“Comparative analysis of Infant Health across districts of a High Focus State and a Non-High Focus State”

Presented By

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Organization

Statistics Department, Monitoring and Evaluation Division of MoHFW

HMIS

Health Management Information System

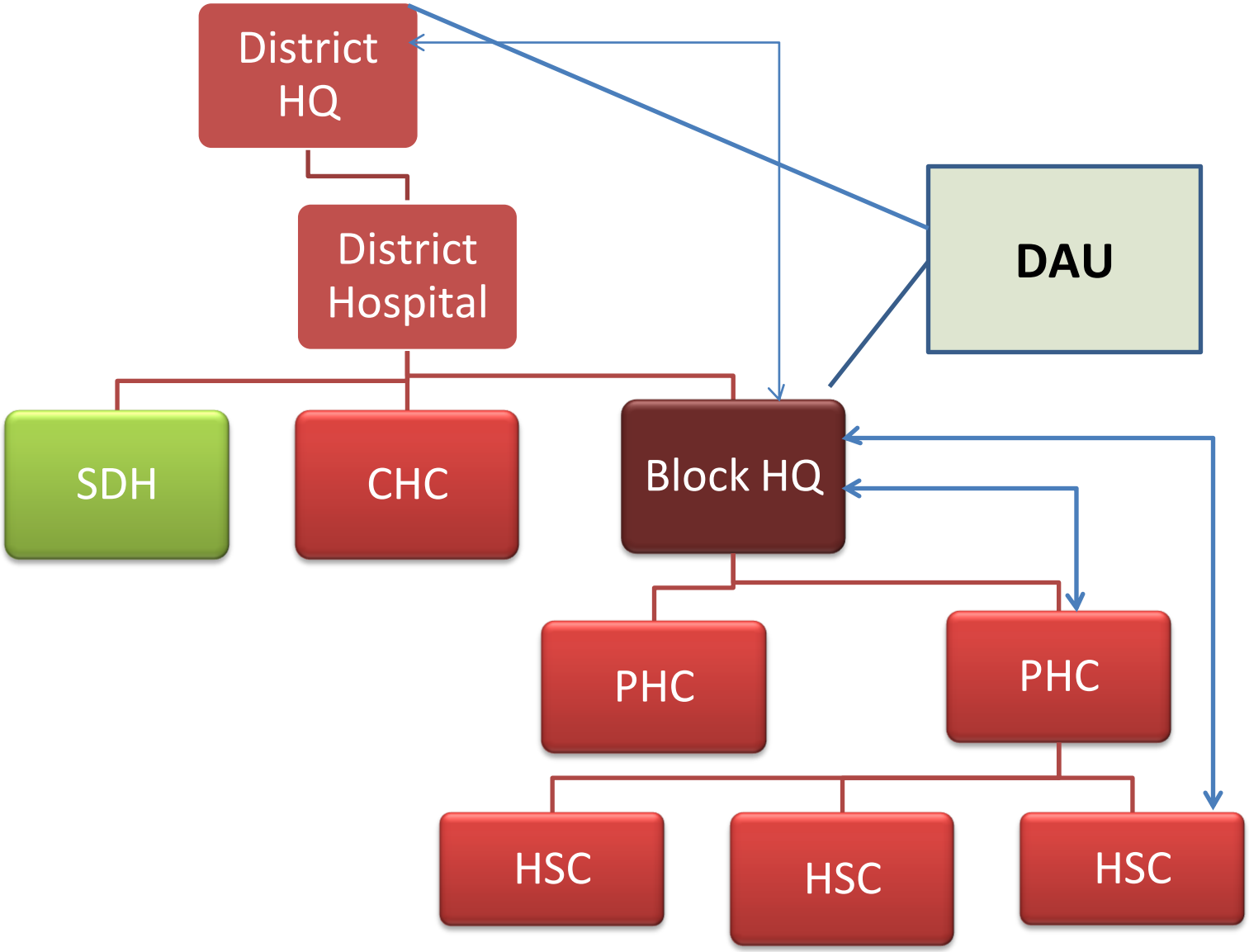
Number to Knowledge



HMIS

- Launched by the Ministry of Health and Family Welfare on 21st October, 2008
- “Single Window” for all public health data for the Ministry of Health and Family Welfare.
- 4500 page views daily with users from more than 43 countries
- Integration with various Health Programmes

Flow of Data


District HQ
District Hospital
DAU
SDH
CHC
Block HQ
PHC
PHC
HSC
HSC
HSC

Objectives

- The specific objectives covered under the study are
  1. Study and evaluate the existing birth trends among selected high focused and non-high focused state
  2. Assess the initiation of Breastfeeding Practices across districts among the selected states
  3. Study and determine the extent of Immunization Practices across districts in the selected states
  4. Propose Future Recommendations for improving data quality and child health interventions

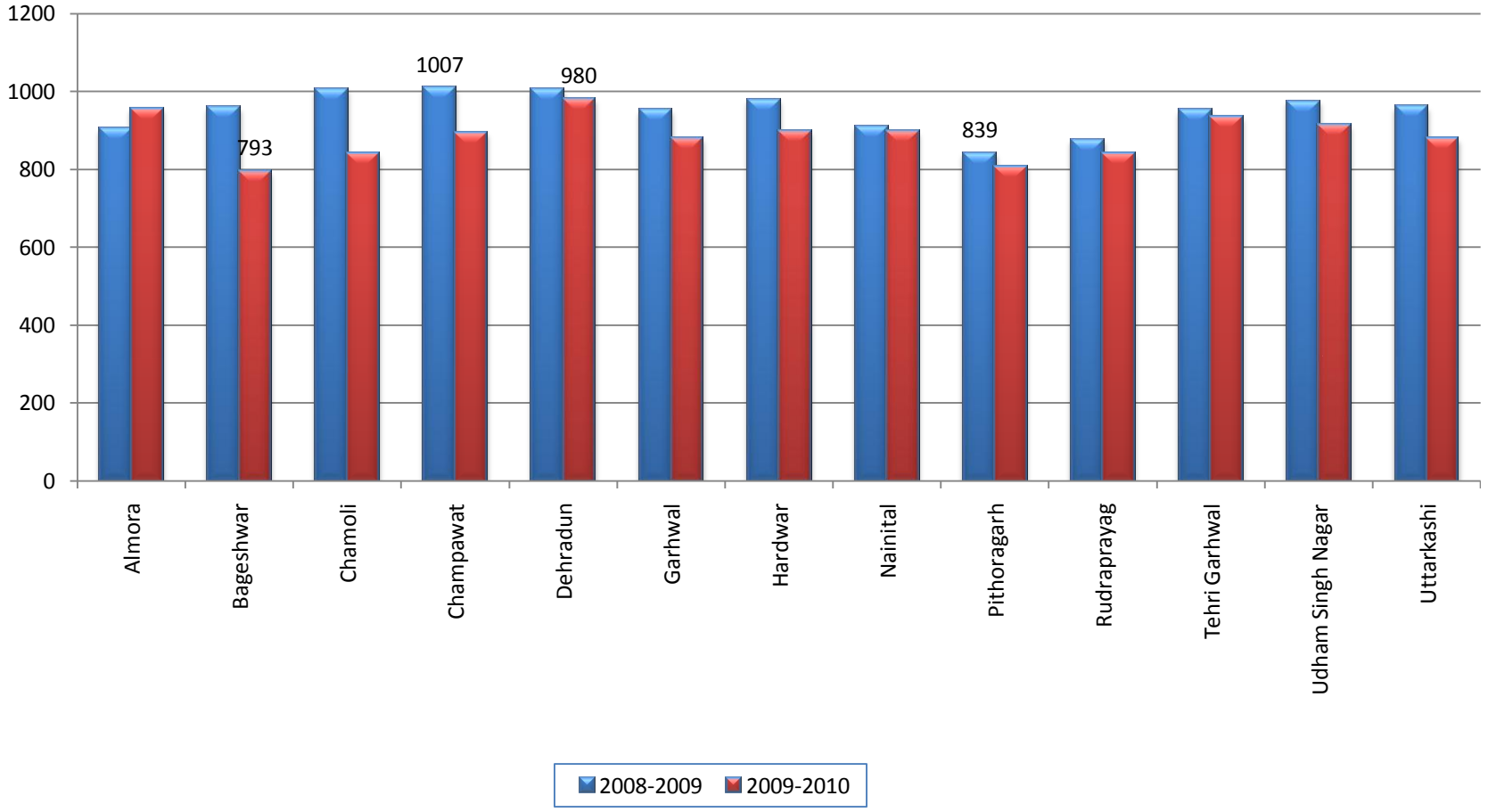
Methodology

- **Research Technique** - retrospective data analysis
- **Selection of States –** on the basis of classification done by NRHM and Number of districts
  a. **High Focus Large State**: Uttarakhand
  b. **Non High Focus Large State**: Kerala
- **Source of Data** – secondary data from HMIS portal
- **Output** – Tables and Graphs

