



Training of the employees as a part of implementation of laboratory information system in a hospital

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1406

Introduction

The specialized application of information technology to optimize and extend laboratory operations.

OR

A collection of computerized methods to acquire, analyze, store, and report laboratory data

BENEFITS OF LIS

- Quality assurance and control
- Fast sample turnaround
- Management of information
- Very fast report access & queries
- Reduction in paperwork

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- Improved data quality (reduction in errors)
 - Improved operational efficiency
 - Increased productivity (reduction of routine tasks)
 - Productivity gains (instrument interfacing and auto-reporting)
 - Integration with other departments/business systems
 - Reduces transcription errors
 - Increases throughput
 - Avoids duplication
 - ROI



FUNCTIONS OF LIS

- Track specimens from receipt, processing, testing, reporting to storage
- Electronically capture results from lab diagnostic equipment and store with specimen details
- Protocols and algorithms for testing and final result determination
- Enable determination of patient outcomes
- Integrate patient and specimen information
- Support patient management and care/treatment



STEPS IN LIS IMPLEMENTATION

- Need and concept
- Project team formation
- Task force team
- Solution mapping
- Project review
- Align processes to best practices
- Implementation requisites
- Masters creation
- LIS configuration and demo
- Users acceptance testing and change request
- Key and end users training
- Simulation and parallel run
- Go live

AIM-

- To improve the quality of hospital diagnostic services provided at the hospital so as to enhance department efficiency, reduce waiting time so as to contribute in increasing hospital revenue

OBJECTIVES-

- To understand workflow for laboratory in order to train the users during training.
- To train the users to adequately learn them to use the new system

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- **Location-** MGM hospital, Vashi
 - **Duration-** 2 months, 9th march-9th may
 - **Study type-**Analytical study
 - **Sample size-**30 laboratory staff
 - **Sampling technique-** Probability Sampling
 - **Study area-** Pathology
 - **Study population-** laboratory technicians(key and end users),doctors

- **Sources of data**

- 1. Primary data-

- Interpersonal interviews with the laboratory department staff. The selection criterion for the key users was that they have been involved with the project from its initiation to the present.
 - Observation of the lab process
 - Focus group discussions- was conducted with laboratory head, IT support staff, lab technicians and doctors.

