To Improve Operational Efficiency in Processing Employees' Pharmacy Bills

Singapore Healthcare Management 2016
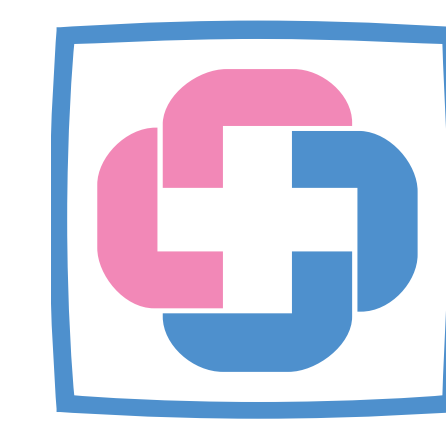
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1 Background

Year 2006 to 2009
- Business Office (BO) gave all the employee related pharmacy bills in hardcopies to Human Resources (HR) Employee Services Centre (ESC) in bulk on a monthly basis
- HR ESC staff had to manually verify and process the bills
- A tedious and challenging process in view of the high volume of pharmacy bills
- Space constraint to store all the hardcopy bills

Year 2010 to 2015
- BO provided softcopy listings of the pharmacy bill details to HR ESC, instead of hardcopy bills
- Manual intervention still needed to process each bill according to employee's medical benefit entitlements
- In 2014 and 2015, HR processed about **12,872** and **11,941** pharmacy bills respectively
- Due to the voluminous bills that require manual massaging of data and processing, HR ESC staff had to work long hours A time consuming and error prone process that lead to productivity being compromised

Year 2016
- Minimise the manual intervention when processing pharmacy bills for employees

2 Cause and Effect Analysis

Cause and Effect diagram helped determine the possible attributes contributing to the inefficiency in processing pharmacy bills.
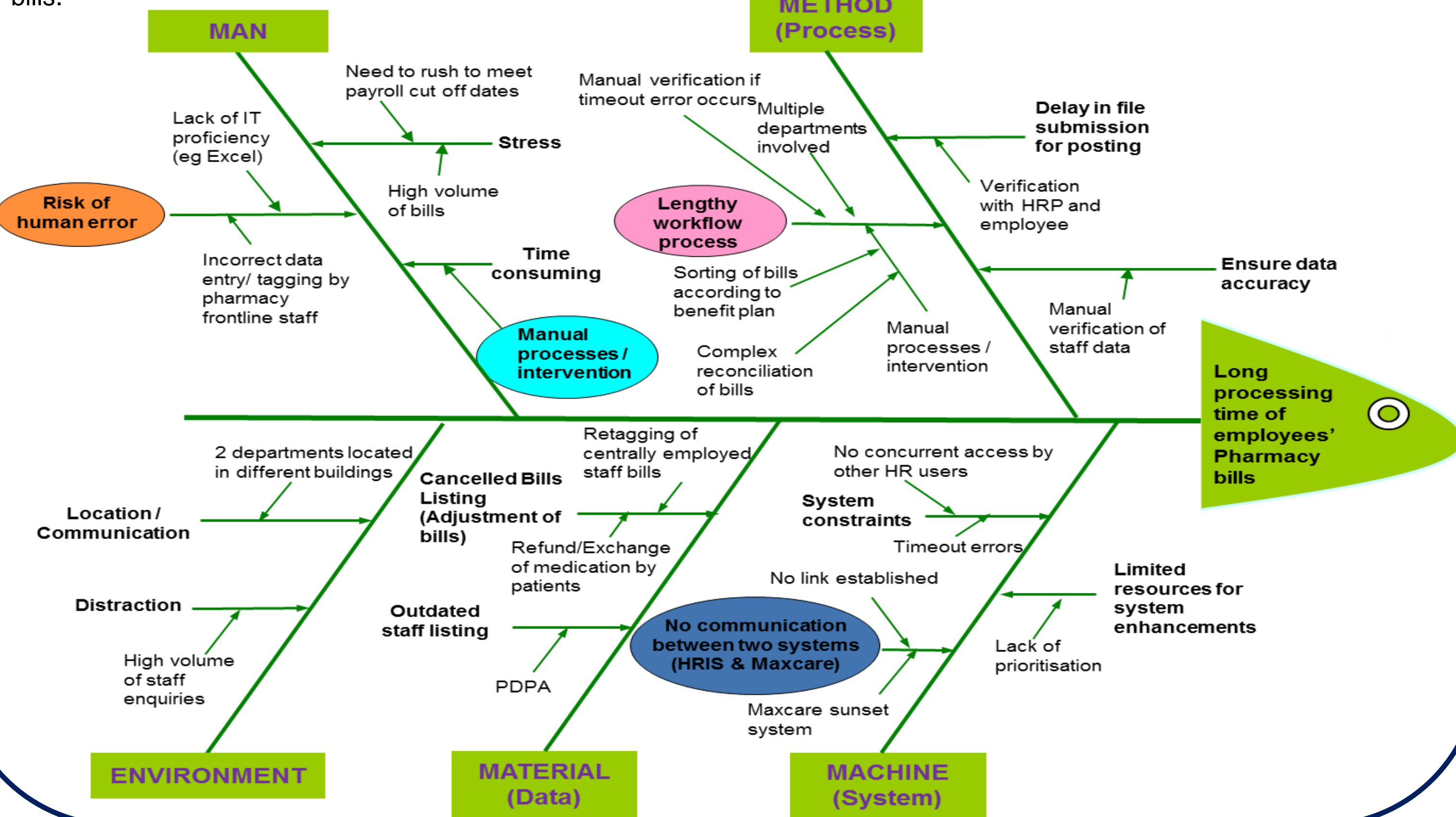
3 Problem Analysis Chart