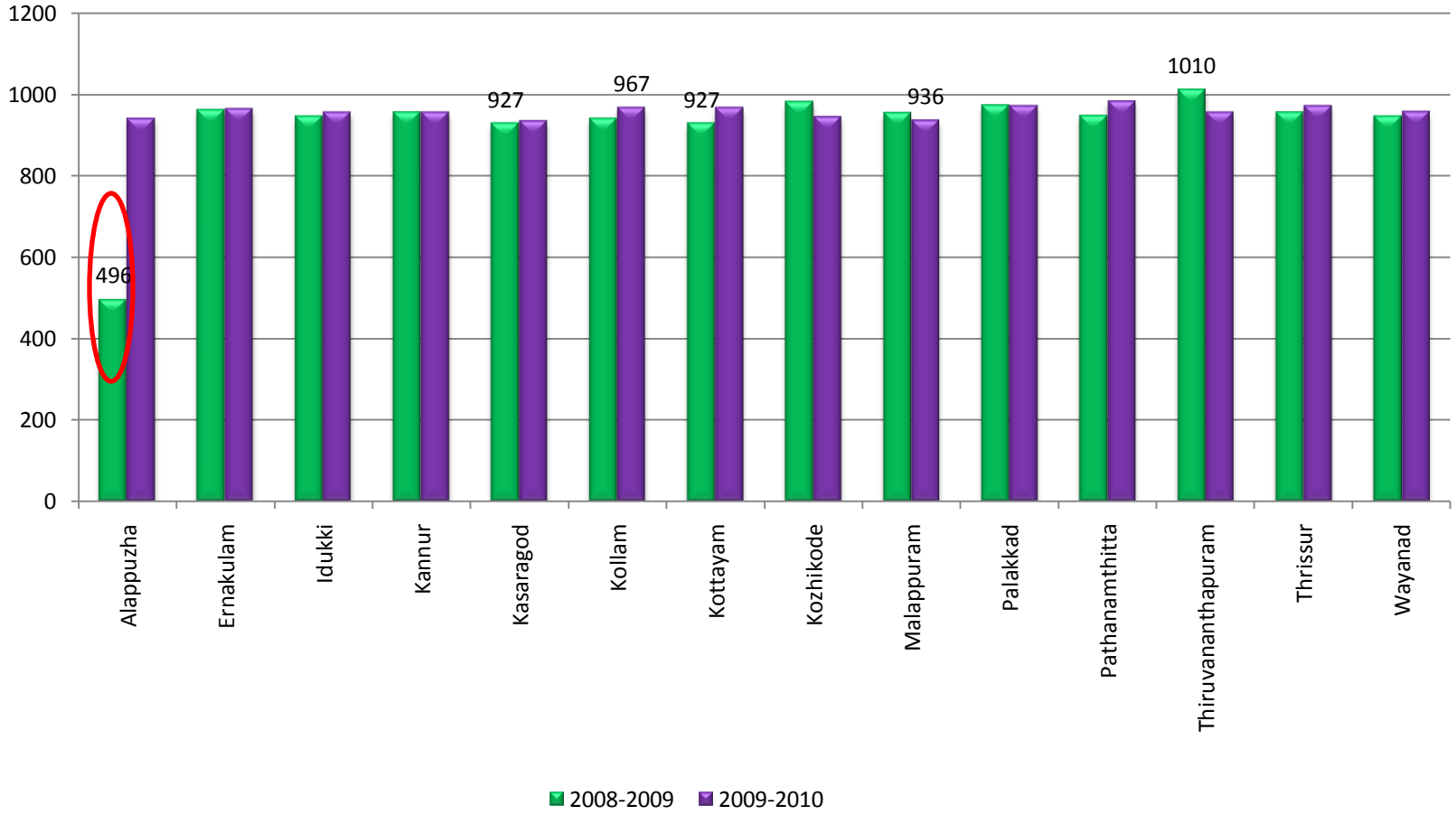
Reported Sex Ratio at birth

- Sex ratio: number of females per 1000 males.
- Sex discrimination in India – a concern
- Pre Natal Diagnostic Techniques Act (PNDT) 1994

Uttarakhand



Kerala

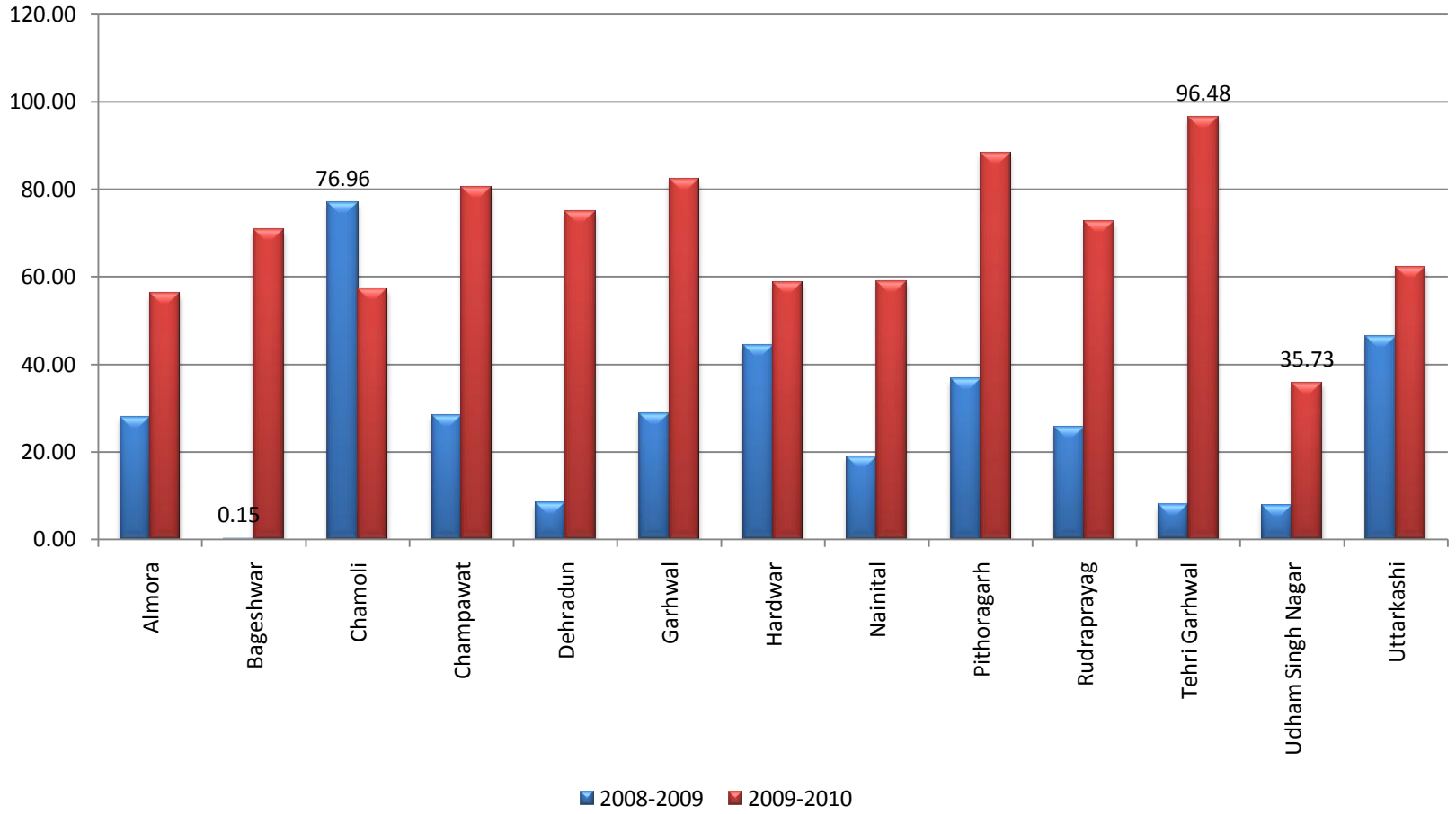

1200
1000
800
600
400
200
0
496
927
967
927
936
1010
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Uttarakhand reported higher sex ratio at birth (947) than Kerala (922) , 2008-2009
- Uttarakhand reported sex ratio of 884 while Kerala reported 958 2009-2010
- Data quality improvement