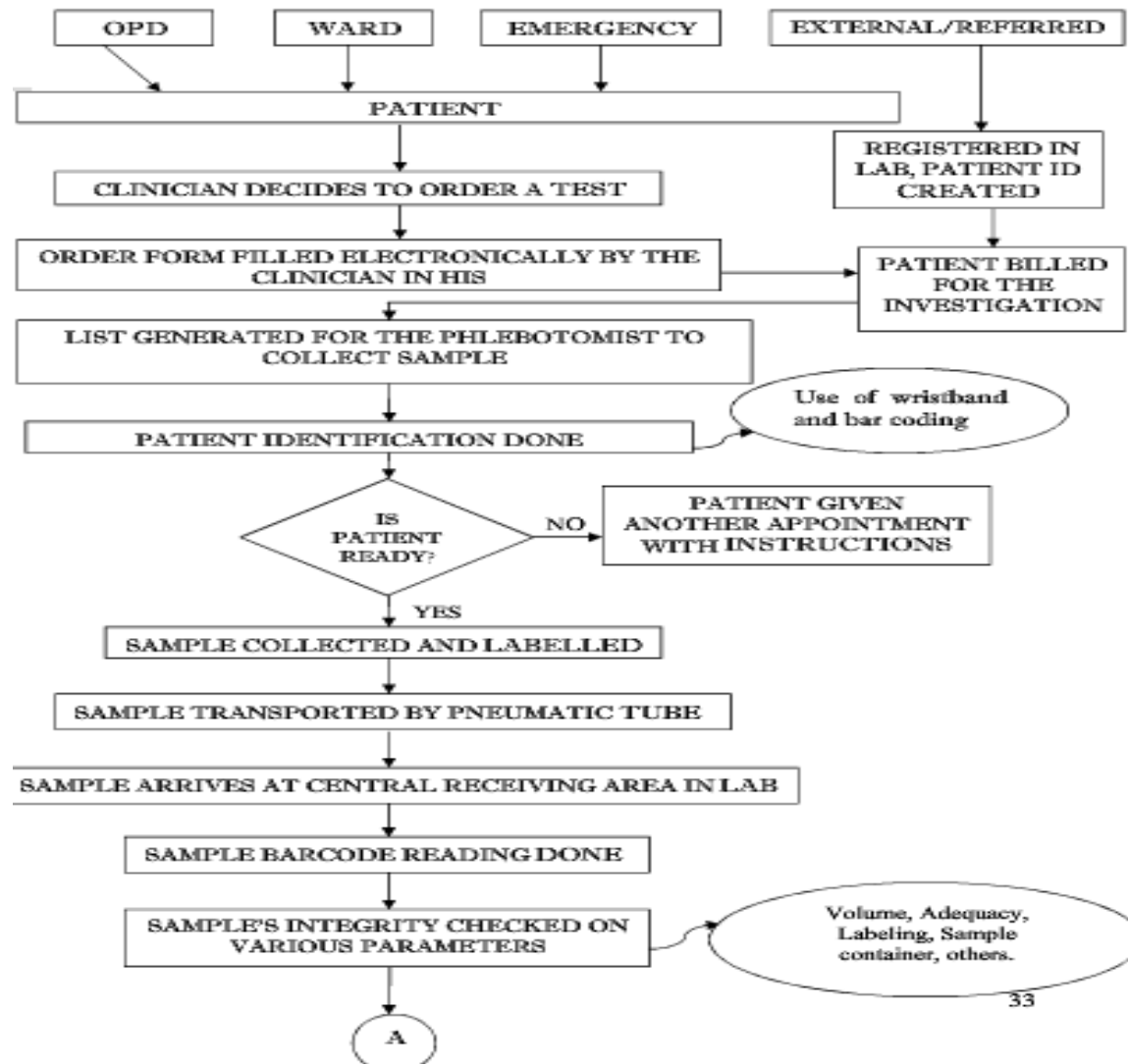
- 2. Secondary data

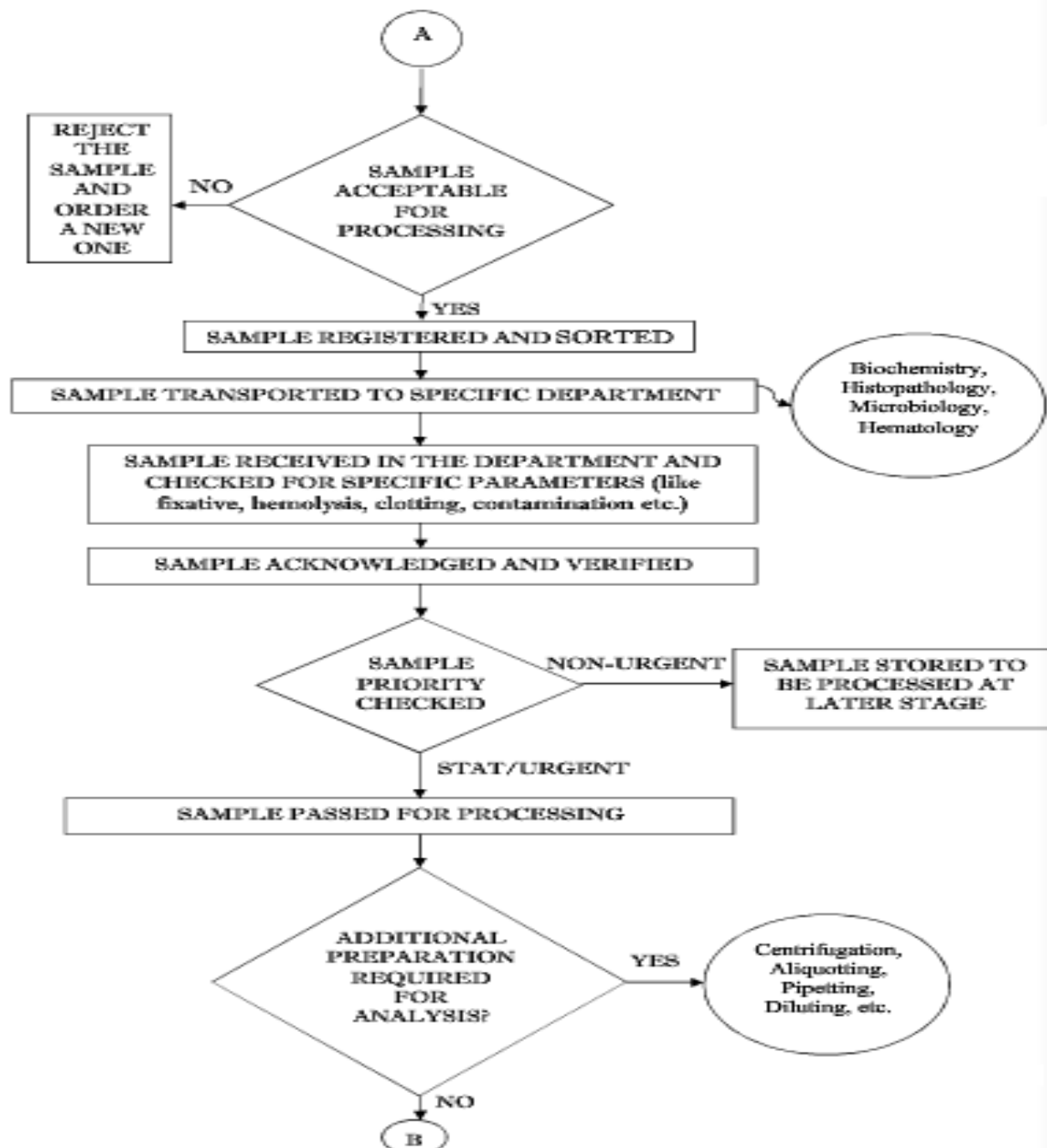
- Books, journals,internet searches ,review literature

