

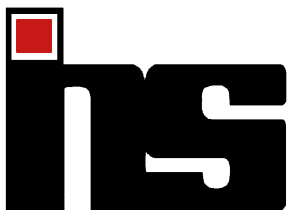
Maharashtra Health Systems Development Project (MHSDP):

Hospital Data Validity in MHSDP

11 November, 2002

Prasanta Mahapatra

J. Anjaneyulu



Institute of Health Systems

HACA Bhavan, Hyderabad, AP 500004, INDIA

Overview of work by data validation work by IHS.

- 15 March, 2002:
 - ▶ Data validation work assigned to IHS.
 - ▶ Project Duration = Six Months.
- 12 April, 2002: Work Started by IHS.
 - ▶ Preparatory steps: Complete in April, 02.
 - ▶ Monthly Analysis and Field visits: May-Oct. 02
 - ▶ Six monthly report furnished.
 - ▶ Periodical briefings = 3 including this.
 - ▶ MH Central Software.
 - ▶ Two Collaborative Workshops.

Direct measure of data validity - Some Definitions

- **Primary registers:**
 - ▶ Capture events as they happen. True log of translations.
- **Intermediate registers:**
 - ▶ Contains periodical (daily / weekly / monthly) abstracts. E.g. Hospital Activity Information (HAI) registers.
- **Data elements:**
 - ▶ Cells in a report that can not be computed from other cells.
- **Reported value:**
 - ▶ This is the figure sent by hospitals to PMC. May be an abstract from the primary or intermediate registers.
- **Collated value:**
 - ▶ This value comes from the primary register. It's collected by IHS staff during their visit to the concerned hospitals.

Direct measure of data validity - Some Statistics

Absolute Deviation= Reported value - Collated value

Relative Deviation=
$$\frac{\text{Reported value} - \text{Collated value}}{\text{Reported or Collated value}}$$

Direct measure of data validity - Some Indicators

- **Tallied:** This measure tells, percentage of data elements for which the reported value exactly tallied with collated value.
- **Marginal deviation:** The relative deviation is less than 5%. Or the relative deviation is more than 5%, but the absolute deviation is not more than one.
- **Significant deviation:** The % deviation should greater than 5% and absolute size of the deviation is greater than one.