The attributing factors that contributed to the lengthy processing of pharmacy bills were charted in the following diagram to analyse the issues.

The top two attributing factors were identified as processes that took up 80% of time spent on processing of pharmacy bills.
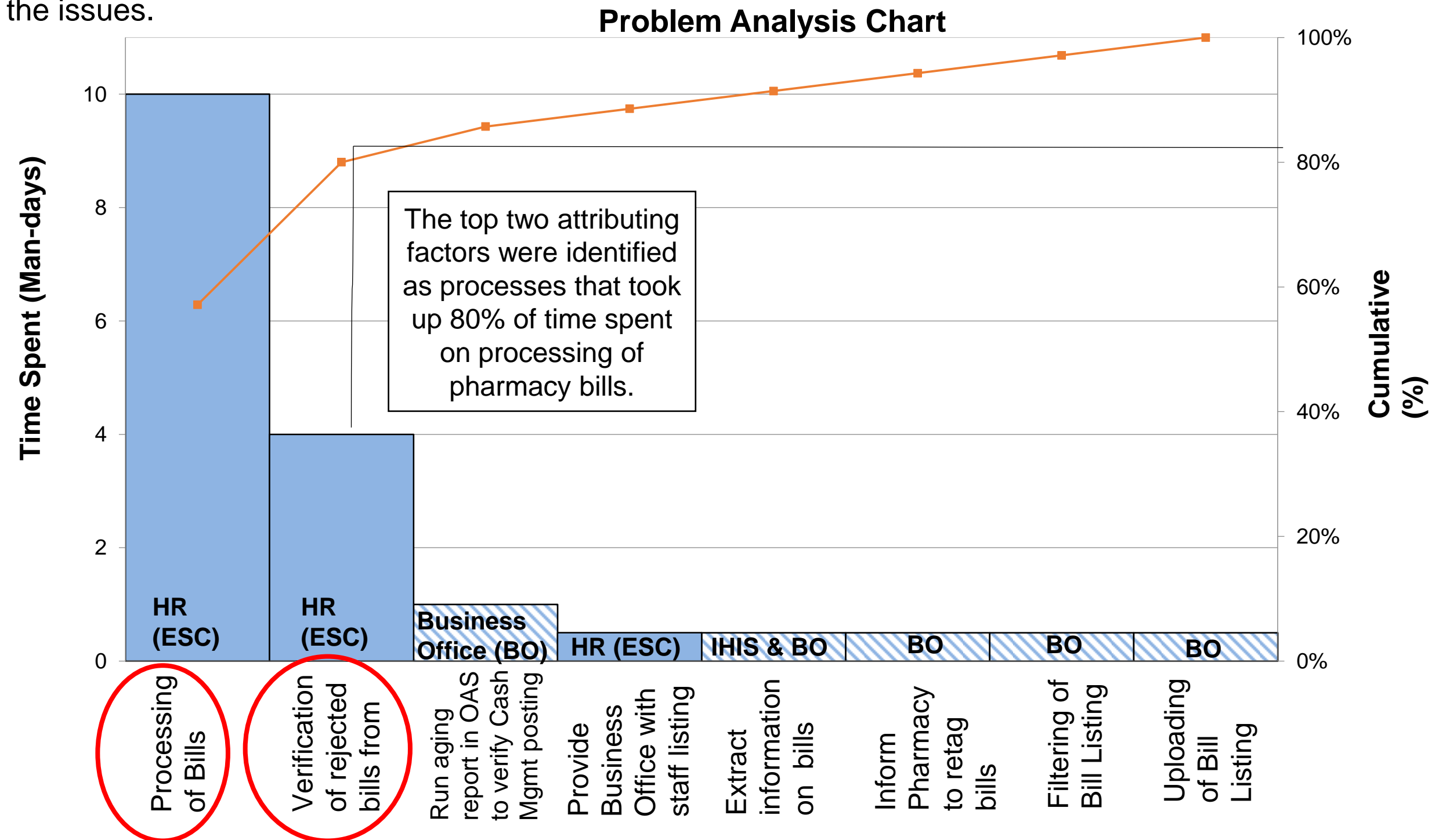
4 Solution Implementation