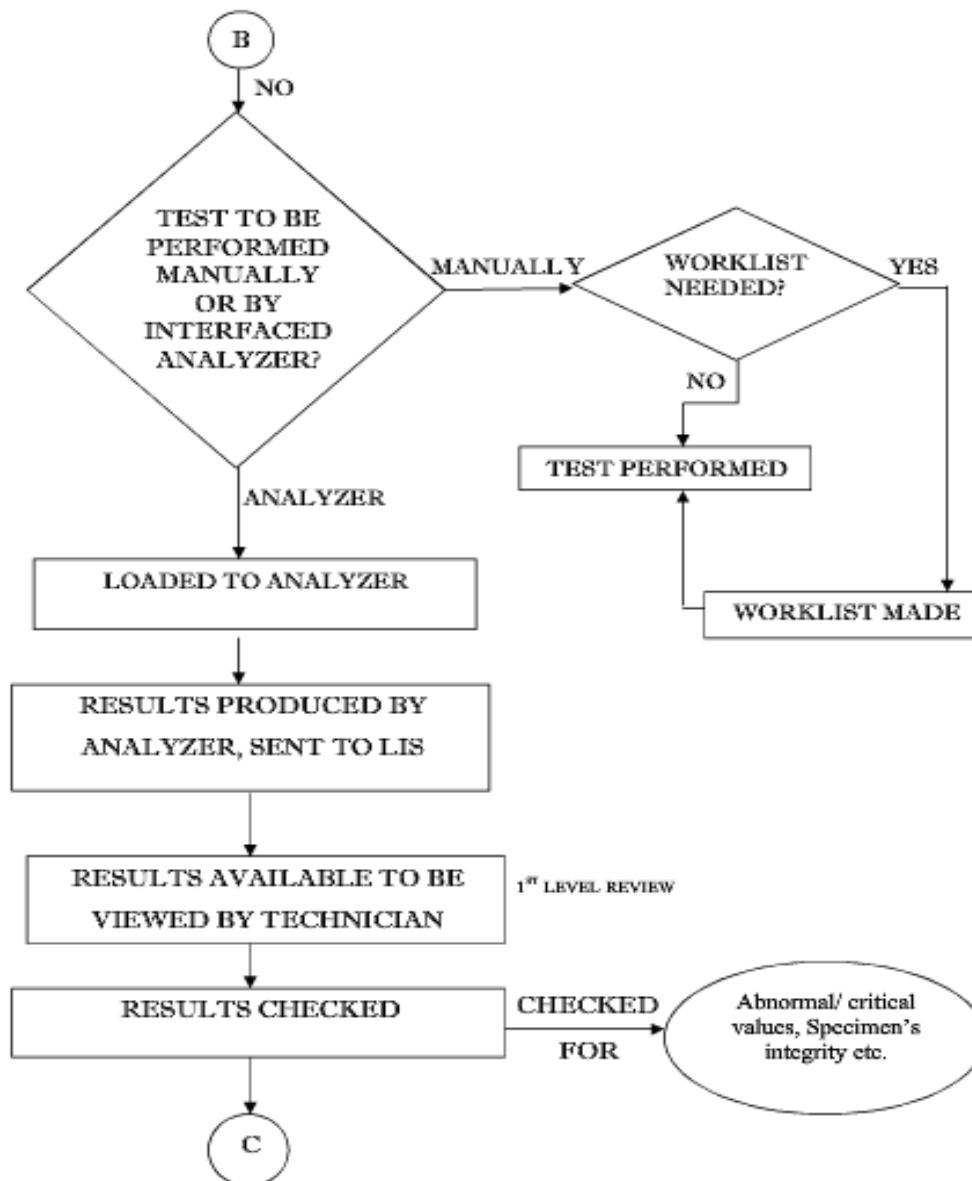
- **Data collection tools and techniques**

