Monitoring

BS Ganesh Babu
Sr.Manager - IT & Systems

Objective

- Overview of Monitoring
- Importance of Information for monitoring
- Presenting information for monitoring
- How to identify information required for monitoring
- Leverage IT for effective monitoring

Management

Management is the process whereby resources are utilized in a most **Effective** and **Efficient** manner to achieve the objectives of the organization or Programme.

Effectiveness

Efficiency

Efficiency

Relationship between the results obtained and the resources utilized

Management Cycle

- Planning
- Implementation
- Evaluation

Monitoring
Monitoring

- Identifying deviations from the established plan and finding quick practical solutions
- An on-going process of reviewing a program's or project activities to determine whether set standards or requirements are being met

Supervision

Supervision is the process of guiding, supporting and assisting staff to perform well in carrying out their assigned tasks.

Why we should monitor

- Monitoring provides feedback of our efforts
- It helps to understand whether we are on the right track
- It helps to take necessary corrective solutions

Methods of Monitoring & Supervision

- Observation
- Communication with staff
- Communication with clients and community
- Review of records

Monitoring & Information

- Monitoring is about collecting information that will help you answer questions about your project.
- Information should be collected in a planned, organized and routine way.
- Compile the information to answer questions such as:
  - how well are we doing?
  - are we doing the right things?
  - what difference are we making?

Information Needs & Organizational Level
Information Needs and Organizational Level

**Characteristics**
- Strategic Management: Aggregated, time delay, less well defined, external, tolerate less accuracy.
- Middle Management: Detailed, current, well defined, internal, accurate.
- Operations Management: Aggregated, time delay, less well defined, external, tolerate less accuracy.
- Line Workers: Detailed, current, well defined, internal, accurate.

Management Information System

An organized method that provides timely, accurate and relevant data to managers for decision making.

MIS helps to
- Identify Problems
  - Comparing with expected outcome
- Decision Making
  - To take necessary corrective solutions

Decision Areas
- Strategic: traditional surgery vs IOL
- Managerial: effectiveness & efficiency
- Operational: timings, manpower, machines

Levels of Monitoring
- Patient/Beneficiary Level
  - Institution
  - District
  - State/Province
  - National
The District Collector (Chairman)
District Blindness Control Society
Madurai
Through: The District Programme Manager

Sir,

Sub: Submission of monthly Cataract surgery performance report - regarding

We furnish below the details of cataract surgeries performed by our hospital at Madurai in your district during the month October 2008

<table>
<thead>
<tr>
<th>Month</th>
<th>Cat IOL FB BB</th>
<th>Cat IOL FB BB</th>
<th>Cat IOL FB BB</th>
<th>Cat IOL FB BB</th>
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</thead>
<tbody>
<tr>
<td>Apr-08</td>
<td>8 524 276</td>
<td>1 3 258</td>
<td>123 53 4</td>
<td>539 327 120</td>
</tr>
<tr>
<td>May-08</td>
<td>726 174</td>
<td>132 132</td>
<td>4 685 444</td>
<td>155 159 159</td>
</tr>
<tr>
<td>Jun-08</td>
<td>285 2 1</td>
<td>255 153</td>
<td>56 6 587</td>
<td>401 137 137</td>
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<tr>
<td>Jul-08</td>
<td>339 3 2</td>
<td>386 247</td>
<td>60 4 668</td>
<td>410 157 157</td>
</tr>
<tr>
<td>Aug-08</td>
<td>271 1 2</td>
<td>149 85 0 3</td>
<td>3 584 382</td>
<td>112 1274 738</td>
</tr>
<tr>
<td>Sep-08</td>
<td>248 0 1</td>
<td>266 146 47</td>
<td>10 468 289</td>
<td>65 1248 683</td>
</tr>
<tr>
<td>Oct-08</td>
<td>196 1 0</td>
<td>102 50 20 3</td>
<td>3 305 164</td>
<td>49 5 792 410</td>
</tr>
<tr>
<td>Nov-08</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Dec-08</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Jan-09</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Feb-09</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Mar-09</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
</tbody>
</table>