Step 1 – Requirements Gathering, Problem & Data Analysis
Root causes:
- Process leading to more stressed and burned-out staff
- Lengthy workflow involving multiple departments and manual intervention
- Error-prone process due to high volume of bills

Step 2 – Confirmation of final Workflow
- Leverage on existing OAS interface program for automation of Pharmacy bills processing
- Improved operational efficiency due to significant reduction in man-days

Step 3 – Identify Enhancement of System
- Identified system constraints to be enhanced
- Update the mapping table for new Pharmacy codes

Step 4 – System Development
- Engaged IHIS to derive extraction logic for Maxcare using existing OAS interface file format
- Engaged HRIS support team to schedule weekly interface for pharmacy bills

Step 5 – UAT Testing
- Identified possible scenarios for different types of pharmacy claims to be processed during User Acceptance Testing (UAT)
- Worked with IHIS and HRIS support team to conduct the interface in testing environment
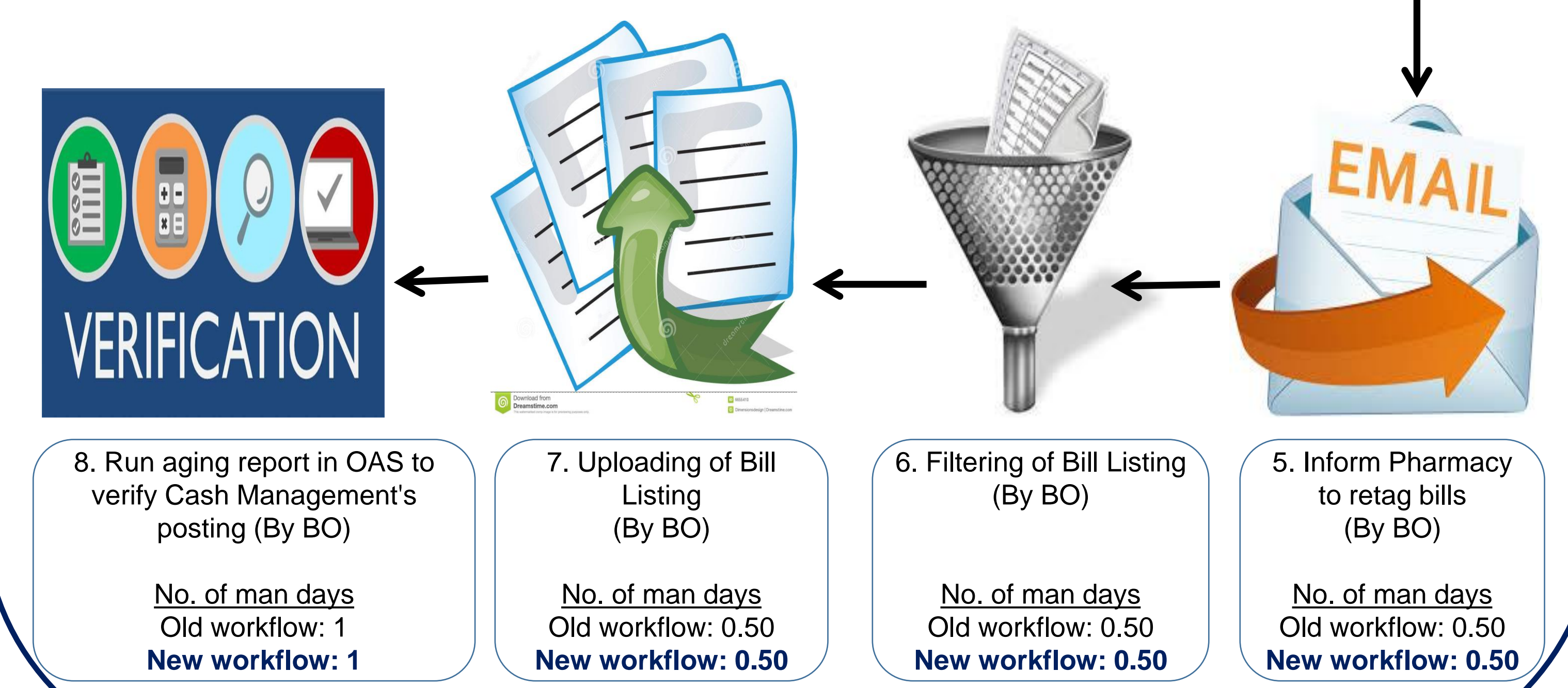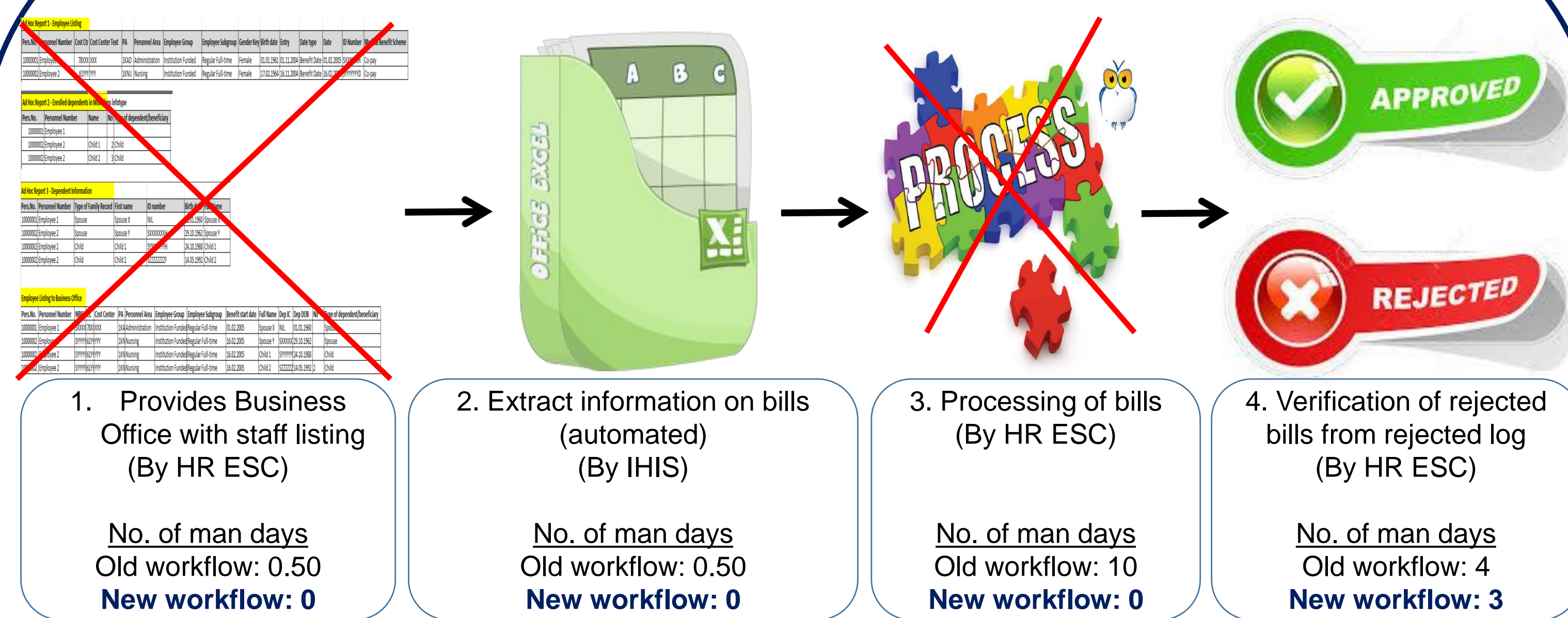
Step 6 – System Rollout
- Master data set-up for mapping of Pharmacy codes prior to rollout
- Interface of Pharmacy bills to HRIS went live on 1 Jan 2016