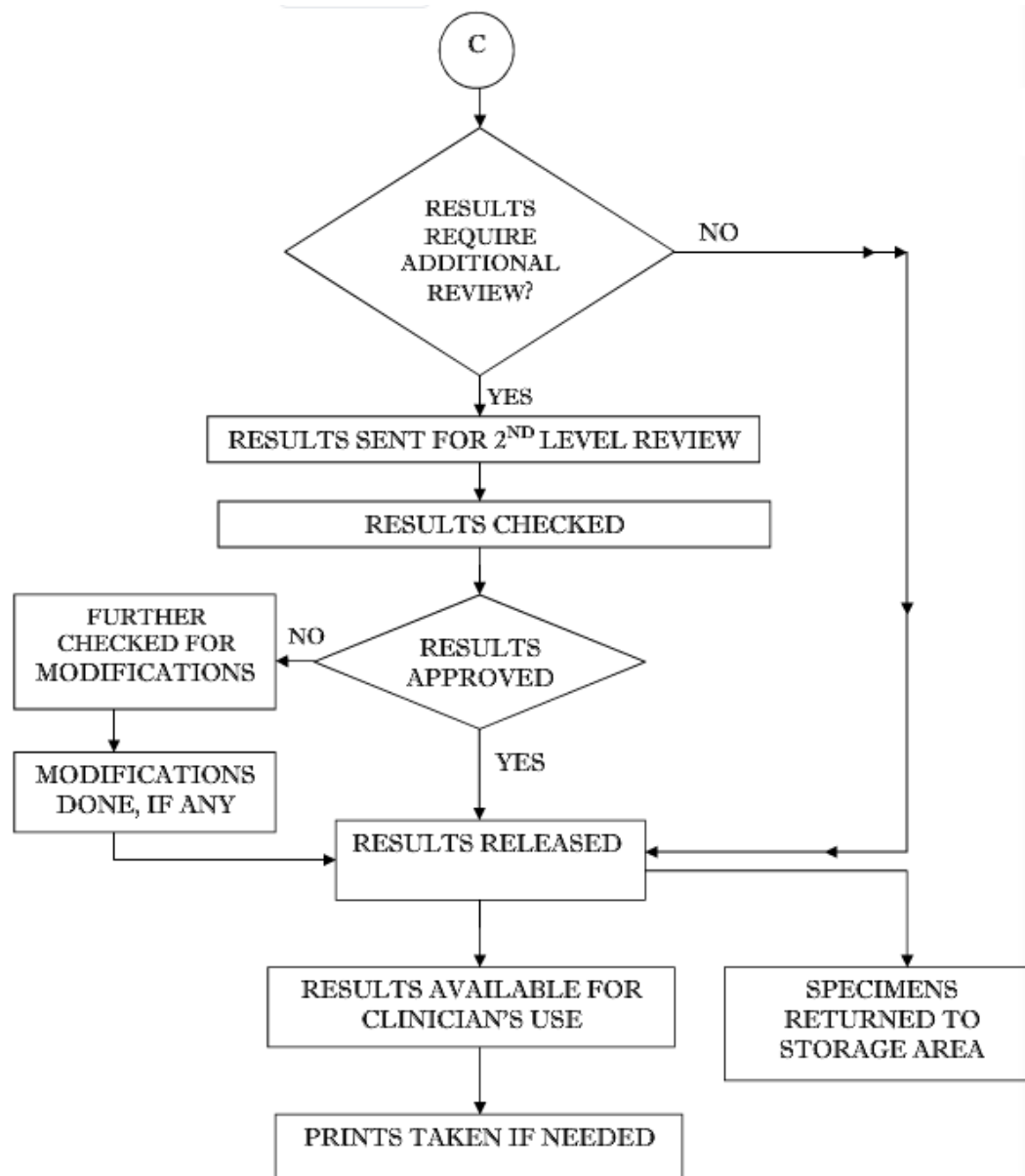
- Questionnaire

PROCESS MAPPING









LIS WORKFLOW

STEPS INVOLVED	PERSON RESPONSIBLE
Sample collection	Phlebotomist
Sample distribution	Phlebotomist
Sample acceptance	Lab technician
Result entry	Lab technician
Result authentication	Pathologist
Batch printing	Lab technician
Report dispatch	Lab technician

