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The diagram illustrates the components and data flow of a Hospital Information Management System (HIMS). At the top, four categories are shown with corresponding images: **wards** (hospital ward), **research** (computer keyboard with 'RESEARCH' key), **clinics** (hospital clinic), and **department offices** (modern office building). Arrows from these categories point down to a central blue funnel labeled **HIMS**. Below the funnel, five communication methods are listed: **phone** (landline), **fax** (fax machine), **by foot** (footprints), and **email** (envelope icon). Arrows from these methods point down to a horizontal line. Below this line, two storage locations are shown: **library** (bookshelves) and **archive** (archive boxes). Arrows from the library and archive point up to the horizontal line. Finally, large blue arrows on the left and right sides of the diagram point upwards from the horizontal line back to the top categories, indicating a feedback loop.

Foot	<ul style="list-style-type: none"> • Time waste as staff have to walk to MRO
Fax	<ul style="list-style-type: none"> • Misplaced and unattended to • Sometimes not transmitted as expected
Phone	<ul style="list-style-type: none"> • Phone lines can be busy • MRO staff might not be near phones
Email	<ul style="list-style-type: none"> • Unnecessary delay due to missed emails • Request duplication leading to confusion

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graph TD; A[Check availability of medical records with MRO (HIMS)] --> B[Fill up the form for medical reports requests]; B --> C[Fax over or physically carry over the form to MRO (HIMS)]; C --> D[Process at MRO(HIMS)]; D --> E[Wait at MRO (HIMS) for record to be traced]; E --> F[Collect records at MRO (HIMS) and acknowledge receipt]; F --> G[Return to SOC/Department/Ward]; D --> H{Records in Library?}; H -- Yes --> I[Trace record and update system]; H -- No --> J[Update form with latest location & borrower info]; I --> G; J --> K[Return request form to requestor];
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The flowchart illustrates the process for handling medical records requests. It begins with checking the availability of records with MRO (HIMS), followed by filling out the form for medical reports requests and faxing or physically carrying the form to MRO (HIMS). The process then moves to 'Process at MRO(HIMS)'. From here, there are two paths: one for waiting at MRO (HIMS) for the record to be traced, collecting records, and returning them to the SOC/Department/Ward; and another path leading to a decision diamond 'Records in Library?'. If the record is in the library (Yes), the record is traced and the system is updated, and then returned to the SOC/Department/Ward. If the record is not in the library (No), the form is updated with the latest location and borrower information, and then returned to the requestor.

Difficult to track the status of the request for medical records.

People

- manual form not sent by requester personally
- work requirement doesn't allow requester to leave workplace for long
- requester fax but HIMS never receive
- forms never reach HIMS
- porter has many destination to visit before HIMS
- new porter
- Staff careless
- requester has many requests & tasks to track
- manual form mislabeled by porter
- manual form easily misplaced
- Staff careless
- requester has many requests & tasks to track
- manual form mislabeled by requester

Method

- form misplaced at counter
- many things happening at counter
- many requestor crowding at counter
- long time taken to walk to submit form
- long time taken to wait for request to be processed
- manual form easily misplaced
- forms reach, but misplaced at HIMS
- staff have many requests to follow up
- form misplaced by tracer
- No system to track & reprint
- No system to track form
- No system to track
- requestor is not aware that fax machine is out of order/paper
- difficulty in informing requester that machine is out of order
- requestor fax but HIMS never receive
- fax machine not equip to log request
- once lost, cannot be retrieved from fax machine
- No system to track

Equipment

- Only one copy of request form
- Fax machine doesn't automatically duplicate form
- No way to tell when & who raise form
- No authentication system
- Time consuming to verify manually
- Time consuming to make copy
- Many requests coming in at the same time
- No time stamp manual form
- Time consuming to manually stamp
- No authentication via manual form
- Up to requester to state what name on form
- Time consuming to verify manually

Environment

- Depends on porter to collect & deliver
- Status is not known immediately
- Requestor not contactable by phone
- No contact number indicated on the form
- No one answers phone
- Phone line busy
- Time consuming to call every requestor to update status
- Long time taken to receive status from HIMS
- Requestor no access to phone
- Many user share phone
- Phone line busy
- Requestor could not call us to get status immediately
- HIMS/MRO not contactable
- Manual forms never reach HIMS/MRO
- Building department location
- Structure of building
- Long distance to walk between requester department and HIMS/MRO
- Everything is manual

[illegible]

The waterfall chart illustrates the cumulative impact of various features on time saved. The features and their corresponding values are:

- features**: Worklist, Acknowledgement, Batchwork, Transfer
- average record request turnaround time**: 0.5-1 hr
- main areas**: A&E, Admission, Outpatient
- avg. no of request**: 17856/mth
- adoption rate**: 80%
- avg. total time saved**: 9535 hrs/mth

Figure 5: eRMR achievements