Step 7 – Monitors the system
- Expect system stability since riding on existing OAS interface program which has been implemented for a few years
- Continue to monitor for any system anomaly

5 Revised Work Flow Analysis

1. Provides Business Office with staff listing (By HR ESC)
   No. of man days
   Old workflow: 0.50
   New workflow: 0

2. Extract information on bills (automated) (By IHIS)
   No. of man days
   Old workflow: 0.50
   New workflow: 0

3. Processing of bills (By HR ESC)
   No. of man days
   Old workflow: 10
   New workflow: 0

4. Verification of rejected bills from rejected log (By HR ESC)
   No. of man days
   Old workflow: 4
   New workflow: 3

5. Inform Pharmacy to retag bills (By BO)
   No. of man days
   Old workflow: 0.50
   New workflow: 0.50

6. Filtering of Bill Listing (By BO)
   No. of man days
   Old workflow: 0.50
   New workflow: 0.50

7. Uploading of Bill Listing (By BO)
   No. of man days
   Old workflow: 0.50
   New workflow: 0.50

8. Run aging report in OAS to verify Cash Management's posting (By BO)
   No. of man days
   Old workflow: 1
   New workflow: 1

6 Project Achievement

- **Reduction in Claims Processing Time**

  Most of the manual processes were replaced with system automation. The time spent has been reduced significantly from 17.5 to 5.5 man-days/month, which translates to a **reduction of 12 man-days/month (69%).**

- **Cost Savings**

  With the new workflow and automation in pharmacy bills processing, there is an estimated cost savings on resources of **$228,485** over a five year period.