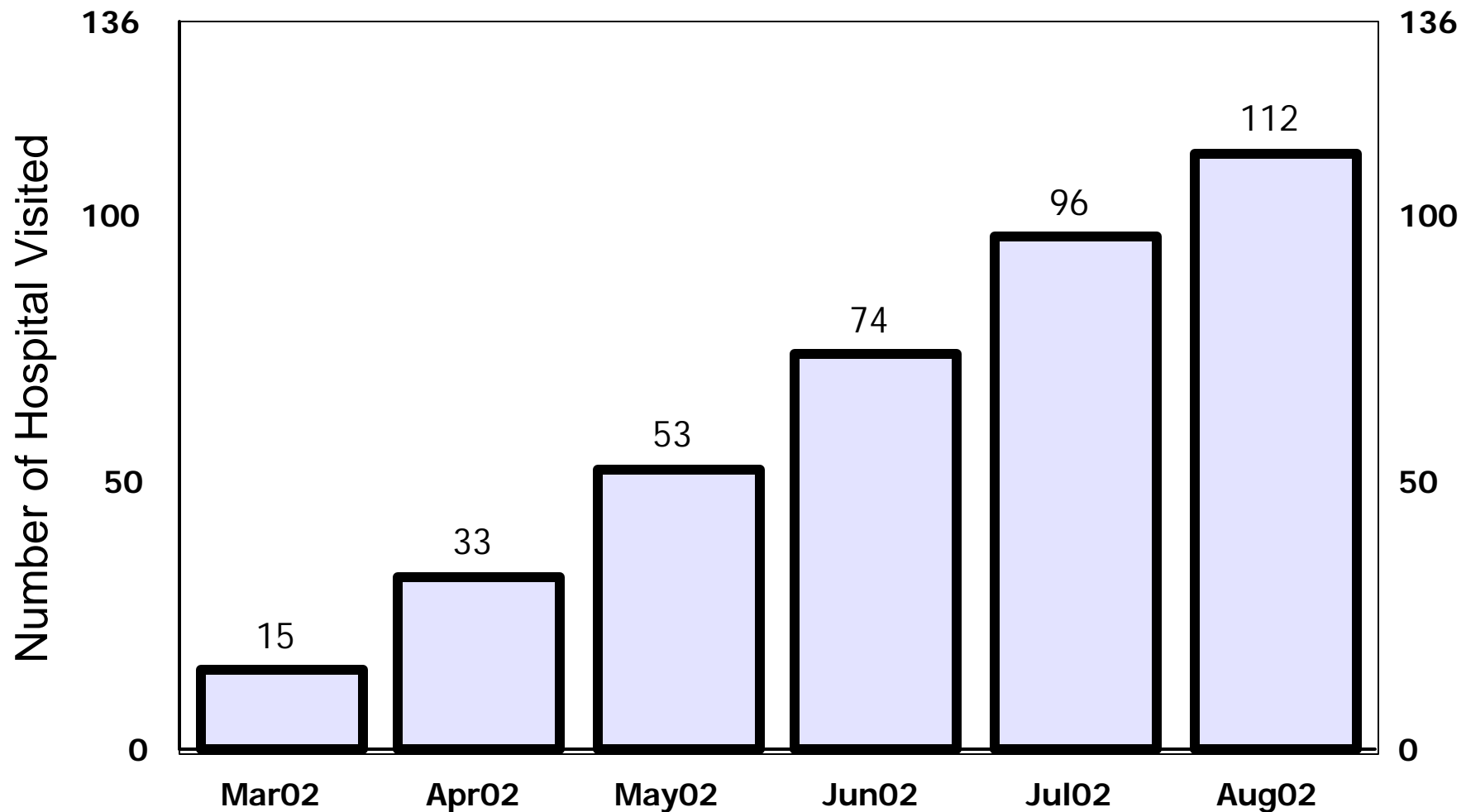
Indicator of potential data discrepancy

Carry Over Admissions (COA):