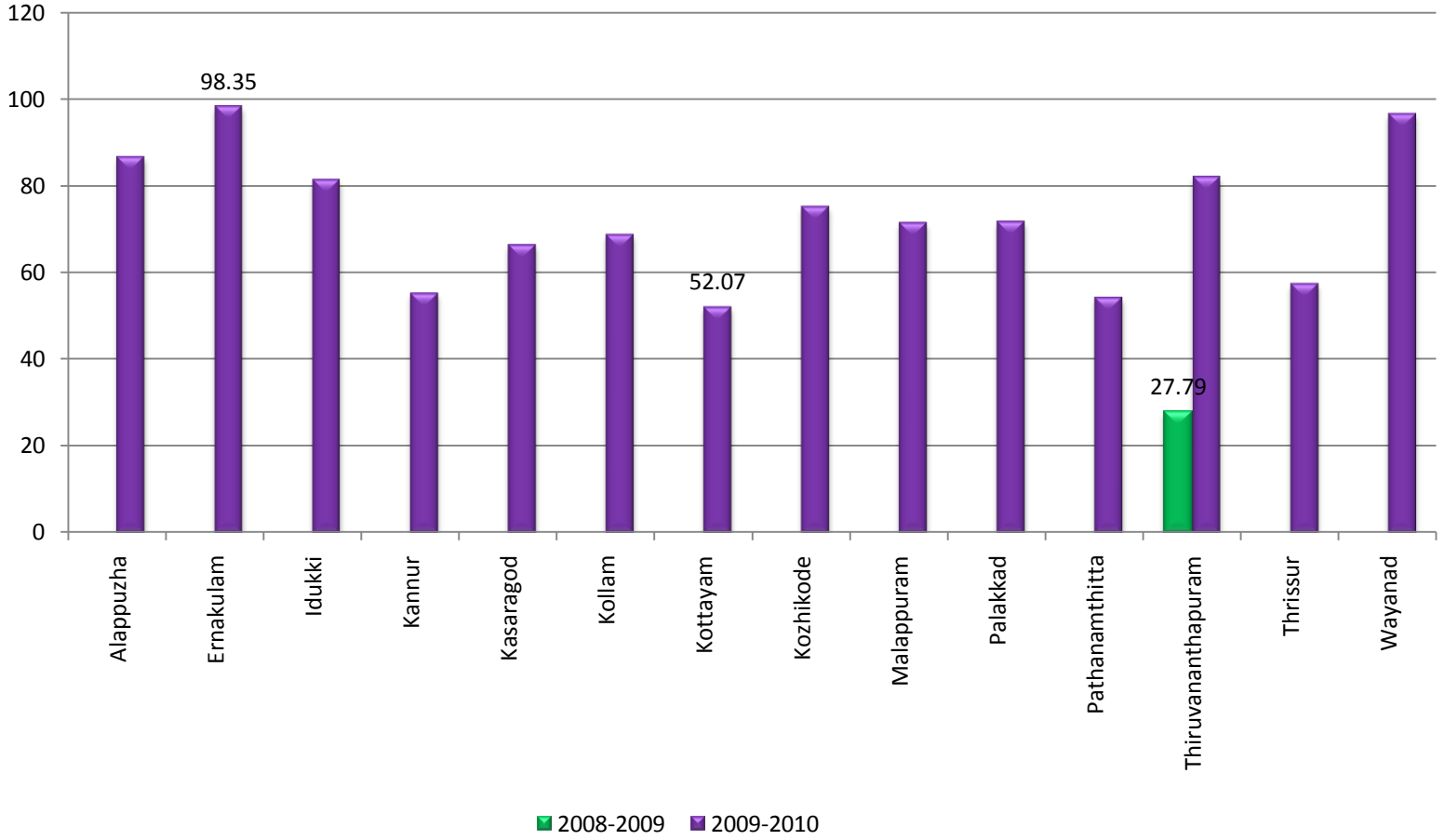
Early initiation of breastfeeding

- Breastfeeding optimum way of providing ideal and nourishing food to infants for their healthy growth and development
- WHO and UNICEF recommend breastfeeding should start within an hour of birth without giving any pre-lacteal feeds
- Very few infants get the advantage of breast milk within one hour of their life

Uttarakhand



Kerala

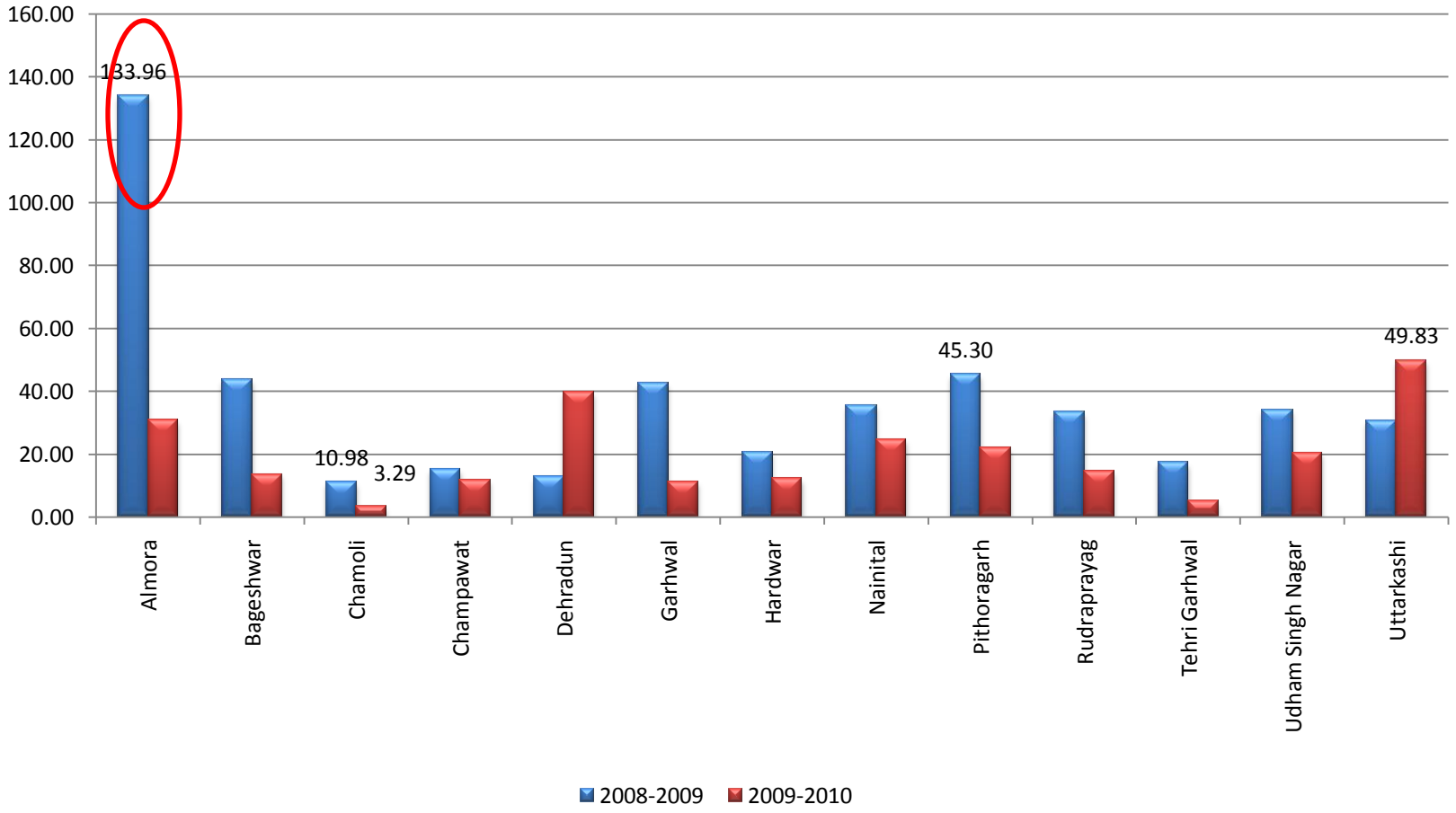

120
100
80
60
40
20
0
98.35
52.07
27.79
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Kerala poor reporting for 2008-2009
- Overall Kerala 72.72%; Uttarakhand 68.86%
- Indicating better knowledge among women