Time-spent (Man-days/month) — Before 17.5, Target 6 (63%), After 5.5 (69%)
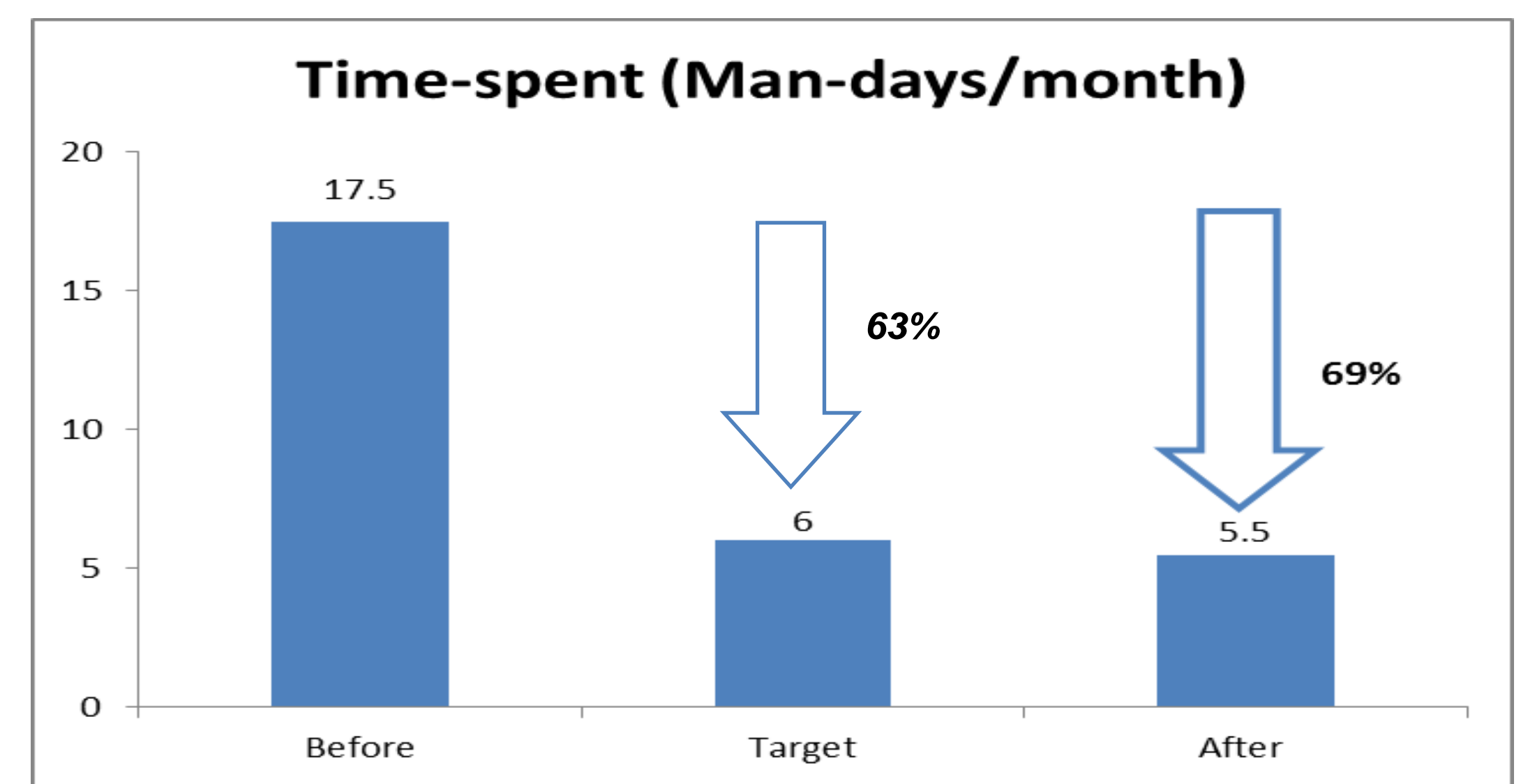
7 Benefits

1. Better Time Utilisation
- Manual HR processes for pharmacy bills are now streamlined with the weekly automated process of data mapping, uploading and accounting of pharmacy bills.

2. Increased employee awareness
- Able to view the actual amount that is charged to their medical benefit on a weekly instead of monthly basis
- Employees can monitor the utilisation of their medical benefits entitlements - *help them decide if they should collect the complete or partial medication*

3. Increased Accuracy in Billing
- Better and tighter control of pharmacy bills processing due to automation
- Manual intervention is only required for rejected bills

4. Improved HR ESC staff morale
- Less stress as staff do not need to process voluminous bills within a short turnaround time
- Able to focus more on HR value-added services

8 Conclusion

Automating the processing of employees' pharmacy bills has:

- resulted in an estimated cost savings of **$228,485** over a 5-year span on financial operating cost for the Hospital
- greatly **improved** the operational efficiency of the HR Employee Service Centre (ESC) team
- allowed more focus on providing **value-added services** to employees
- enabled effective utilisation of manpower costs in HR on **strategic** tasks
- **increased** the return of investments when it is rolled out at other SingHealth institutions in FY2016