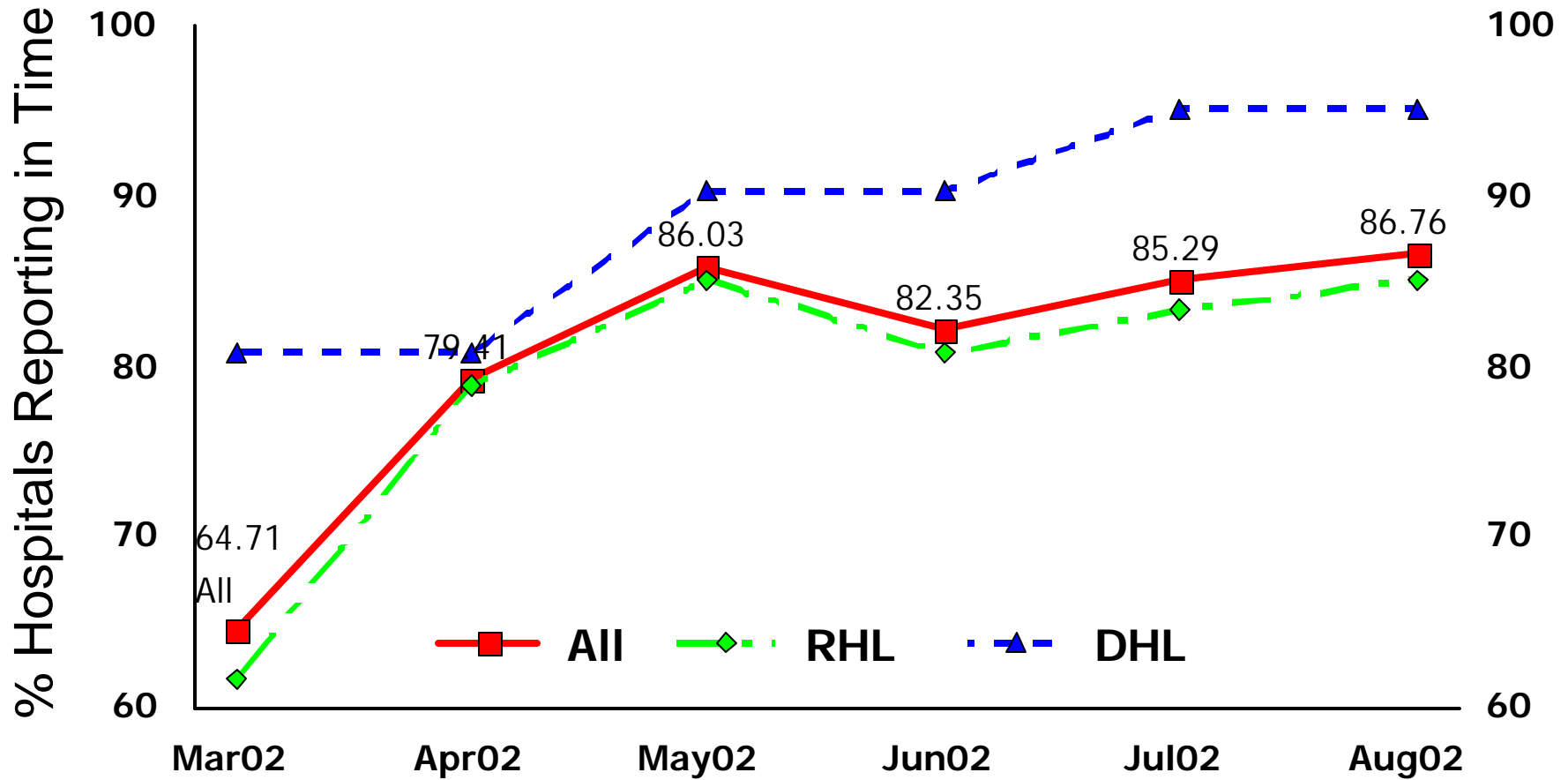
= Admissions -
Discharges

Carry Over Admissions Per Bed = $\frac{\text{COA}}{\text{Bed