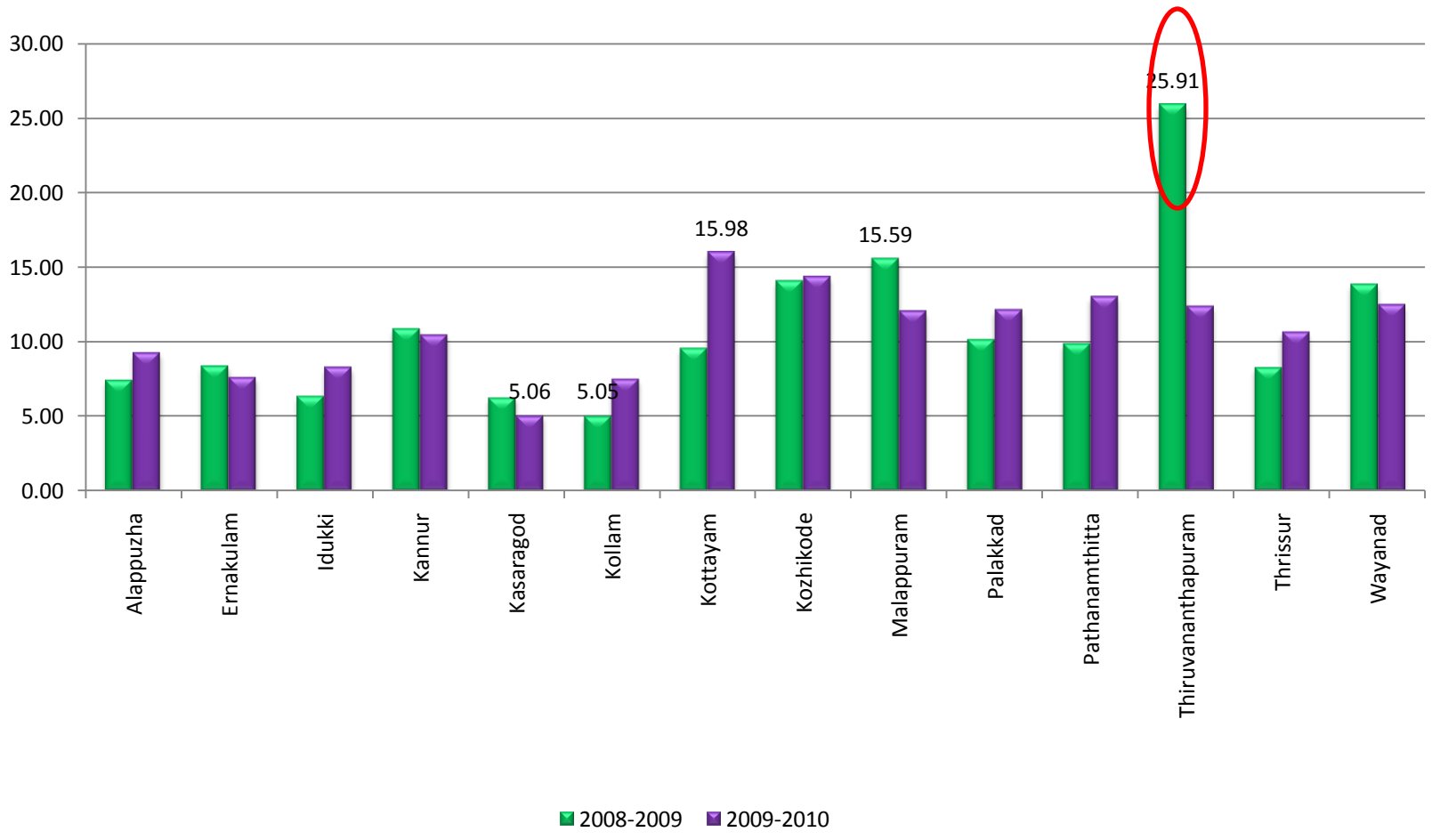
Low Birth weight

- WHO has defined low birth neonate as any neonate weighing less than 2500 gm at birth
- Directly indicated via maternal health
- Impaired growth in the womb
- Survival is difficult
- Survived much higher burden of disease and early mortality

Uttarakhand



Kerala

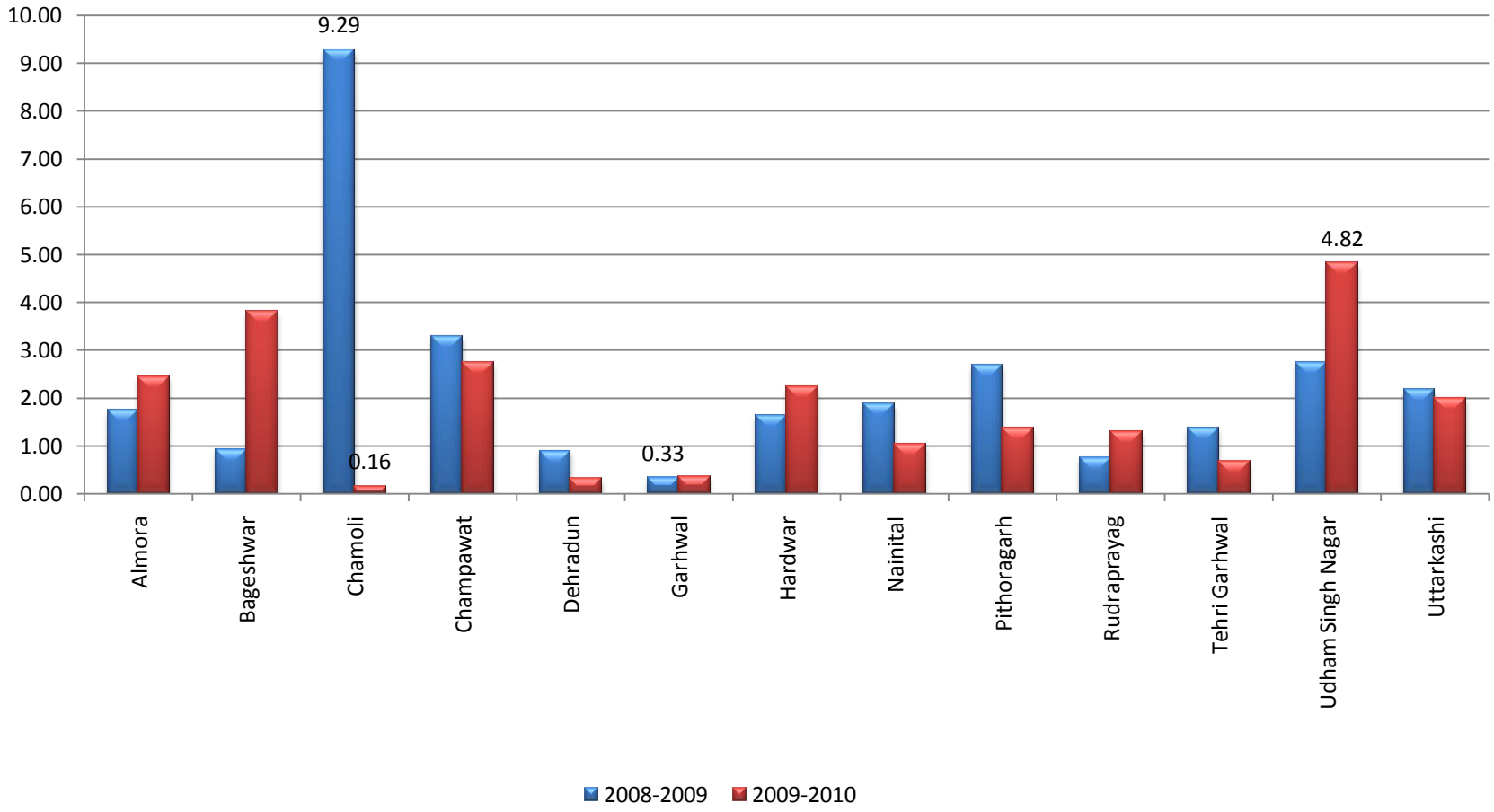

30.00
25.00
20.00
15.00
10.00
5.00
0.00
25.91
15.98
15.59
5.06
5.05
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Kerala lower proportion compared to Uttarakhand
- Primarily because of better of better ANC services and Literacy rate