Total: 33 3837 1994 11 14 1651 948 300 38 3836 2417 795 85 9324 5359 1106

FB - Female Beneficiaries
BB - Bilateral Blind Total Cat + IOL and % of FB & BB

With regards,
Yours sincerely,

R. Meenakshi Sundaram

Steps in Monitoring

- Select Indicators
- Develop Standards
- Collect data/information to measure
- Analyze to measure performance
- Compare against established plan
- Take corrective actions - decisions

Indicator

- Indicators are standardized measures to compare status or performance
- Can identify change in situation

How do you decide Indicators (Deciding on What to Monitor)

- Expected level of achievement
  - History
  - Statistical
  - Need Based

Standards that someone has achieved

- In line with the Objective of the program/project
- Select Input, Process, Output, Outcome Indicators (e.g., using Logical Frame-Work)
- Target & Achievement
- Trends & Growth
- Impact of Changes or Improvements
- Difficult Activities
- Problems & Exceptions
- Complaint Variable
Derivation from Strategies and Goals

- Eradicating needless blindness among school going children
  - No. of Schools
  - No. of School children
  - No. of children with problem
  - No. of children received treatment

  Involve teachers
  - No. of Teachers
  - No. of teachers trained
  - No. of children screened
  - No. of children identified with problem
  - No. of children confirmed with problem
  - Response Rate

Areas of concern for Managers

- Input
- Process
- Output
- Outcome
- Impact

Inputs are the resources you put into your project to deliver its outputs.

- Infrastructure - building, water, electricity
- Organization - hierarchy, line of control, accountability and authority, policies and procedures
- Manpower
- Equipment
- Materials - drugs, disposables

Developing Indicators

<table>
<thead>
<tr>
<th>Areas of concern</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>No. of OT with full facilities</td>
</tr>
<tr>
<td>Organization</td>
<td>No. of qualified staff</td>
</tr>
<tr>
<td>Equipment</td>
<td>No. of materials stocked</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination</td>
<td>No. of patients examined</td>
</tr>
<tr>
<td>Surgery</td>
<td>No. of patients operated</td>
</tr>
<tr>
<td>Counseling</td>
<td>No. of patients given counseling</td>
</tr>
<tr>
<td>School children screening</td>
<td>No. of children screened</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>People who got examined</td>
<td>No. of problem cases Vs No. of pts. Examined</td>
</tr>
<tr>
<td>People who got operated</td>
<td>No. patients examined by each doctor</td>
</tr>
<tr>
<td>People who received counseling</td>
<td>Counselor Vs No. of cases counseled, accepted</td>
</tr>
<tr>
<td>School children who were examined</td>
<td>Complication rate by doctor, surgical procedure</td>
</tr>
</tbody>
</table>

Process: It is a set of activities in which program resources are used to achieve the expected results.

- Screening
- Outpatient clinics
- Vision correction
- Surgeries
- School health checkup
- Vitamin A supplementation
Developing Indicators

Process

Diagnosis
- Number of people screened
- Number of people identified with visual impairment
- Number of people found fit for surgery

Output (Immediate results obtained by the program through the execution of activities)

Treatment
- Number of people treated
- Number of people operated
- Number of patients received glasses
- Number of patients referred to basehospital

Outcome

- Number of people got vision corrected/restored
- Number of complications/surgeon
- Number of complications/center
- Client satisfaction

Individual’s Performance

- Number of people screened/worker
- Number of people diagnosed/worker
- Number of people operated/surgeon
- Number of complications/surgeon

Equipment utilization

- No of procedures/ OT
- No of procedures/machine
- No of patients transported/vehicle