Capacity}}$

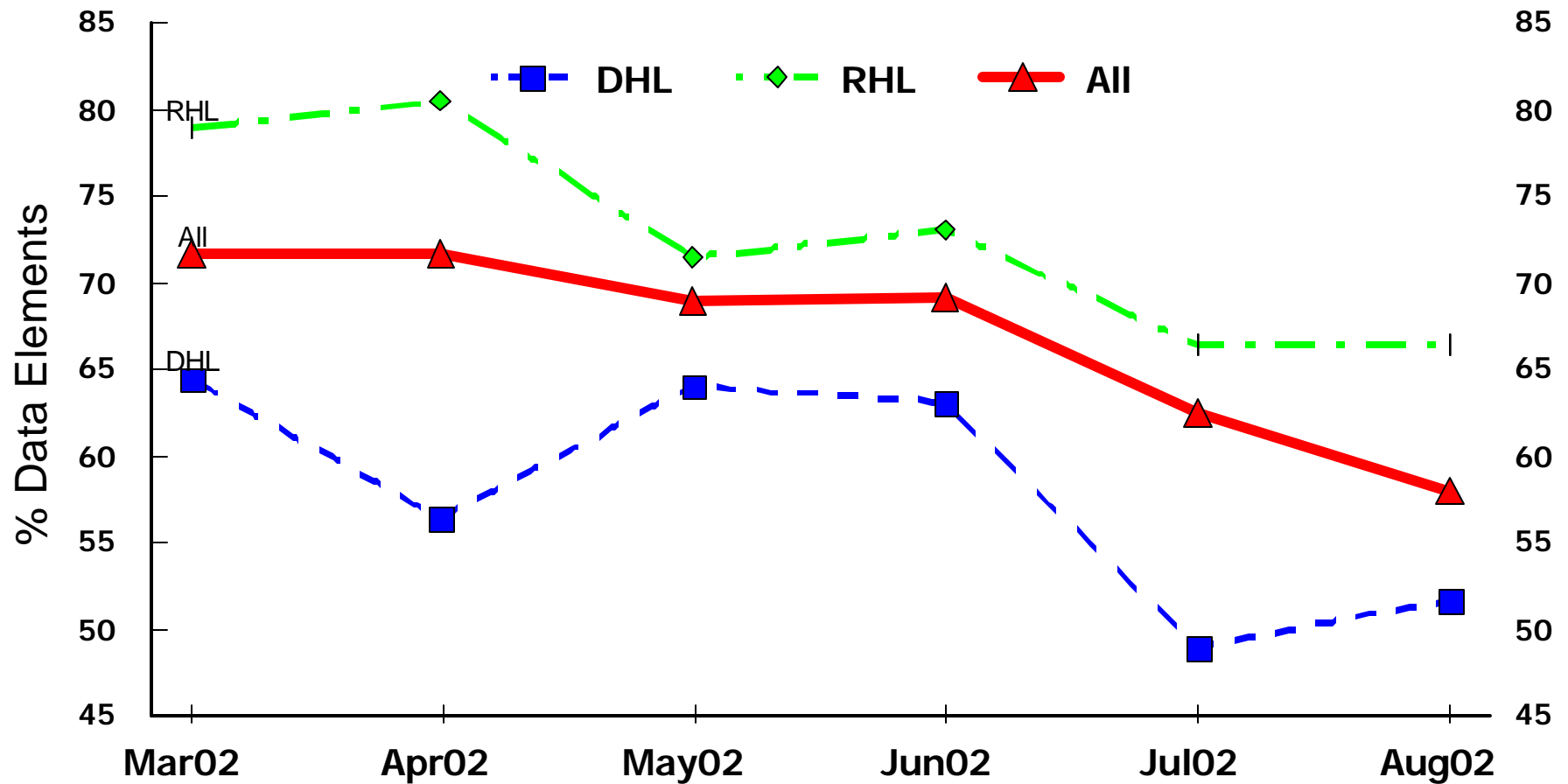
Cumulative number of hospitals visited by IHS team.