STAFF TRAINING

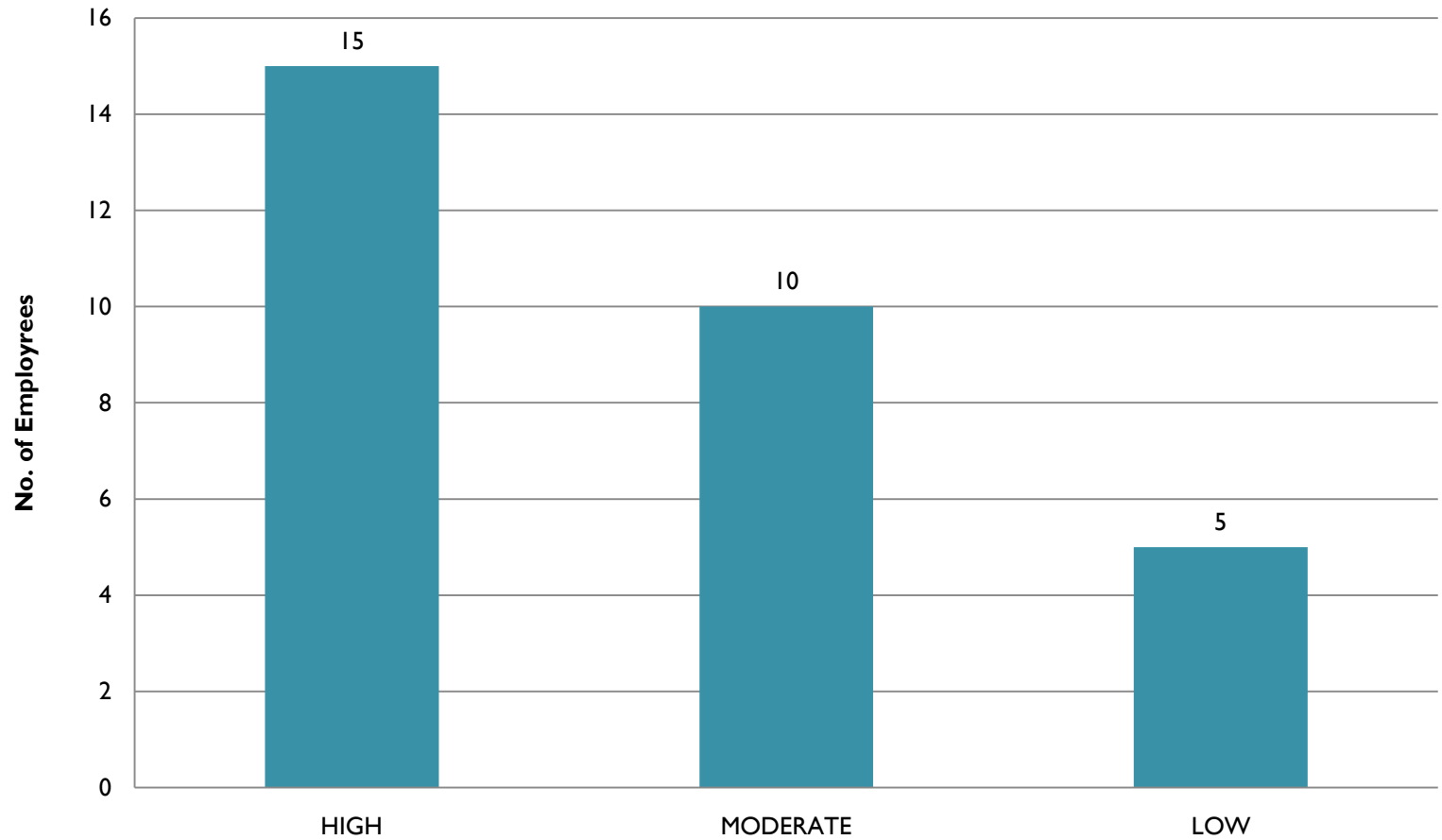
- Successful” implementation was defined as the system installed institution-wide, with users routinely using and being satisfied with the system.
- Training of end users will be accomplished in phased introduction to the new system, focused on building their skills and confidence to use the system effectively in their role.
- The goal of training is more than just entering the right data in the right field on the right screen. The goal is to enable users to think logically about how to best use the system in order to maximize the benefits of the system for patients and for the hospital. Training of the users was carried out on a one-to-one, on-site and hands-on basis rather than in the more theory-based. This seemed to have been better accepted by the users. The key factor that led to user acceptance was the practical usage of the system. It seems to have worked well to “release” the system in its early stage of development thereby engaging the users early in the development process leading to their “real” involvement. Only when the technical staff experienced using the system did they realise its value. They were then able to identify how it could be improved, which was critical in the development of a system that was suited to the local requirements. Early involvement also put the users at the leading end, enabling them to help develop the system, rather than being at the receiving end where the end users are imposed an “externally” developed system. All this worked in favour of user acceptance.