Quantitative Vs Qualitative

- Number of OTs vs Number of OTs with aseptic conditions
- Number of staff vs number of competent staff
- No. of people operated vs No. of people whose vision is restored
- No. of people operated vs No. of complications
**MIS Indicators Quadrant**

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Low</th>
<th>Good System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low input Poor System</td>
<td>Low input Good system</td>
</tr>
</tbody>
</table>

- **Hi** Excessive Input Poor System
- **Low** Adequate Input

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**Problems in Monitoring**

- Many decisions are made based on past experience and intuitions
- Inadequate data available with Partner
  - Help them to setup appropriate systems & procedures
- Getting data/reports on time
  - Understand their problem and facilitate
- Incomplete or inconsistency
  - Design questionnaire/FORMS to address?? How
- Too much of Data collected

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**Data and Information**

- Abstract data has limited value
- Information is data that has been given meaning
- Data should be compared
  - With established plans
  - Longitudinal
  - Cross section

- We have done 2500 surgeries in 2007
  - Against 1800 in 6 -> 40% increase

- We had 5 infection cases in 2007
  - Surgeries:25,000 -> 5/25,000=0.02%
  - In 2006 rate 0.034%

- **Monthly Perf**

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**Presentation of data**

- Calculate Percentage
- Graphs- line, bar and pie diagram

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**Outpatients Arrival Pattern**

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Advised</th>
<th>1 Week</th>
<th>1 Month</th>
<th>2 Months</th>
<th>3 Months</th>
<th>Total Operated</th>
<th>% Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN</td>
<td>5,236</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>5,236</td>
<td>74.33</td>
</tr>
<tr>
<td>FEB</td>
<td>4,172</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>4,172</td>
<td>74.33</td>
</tr>
<tr>
<td>MAR</td>
<td>3,177</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>3,177</td>
<td>74.33</td>
</tr>
<tr>
<td>APR</td>
<td>2,739</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>2,739</td>
<td>74.33</td>
</tr>
<tr>
<td>MAY</td>
<td>3,385</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>3,385</td>
<td>74.33</td>
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<tr>
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<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>3,325</td>
<td>74.33</td>
</tr>
<tr>
<td>JUL</td>
<td>3,579</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>3,579</td>
<td>74.33</td>
</tr>
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<td>AUG</td>
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<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>2,200</td>
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<td>SEP</td>
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<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>3,256</td>
<td>74.33</td>
</tr>
<tr>
<td>OCT</td>
<td>2,040</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>2,040</td>
<td>74.33</td>
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<tr>
<td>NOV</td>
<td>2,706</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>1,275</td>
<td>2,706</td>
<td>74.33</td>
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<tr>
<td>Total</td>
<td>32,484</td>
<td>14,444</td>
<td>14,444</td>
<td>14,444</td>
<td>14,444</td>
<td>32,484</td>
<td>74.33</td>
</tr>
</tbody>
</table>

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**Surgery Acceptance Rate**

- **Outpatients Arrival Pattern**
  - **23%**
  - **77%**

---

- **Abstract data has limited value**
- **Information is data that has been given meaning**
- **Data should be compared**
  - With established plans
  - Longitudinal
  - Cross section

- We have done 2500 surgeries in 2007
  - Against 1800 in 6 -> 40% increase

- We had 5 infection cases in 2007
  - Surgeries:25,000 -> 5/25,000=0.02%
  - In 2006 rate 0.034%

- **Monthly Perf**

---

- **Calculate Percentage**
- **Graphs- line, bar and pie diagram**
Problem Solving – Shortage of Beds
Inpatients Length of Stay

