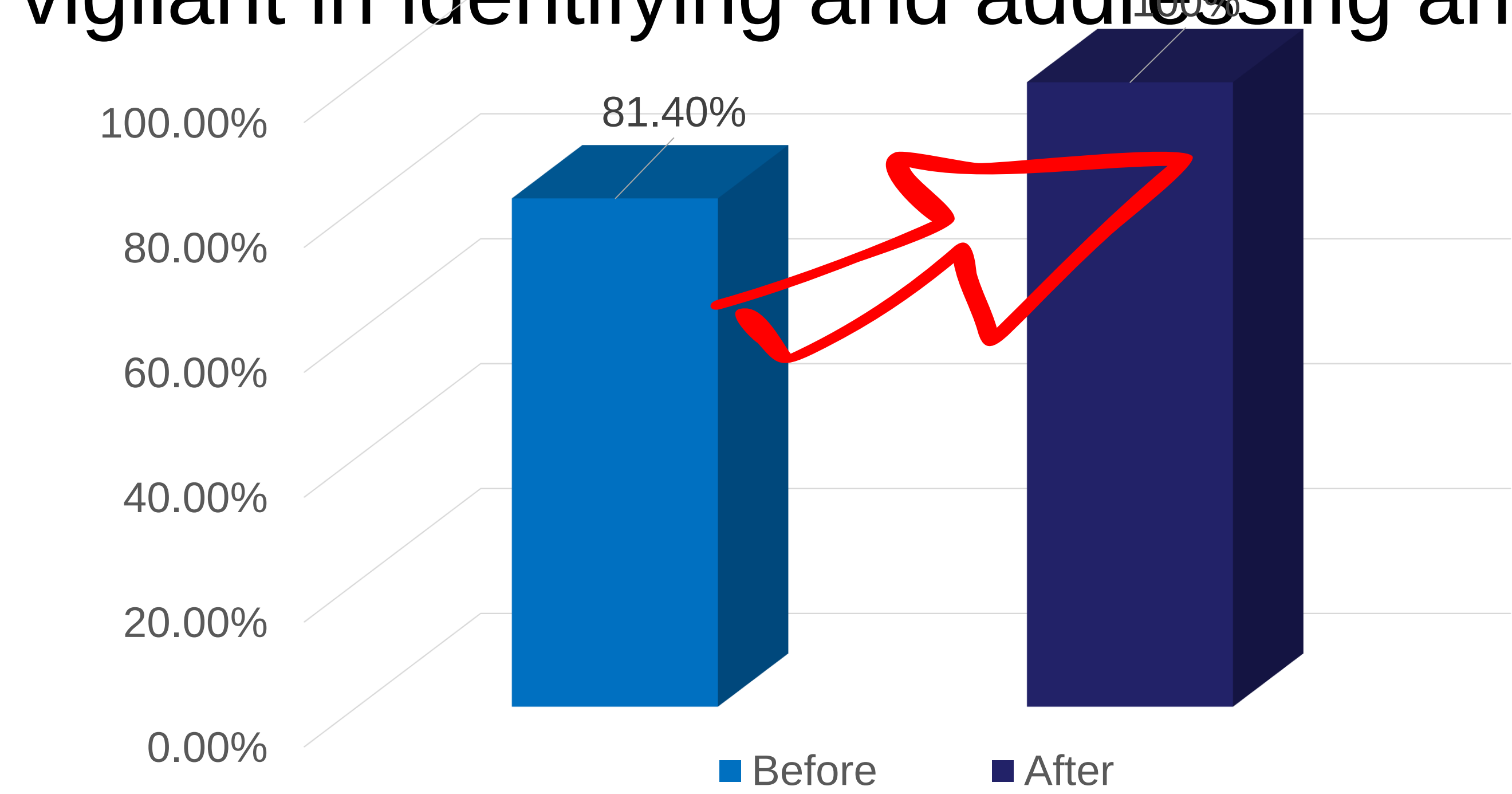


Figure1 The completion rate of special examination