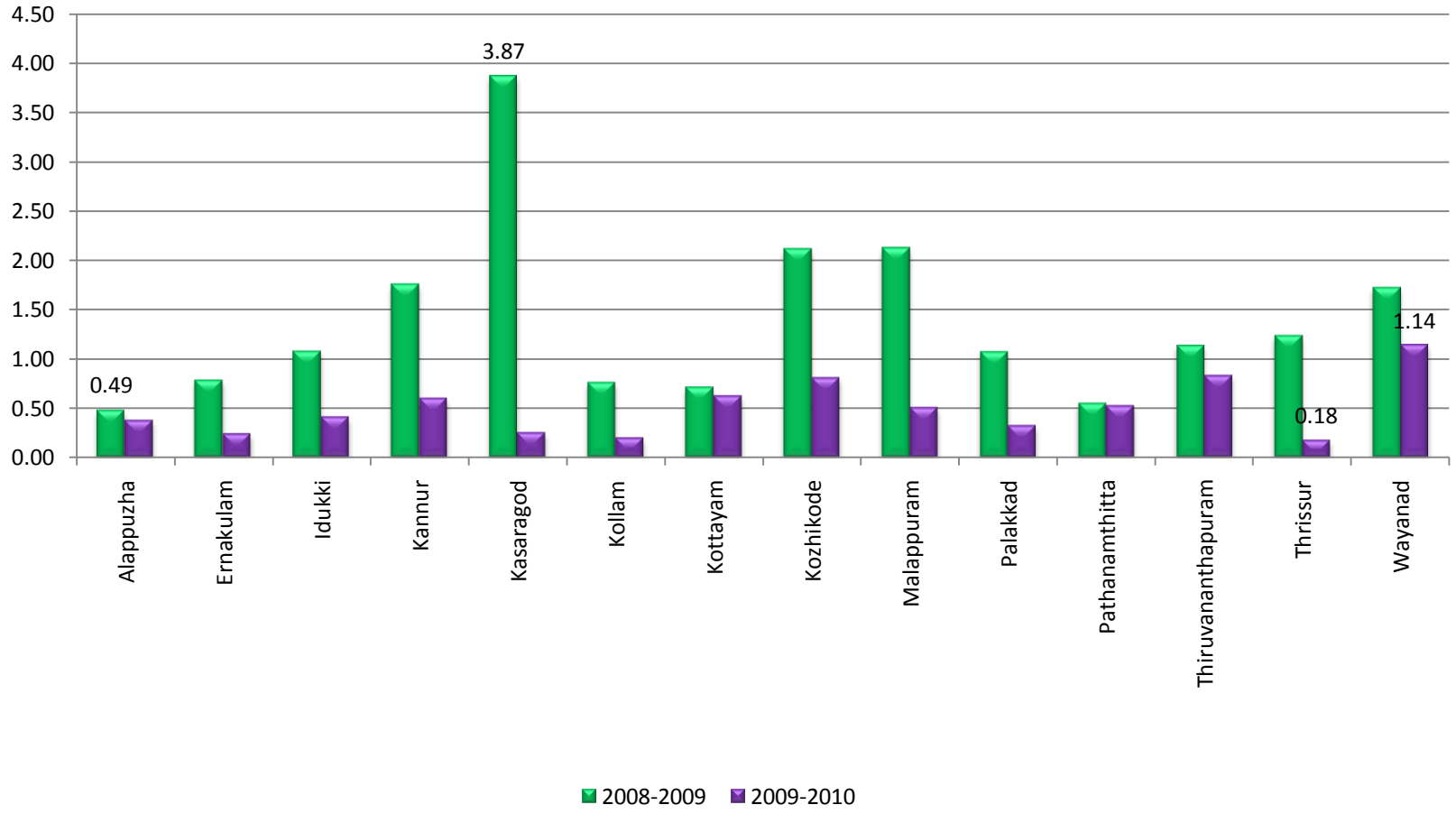
Still Births

- When a fetus dies in uterus after about 20 weeks, or during delivery, it is termed "stillborn“
- Still births may be due to maternal factors, fetal factors or uterine factor
- Still birth is usually diagnosed before birth
- Causes of a large percentage of stillbirths remain unknown

Uttarakhand



Kerala

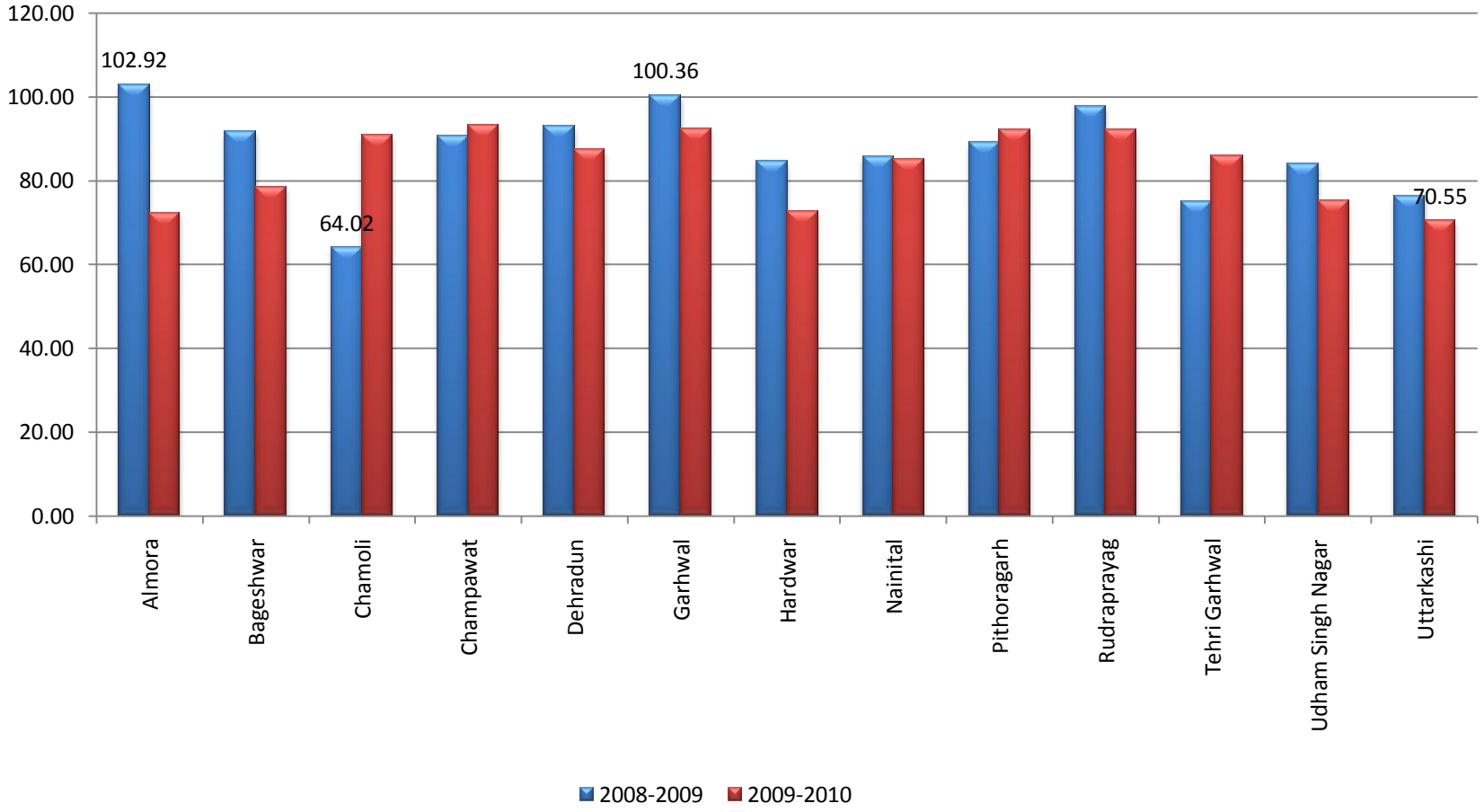

4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3.87
0.49
1.14
0.18
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Kerala has lower proportion of still births in comparison to Uttarakhand for both the year
- Can be linked to better ANC coverage

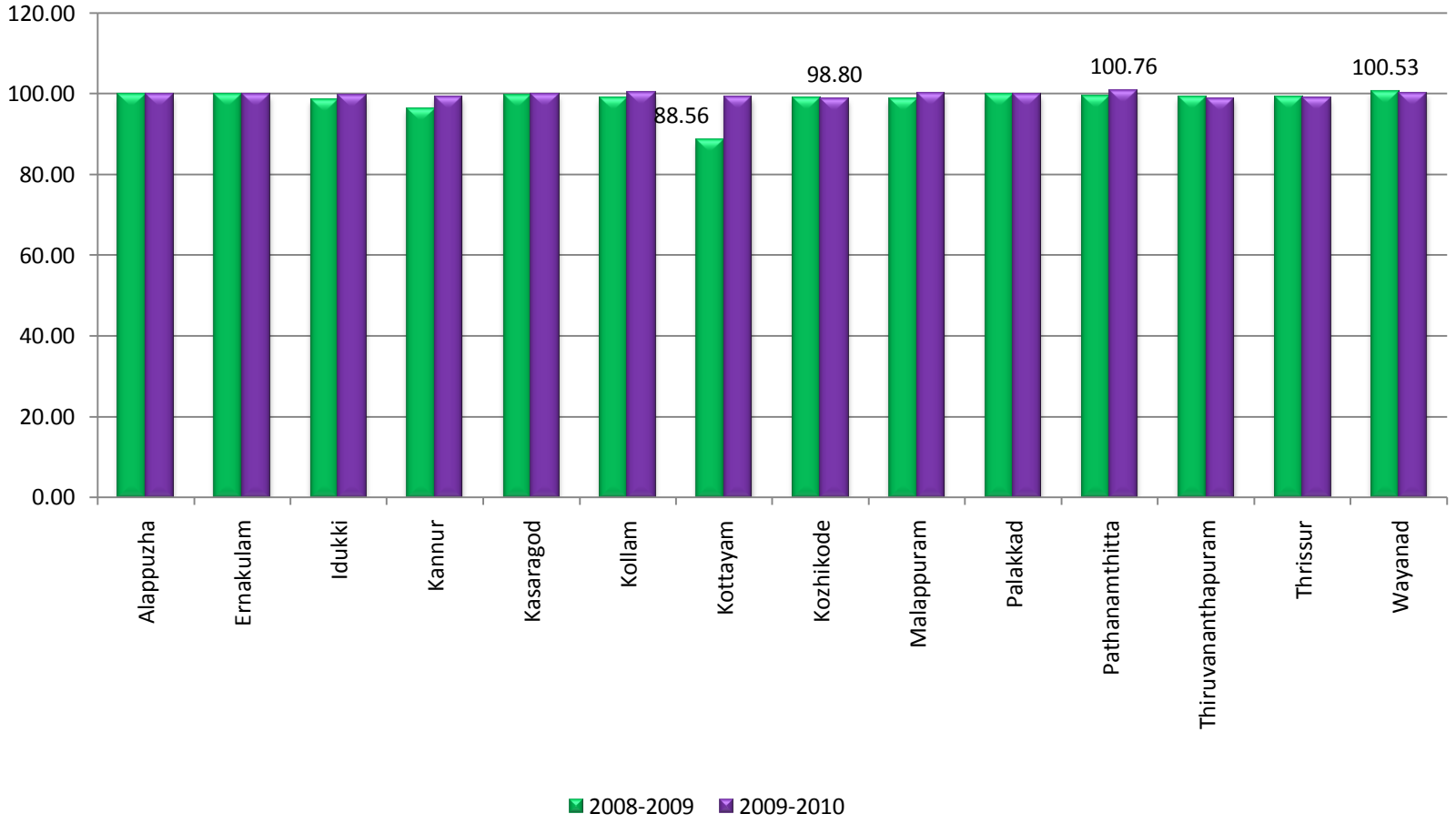
Immunization Sessions (Held to Planned)