<table>
<thead>
<tr>
<th>ICD_CODE</th>
<th>ICD DESCRIPTION</th>
<th>N</th>
<th>Pre-OP</th>
<th>Post-OP</th>
<th>Total</th>
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<tbody>
<tr>
<td>13.7N</td>
<td>PHACO WITH ACRYSOFT( NATURAL)</td>
<td>20</td>
<td>1.2</td>
<td>1.0</td>
<td>2.2</td>
</tr>
<tr>
<td>13.71P</td>
<td>INTRA OCULAR LENS INSERTION</td>
<td>54</td>
<td>1.2</td>
<td>1.9</td>
<td>3.1</td>
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<tr>
<td>13.75</td>
<td>PHACO WITH ACRYSOFT LENS</td>
<td>111</td>
<td>1.2</td>
<td>1.2</td>
<td>2.4</td>
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<tr>
<td>13.75P</td>
<td>IOL P.C ( PHACO )</td>
<td>241</td>
<td>1.1</td>
<td>1.1</td>
<td>2.2</td>
</tr>
<tr>
<td>13.78</td>
<td>PHACO WITH ACRYSOFT LENS</td>
<td>111</td>
<td>1.2</td>
<td>1.2</td>
<td>2.4</td>
</tr>
<tr>
<td>13.75C</td>
<td>PHACO WITH AUROFOLDABLE</td>
<td>406</td>
<td>1.1</td>
<td>1.1</td>
<td>2.2</td>
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</table>

Utilization of Beds

<table>
<thead>
<tr>
<th>Room Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>ASA</th>
<th>ASN</th>
<th>SUT</th>
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<tbody>
<tr>
<td>Jun'05</td>
<td>78%</td>
<td>40%</td>
<td>44%</td>
<td>22%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>Jul'05</td>
<td>73%</td>
<td>45%</td>
<td>49%</td>
<td>26%</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>Aug'05</td>
<td>68%</td>
<td>36%</td>
<td>41%</td>
<td>6%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Sep'05</td>
<td>69%</td>
<td>43%</td>
<td>42%</td>
<td>20%</td>
<td>22%</td>
<td>40%</td>
</tr>
<tr>
<td>Oct'05</td>
<td>53%</td>
<td>24%</td>
<td>40%</td>
<td>15%</td>
<td>16%</td>
<td>31%</td>
</tr>
<tr>
<td>Nov'05</td>
<td>64%</td>
<td>44%</td>
<td>43%</td>
<td>10%</td>
<td>26%</td>
<td>12%</td>
</tr>
<tr>
<td>Dec'05</td>
<td>67%</td>
<td>41%</td>
<td>40%</td>
<td>6%</td>
<td>21%</td>
<td>11%</td>
</tr>
<tr>
<td>Jan'06</td>
<td>59%</td>
<td>34%</td>
<td>27%</td>
<td>0%</td>
<td>19%</td>
<td>24%</td>
</tr>
<tr>
<td>Feb'06</td>
<td>77%</td>
<td>50%</td>
<td>40%</td>
<td>18%</td>
<td>31%</td>
<td>48%</td>
</tr>
<tr>
<td>Mar'06</td>
<td>77%</td>
<td>58%</td>
<td>58%</td>
<td>45%</td>
<td>40%</td>
<td>24%</td>
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</table>

Complication Analysis for QA

3. IntraOperative COMPLICATIONS

<table>
<thead>
<tr>
<th>Grade and Type</th>
<th>Nos.</th>
<th>%</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>DESCEMETS STRIPPING</td>
<td>3</td>
<td>0.97</td>
<td>0.00</td>
</tr>
<tr>
<td>WOUND - POSITIVE PRESSURE</td>
<td>2</td>
<td>0.65</td>
<td>0.00</td>
</tr>
<tr>
<td>SCLERAL TUNNEL - PREMATURE ENTRY</td>
<td>3</td>
<td>0.97</td>
<td>0.00</td>
</tr>
<tr>
<td>IRIDODIALYSIS</td>
<td>1</td>
<td>0.32</td>
<td>4.00</td>
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<tr>
<td>PC RENT - NO VITREOUS DISTURBUANCE</td>
<td>3</td>
<td>1.61</td>
<td>36.00</td>
</tr>
<tr>
<td>ZONULAR DIALYSIS - NO VIT. DISTURBANCE</td>
<td>3</td>
<td>0.97</td>
<td>18.00</td>
</tr>
<tr>
<td>FAILURE TO IMPLANT</td>
<td>2</td>
<td>0.65</td>
<td>20.00</td>
</tr>
<tr>
<td>PC RENT WITH VITREOUS DISTURBANCE</td>
<td>3</td>
<td>0.97</td>
<td>30.00</td>
</tr>
<tr>
<td>ZONULAR DIALYSIS - VIT. DISTURBANCE - YES</td>
<td>1</td>
<td>0.32</td>
<td>10.00</td>
</tr>
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</table>