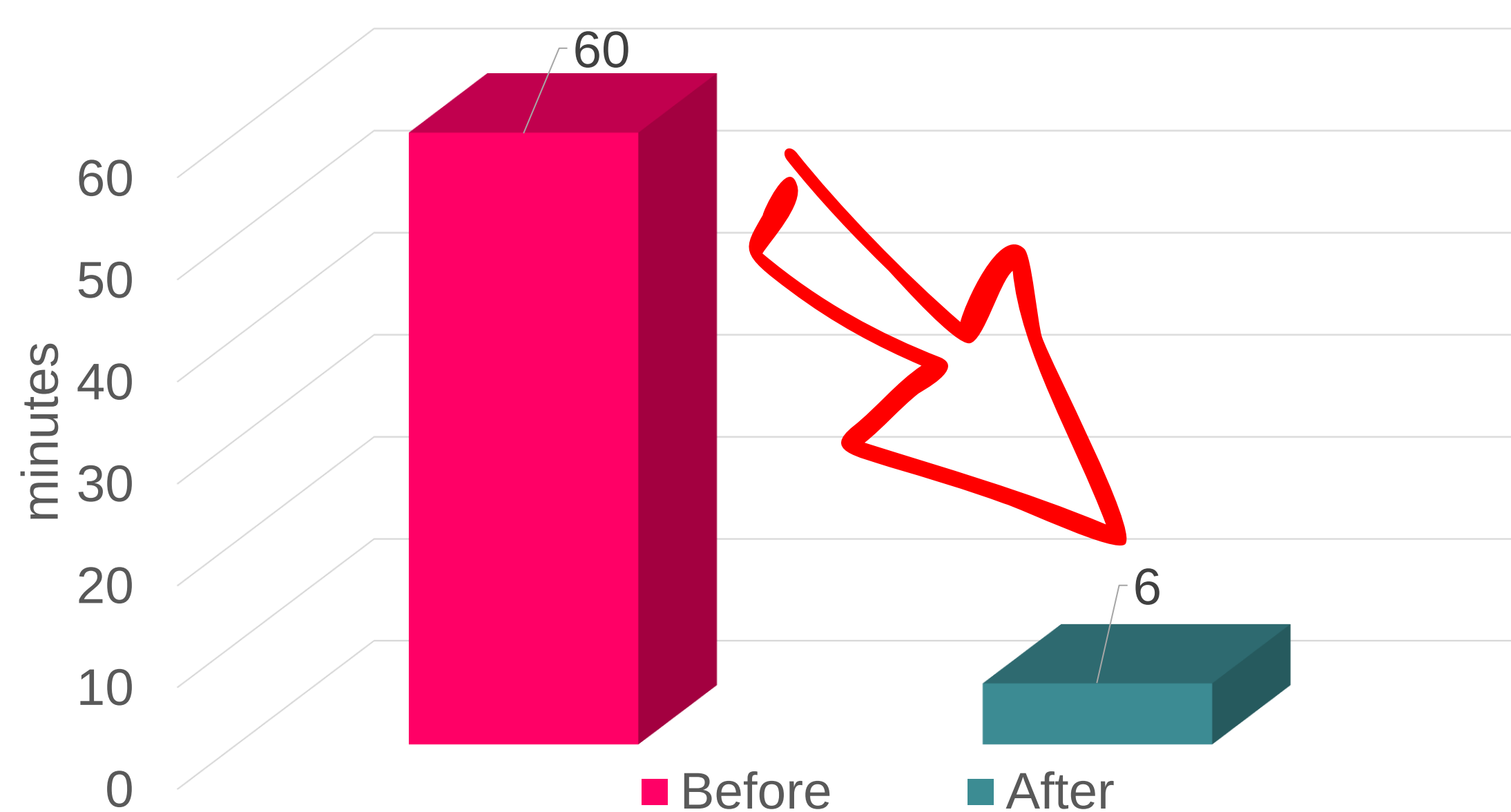


Figure2 The daily processing time of special examinations