- Number of immunization sessions planned as part of facility / block/ district action plan by ANM
- This reflects the number of sessions needed to cover her entire district in a month.
- Immunization sessions held during the month is the Actual number of immunizations sessions held at the facility

Uttarakhand



Kerala


120.00
100.00
80.00
60.00
40.00
20.00
0.00
88.56
98.80
100.76
100.53
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

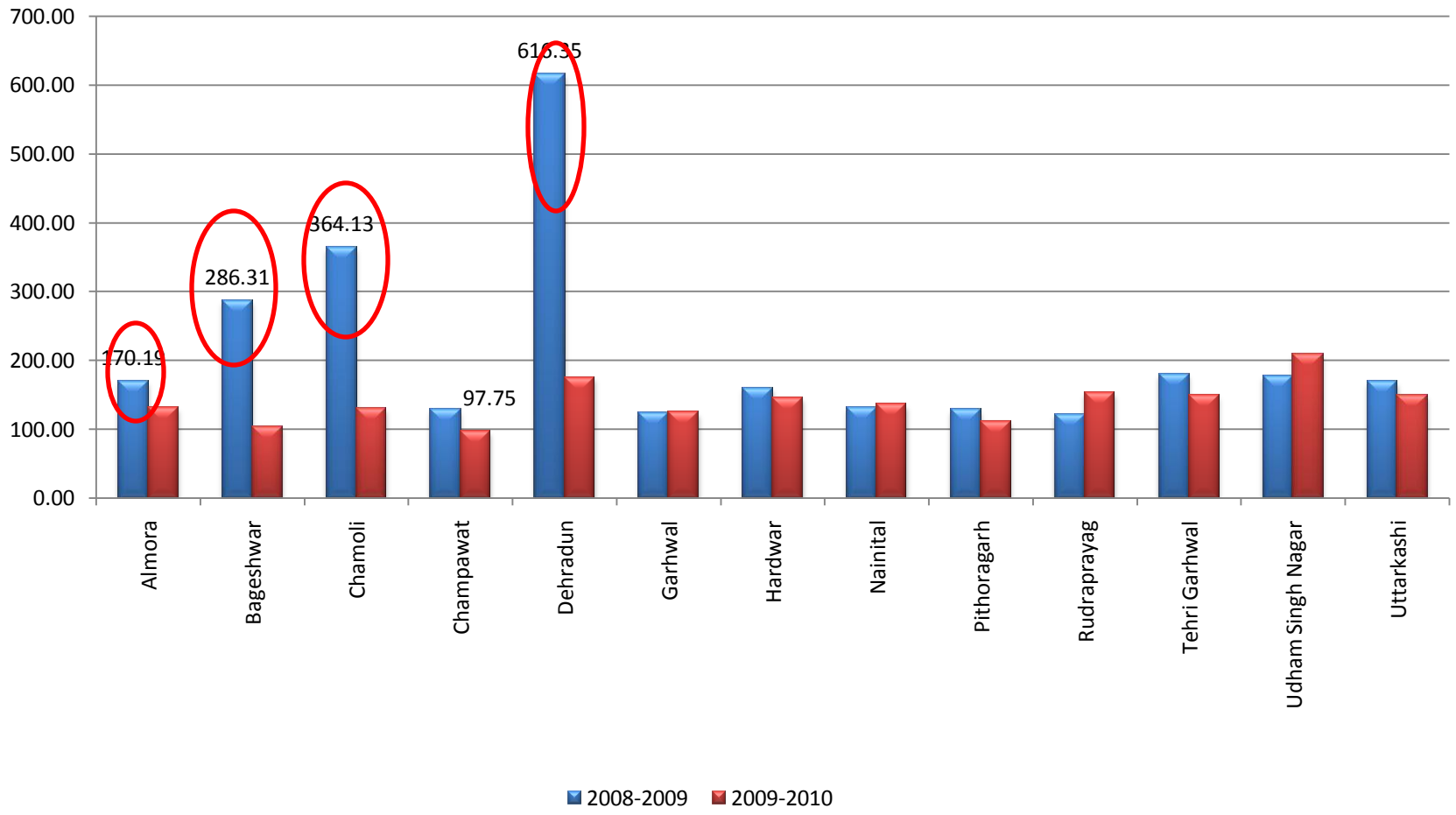
- Kerala had more proportion of immunization sessions held than Uttarakhand
- Indicating better infrastructure and more dedicated ANM

Immunization Status

BCG

- Tb in children – major public health concern
- BCG vaccination – against Tb
- Given with in 6 months of birth usually at birth

Uttarakhand



Kerala


300.00
250.00
200.00
150.00
100.00
50.00
0.00
71.14
126.22
126.83
136.31
262.73
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

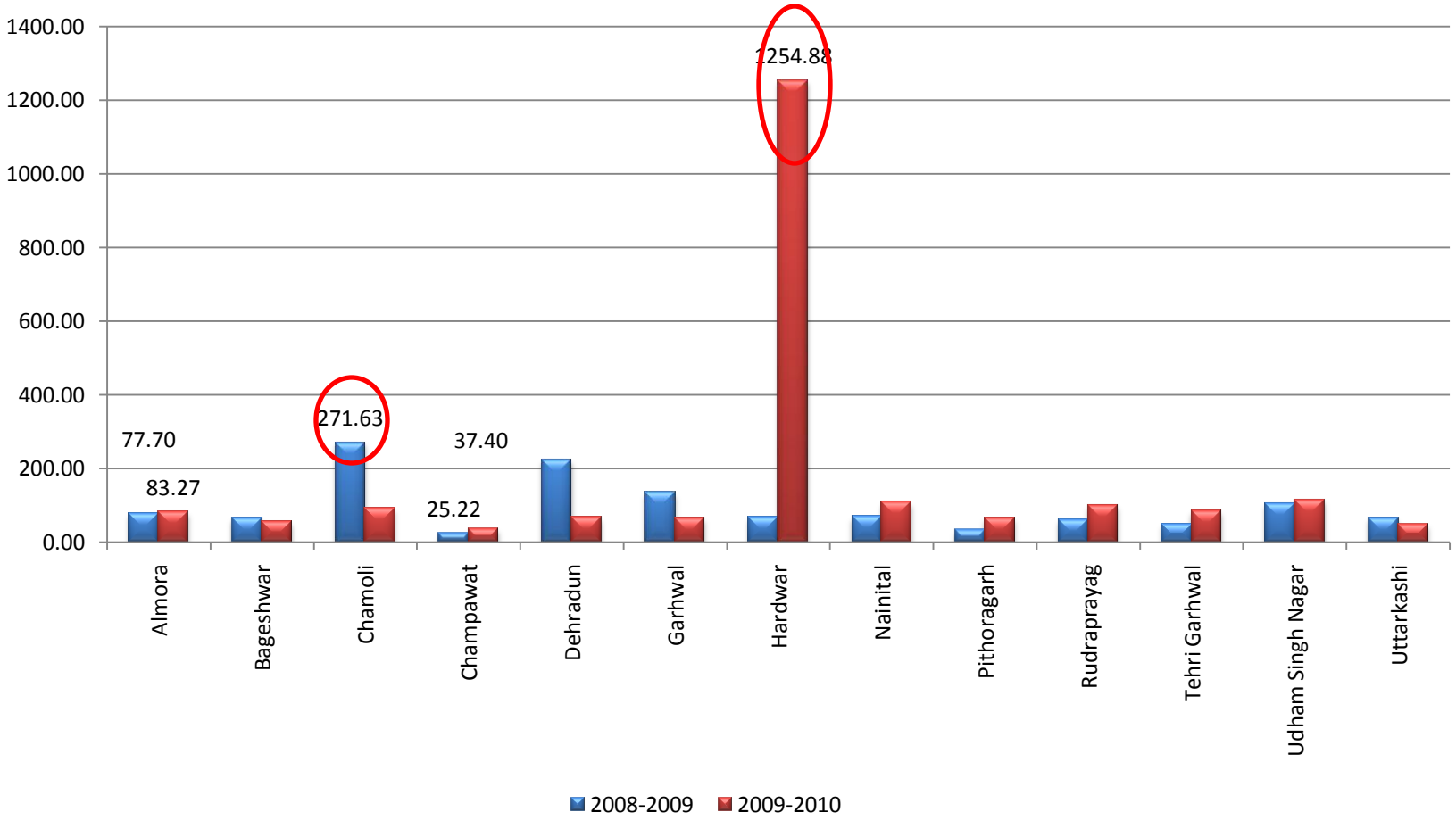
- Poor data quality for both the states
- Majorly can be linked with poor reporting of Live births