Complication Score Analysis

Finance Income and Expenditure Statement

<table>
<thead>
<tr>
<th>Income</th>
<th>Month (in %)</th>
<th>Cumulative (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>37,079</td>
<td>10.1</td>
</tr>
<tr>
<td>Medicine &amp; Surgical Consumption</td>
<td>22,129</td>
<td>5.98</td>
</tr>
<tr>
<td>Depreciation</td>
<td>17,877</td>
<td>4.82</td>
</tr>
<tr>
<td>Rent</td>
<td>1,782</td>
<td>0.49</td>
</tr>
<tr>
<td>Total (A)</td>
<td>78,067</td>
<td>21.48</td>
</tr>
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</table>

Expenses

<table>
<thead>
<tr>
<th>Item</th>
<th>Month (in %)</th>
<th>Cumulative (in %)</th>
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</thead>
<tbody>
<tr>
<td>Salary</td>
<td>14,333</td>
<td>3.86</td>
</tr>
<tr>
<td>Depreciation</td>
<td>1,845</td>
<td>0.51</td>
</tr>
<tr>
<td>Rent</td>
<td>1,983</td>
<td>0.54</td>
</tr>
<tr>
<td>Total (A)</td>
<td>18,061</td>
<td>4.81</td>
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Net Income

<table>
<thead>
<tr>
<th>Income</th>
<th>Total (A)</th>
<th>Total (B)</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>78,067</td>
<td>18,061</td>
<td>59,906</td>
<td></td>
</tr>
</tbody>
</table>

FEEDBACK

Noted leadership trainer John E. Jones said:

- “What gets measured gets done”
- “What gets measured and fed back gets done well”
- “What gets rewarded gets repeated.”
Feedback

Feedback is information about performance that leads to action to change or maintain performance.

Feedback Importance

- Encouragement to the partner
- Helpful to provide advice
- Partners could understand themselves better
- Encourage partners to look for opportunities to share their experience

Feedback would contain

- Performance Indicators
- Targets & Achievements
- Appreciation
- Add value to their MIS

- Graphs, Trends, %, compare

Feedback

Using Charts

Cataract Surgeries:

- Target: 1000
- Performance:
  - Jan: 90%
  - Feb: 85%
  - Mar: 95%
  - Apr: 80%
  - May: 75%
  - Jun: 70%
  - Jul: 65%
  - Aug: 60%
  - Sep: 55%
  - Oct: 50%
  - Nov: 45%
  - Dec: 40%

Eye Camps:

- Target: 20
- Performance:
  - Jan: 90%
  - Feb: 85%
  - Mar: 90%
  - Apr: 90%
  - May: 85%
  - Jun: 80%
  - Jul: 75%
  - Aug: 70%
  - Sep: 65%
  - Oct: 60%
  - Nov: 55%
  - Dec: 50%
Feedback Models

- Phone call
- Reports -> email/post
- Performance review meeting

Effective Monitoring

- Ensure system in place for data gathering
- Be purposeful and conducted to answer specific questions.
- Use the best available science and established protocols to collect and evaluate the data.
- Use modern information management techniques and tools.
- Apply stringent selection criteria so that a monitoring activity is only conducted if it is feasible, realistic and affordable.
- Emphasize evaluation as much as the collection of the data
- Be done in collaboration with others
- Never forget giving feedback