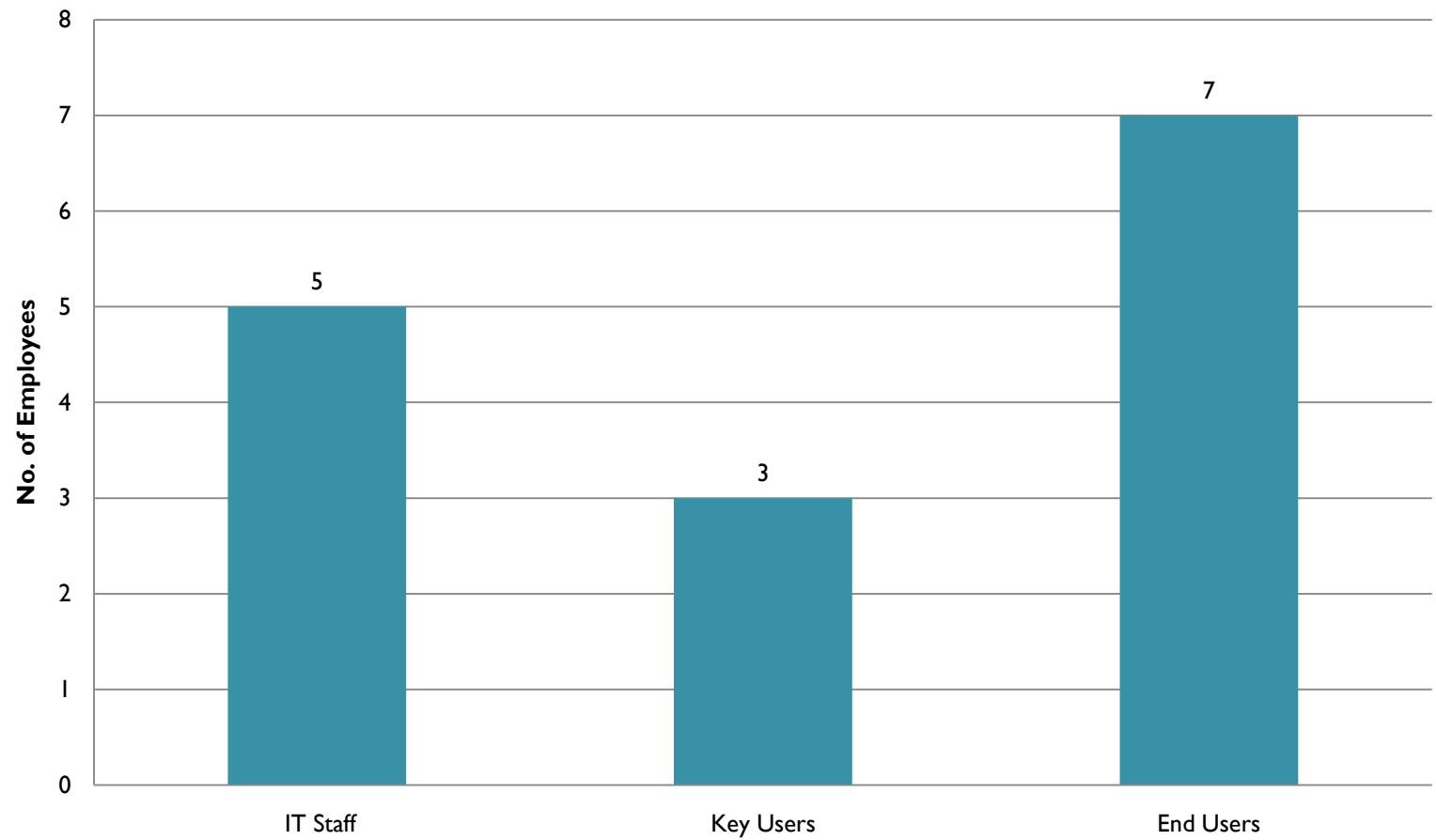
DATA ANALYSIS AND **INTERPRETATION**

- Number of staff present during training- 35
- Key users – 5
- End users – 25
- IT staff – 5
- After training gap analysis was done to know the training effectiveness among users