Immunization Status

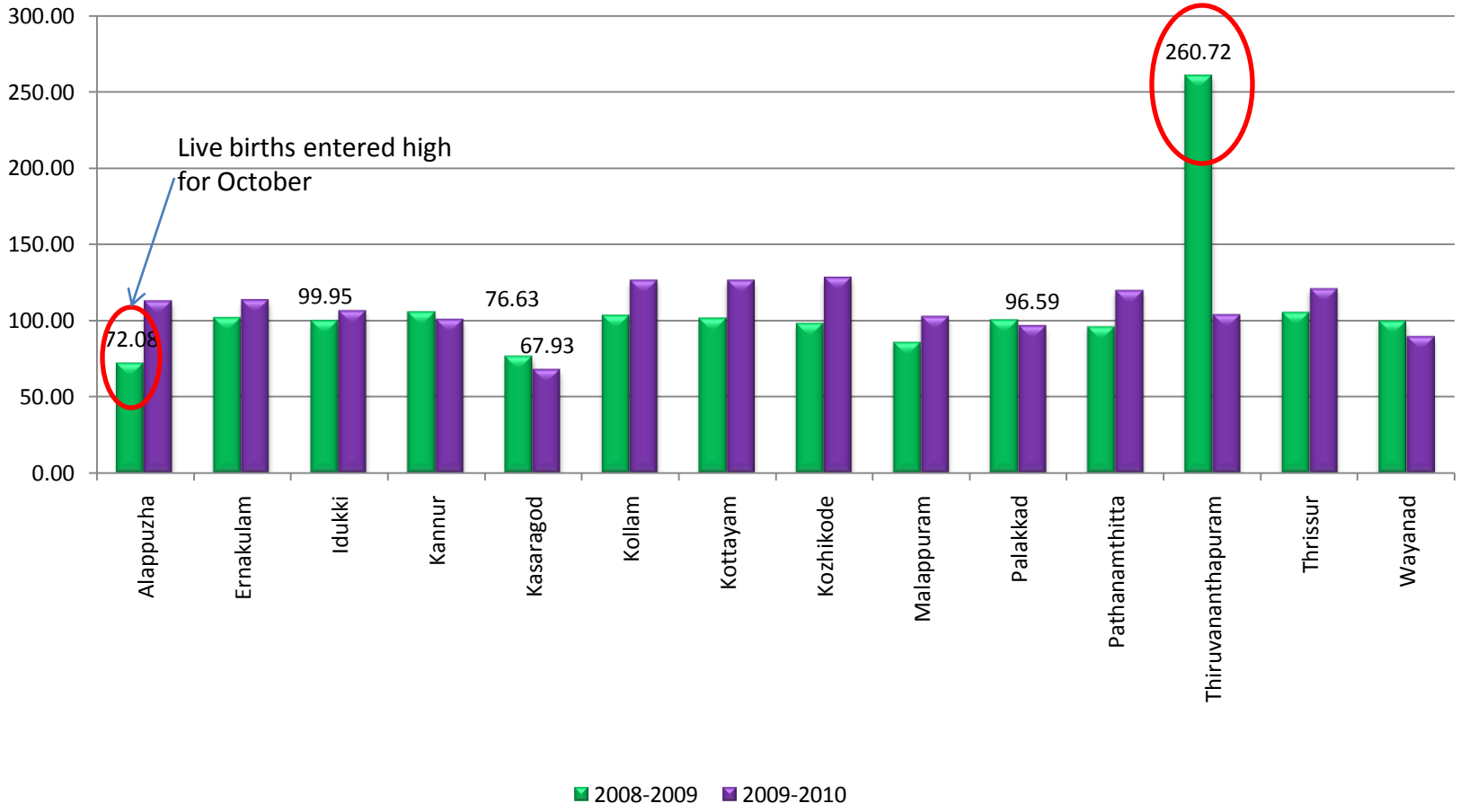
OPV (0)

- Polio may strike at any age, but usually affects children below the age of three
- According to the WHO there were 660 confirmed cases of Poliomyelitis in India in 2006

Uttarakhand



Kerala

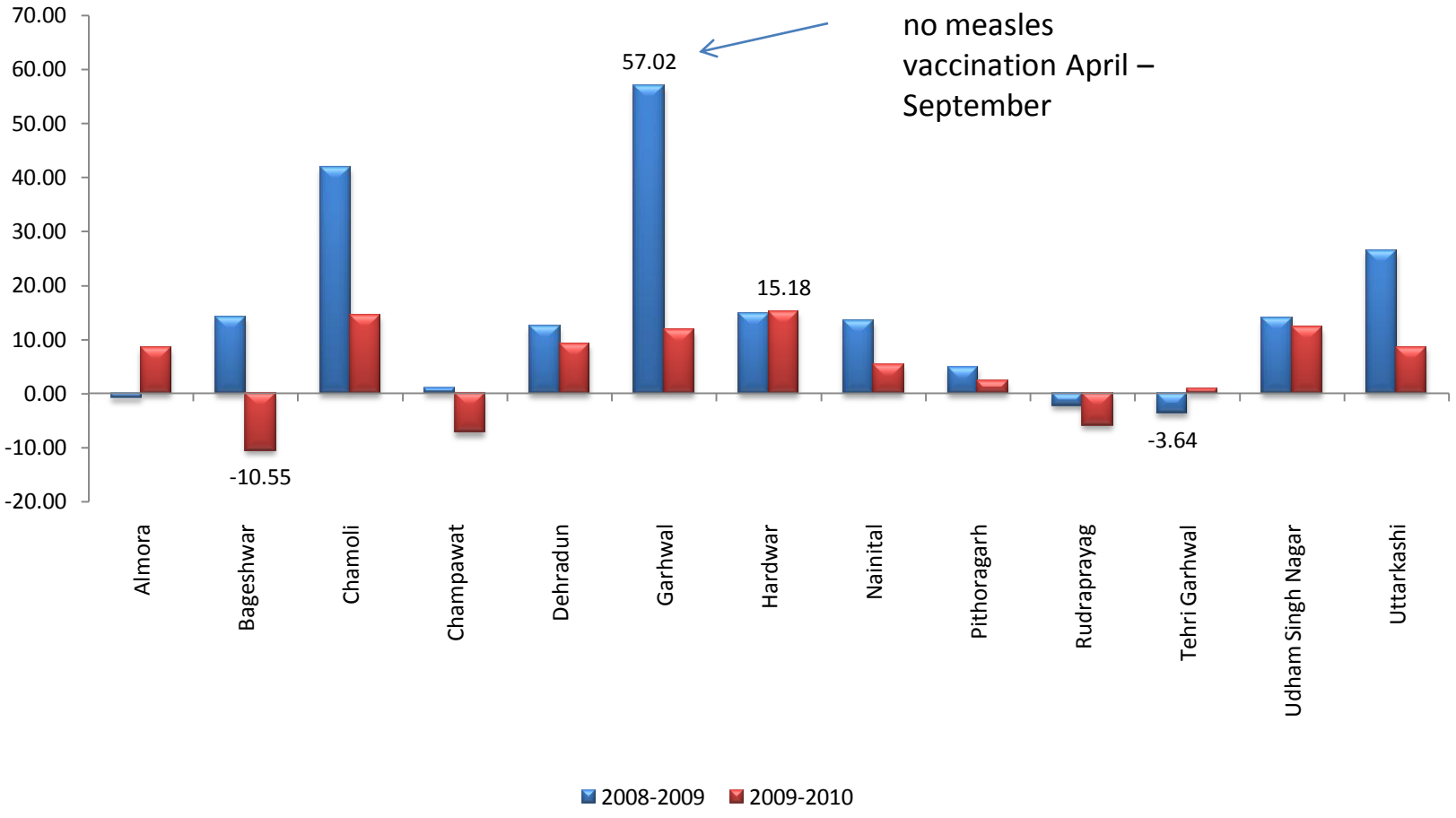

300.00
250.00
200.00
150.00
100.00
50.00
0.00
Live births entered high for October
72.08
99.95
76.63
67.93
96.59
260.72
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