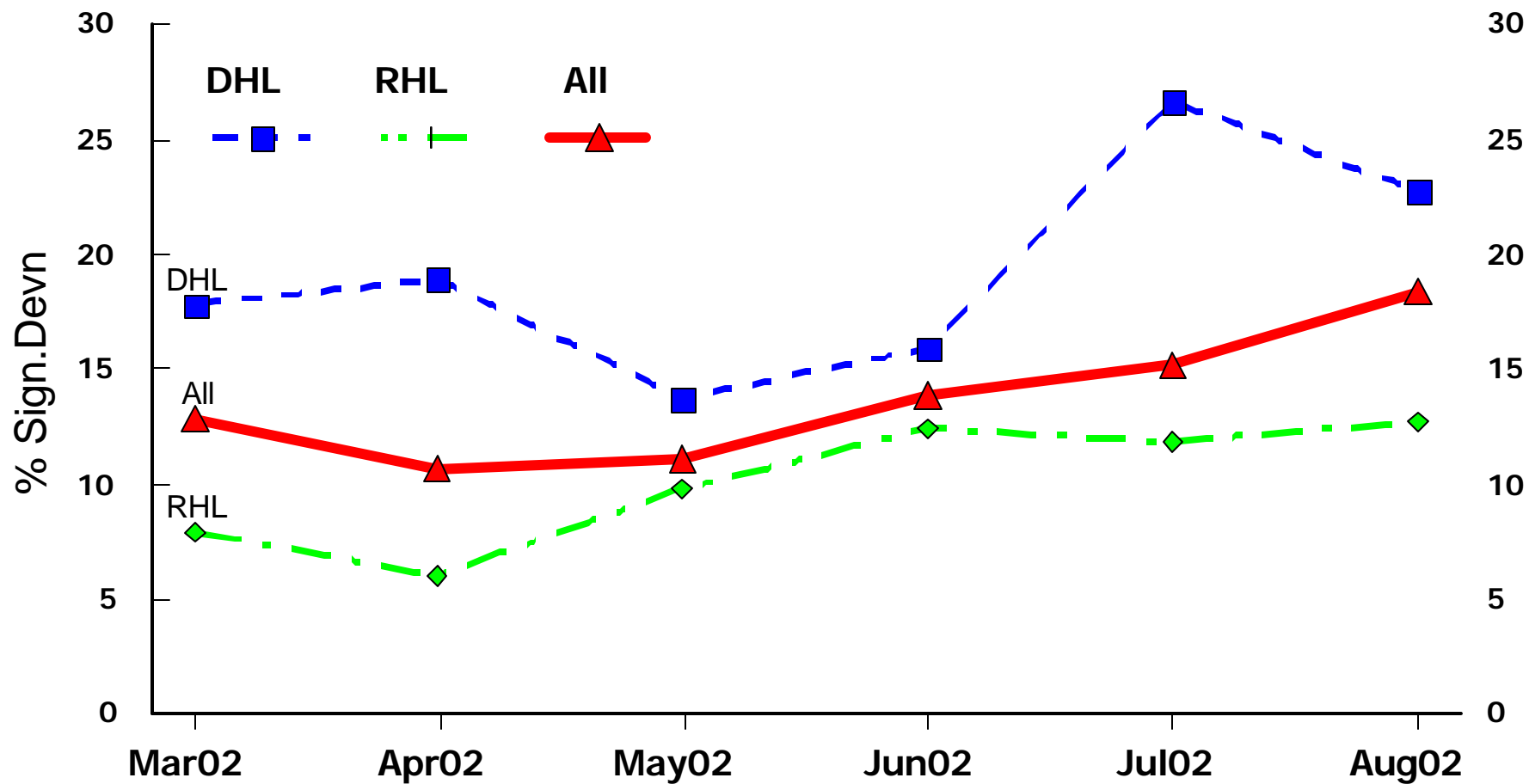
% Hospitals Reporting in Time



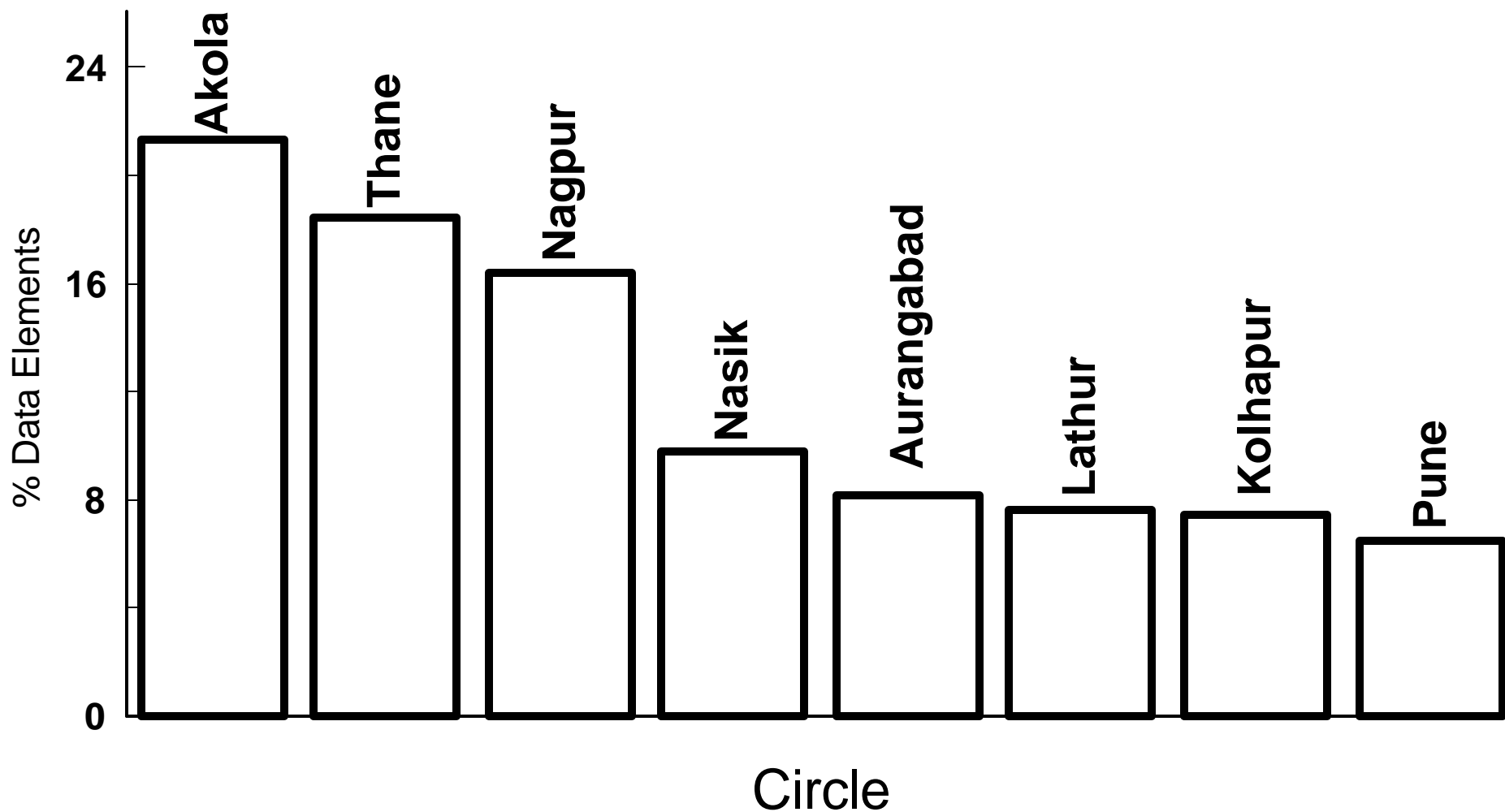
Tallied Data Elements



Prevalence of Significant Data Deviations



Circle wise prevalence of significant deviation between reported and collated data from MHSDP Hospitals, March-August, 2002.



Recommendations

Improve Clarity of Definitions

- **Counting of diagnostic Tests:**
 - ▶ X-Ray: Count patients, films or exposures?
 - ▶ Sputum tests: Count multiple sputum examination for same patient as one or number of sputum examinations?
 - ▶ Testing of Urine for pregnancy: Biochemical or Urine?
- **Counting of a Newborn baby as Admissions:**
- **Major and minor surgery:**
 - ▶ Operations under short general anaesthesia.
- **Counting of surgeries performed outside the hospital:**
 - ▶ In other health care institutions (HCIs).
 - ▶ In camps organised by other HCIs.

Improve Reporting System

- Maintenance of primary registers:
 - ▶ Hospital records and registration memorandum.
 - ▶ Administrative reviews
- Transmission Errors:
 - ▶ Staff training,
 - ▶ Data validation visits, and
 - ▶ Computerisation.
- Premature reporting:
 - ▶ Instructions to stop the practice & Review current time lines.
- Social status information:
 - ▶ Training of hospital staff with assistance of social / Tribal welfare departments.
- Training of staff
 - ▶ About maintenance of hospital registers, and reporting of activities.
- Computerisation.

Thank You All!

We have enjoyed the work and have learnt many things.