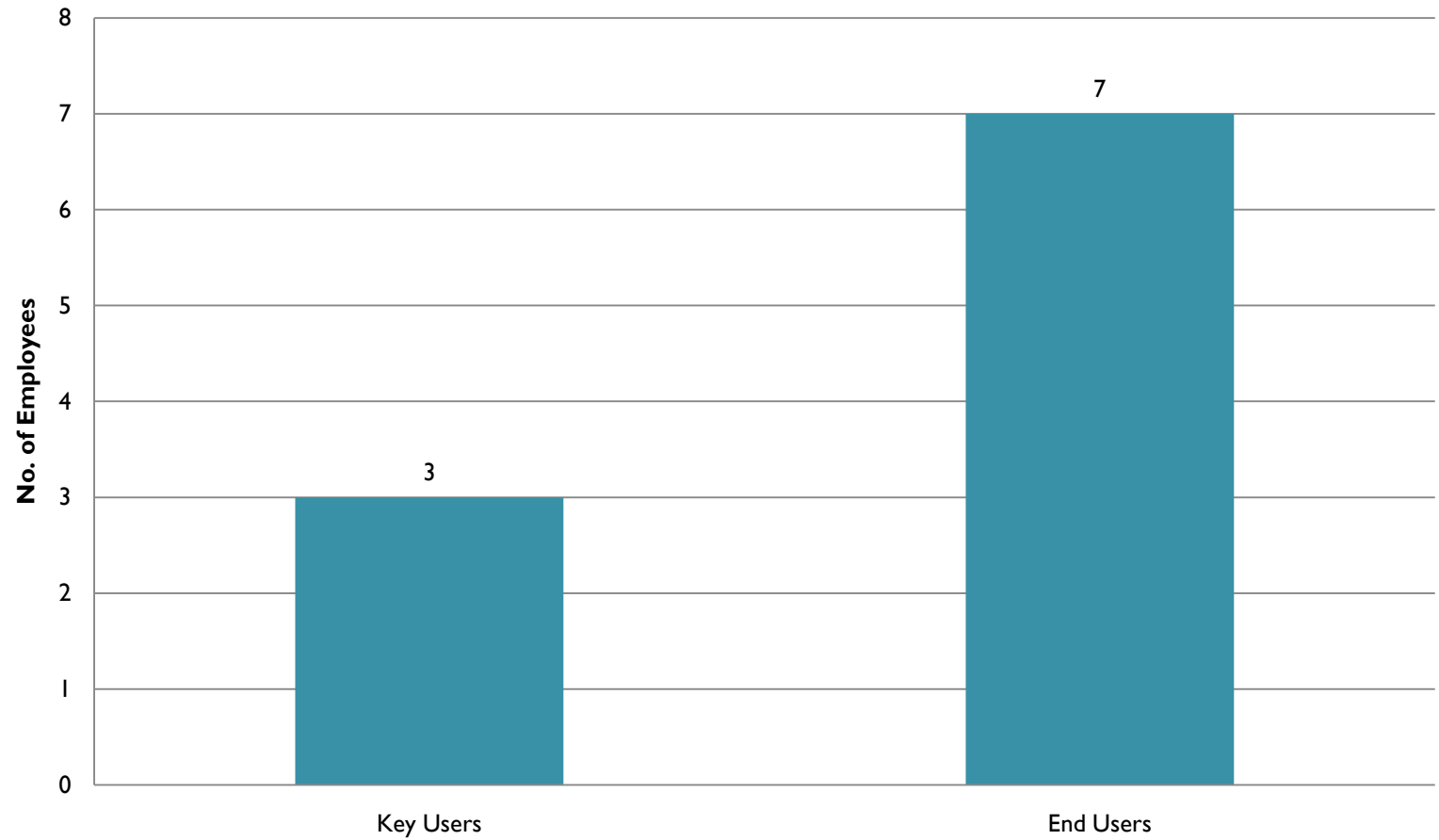
Involvement and Participation of Employees



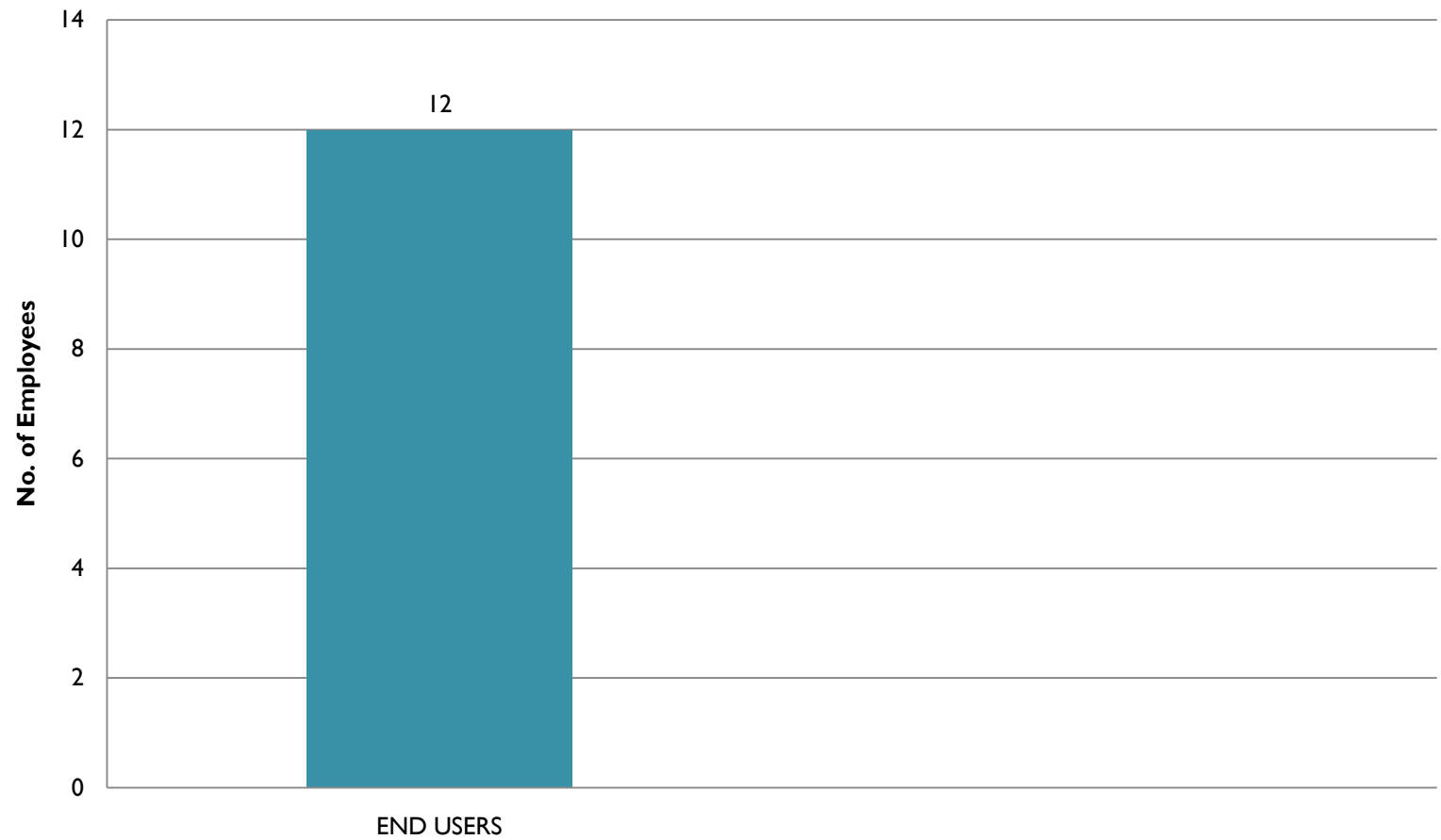
HIGH INVOLVEMENT EMPLOYEES



MODERATE INVOLVEMENT EMPLOYEES



LOW INVOLVEMENT EMPLOYEES





FINDINGS

- Most of the staff were involved and participated actively involved in design and development of new system and suggested changes while few staff was less involved as they did not participated much in hands on training.
- User acceptance was high among the staff and there was no resistance to change.
- Knowledge and skills among users was found to be lacking as they were less confident about using the system.
- Most of the key users and IT staff were efficient in training of end users but few were unable to do so.
- There was delay in implementation plan and training was one the main reason as users were not giving much time for learning the system.
- Solution mapping was not done properly and there were problems faced during application designing

LIMITATIONS

- Complete lifecycle of HIS implementation could not be studied and i was only part of system implementation training. The system implementation could not go live during the dissertation period so some of the important findings were missed out due to limitation of time. The LIS that was going to be updated was only for OPD patients. For IPD patients it will be implemented in the second phase and during implementation of IP module.



RECOMMENDATIONS

- Laboratory should make sure that a well developed feedback mechanism is there during installation of LIS so that lab personnel can put their problems and resolve it.
- Requirements of stakeholders should be properly understood and then proper planning should be started.
- Strong leadership in support of the implementation of HIS should be there for successful implementation and select competent leader for conducting change.
- Create a clear vision regarding new system and motivate the employees to accept new system.
- Motivate employees to participate in process designing.
- Employee's satisfaction should be assured while designing process

CONCLUSION

- A hospital may not achieve the necessary goals only by implementing LIS. Such system cannot work properly until proper training is provided to the people who will use this. On-site technical support and trainings is must for user so that they can feel comfort while using the system successfully. Before implementing the LIS, make sure that the requirements of the users will be fulfilled by new system. When implementation of new LIS is completed then for the success, proper training is required to reduce failure rate. Workflow designing of the laboratory is critical for effective and efficient throughput and will be responsible for future bottlenecks. It defines the role of LIS in the organisation.