Drop Outs

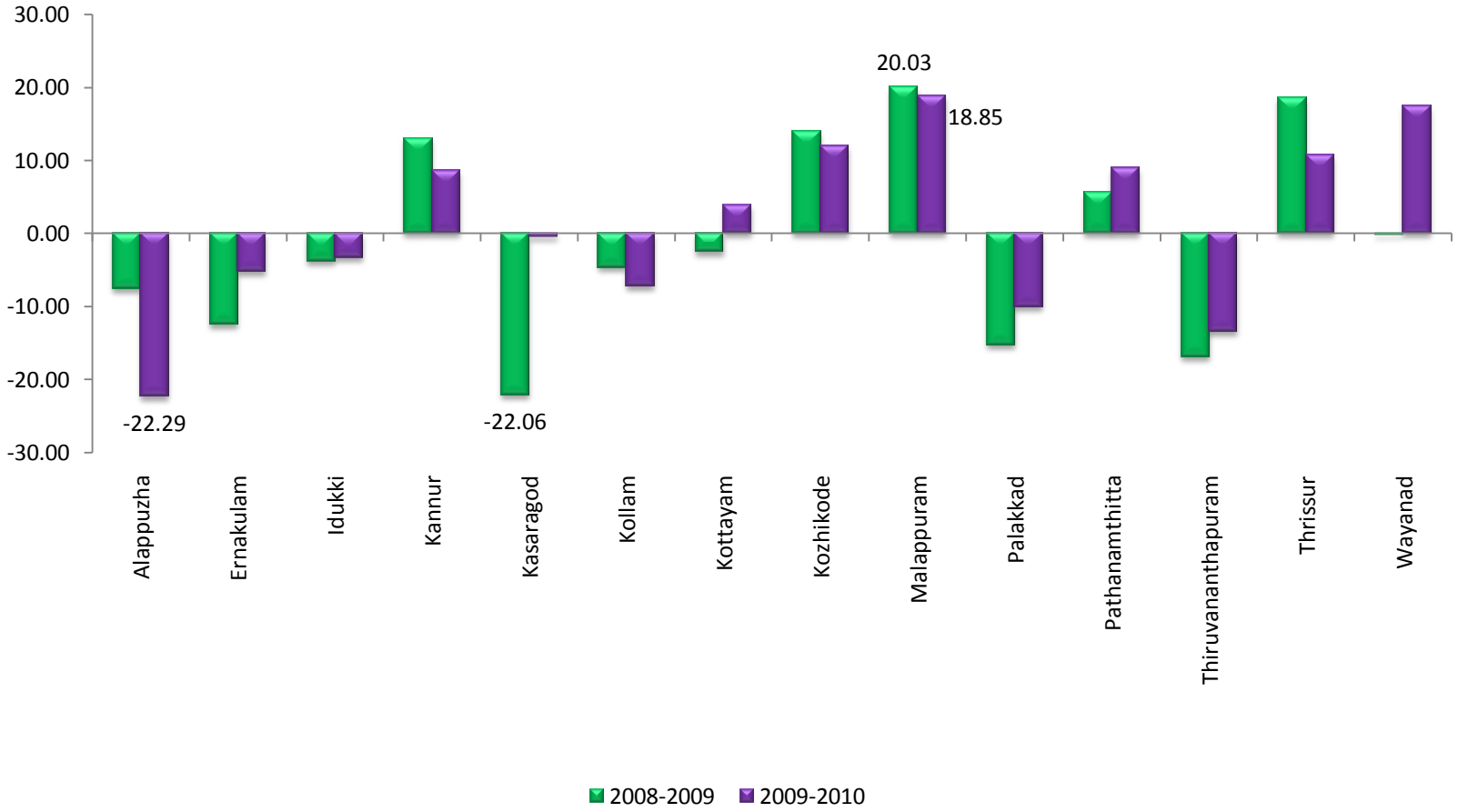
BCG and Measles

- BCG to Measles drop out is the number of infants who received BCG but were not immunized with measles vaccine.
- Can be high or negative as well
  - High: more BCG than measles
  - Negative: more measles than BCG

Uttarakhand



Kerala

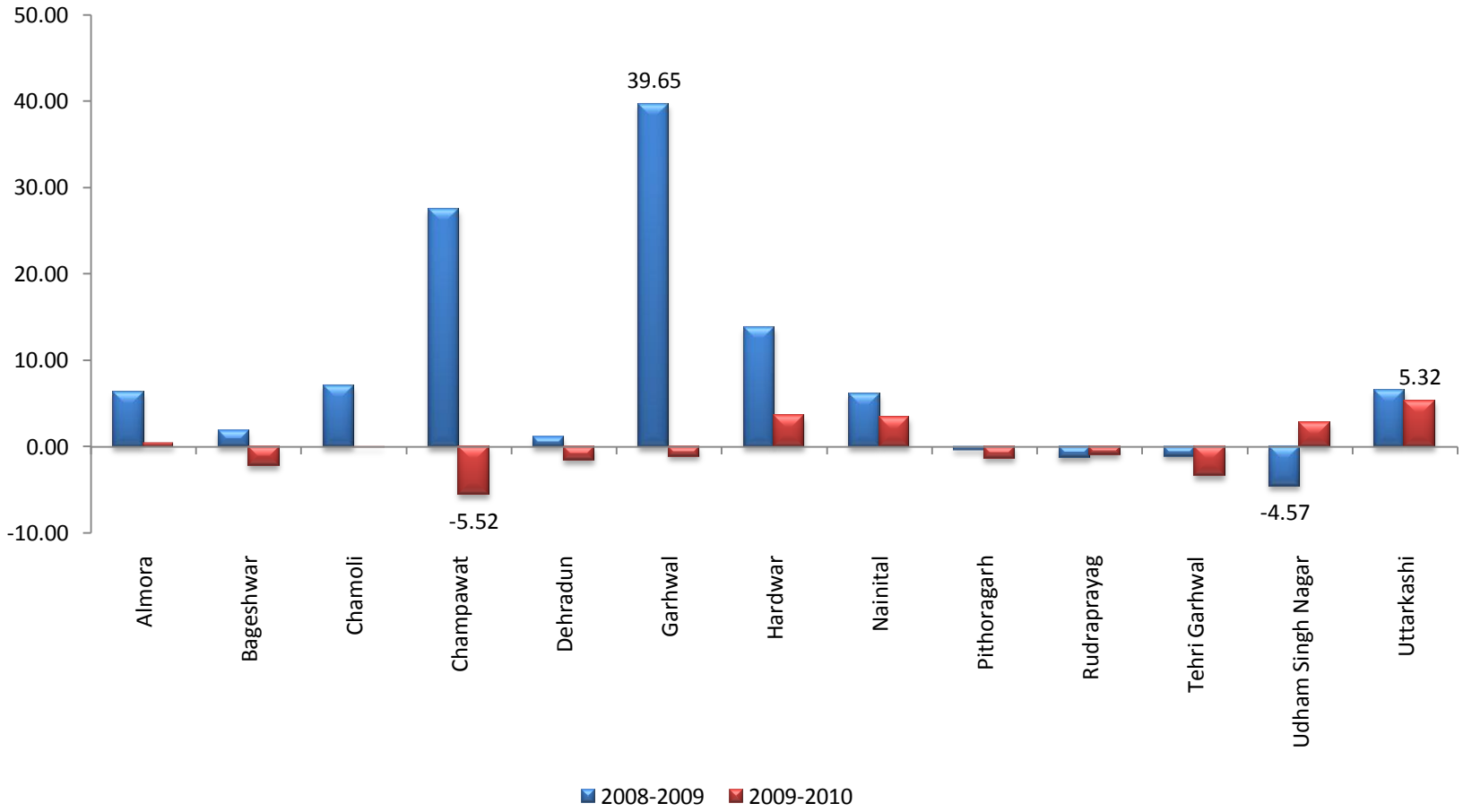

30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-22.29
-22.06
20.03
18.85
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Drop out rate in 2008-2009 was 14.89 percent and negative of 1.01 percent in Uttarakhand and Kerala respectively.
- In 2009-2010 the drop out rates were 5.01 percent and 1.34 percent in Uttarakhand and Kerala respectively.
- Improvement in services as well data quality

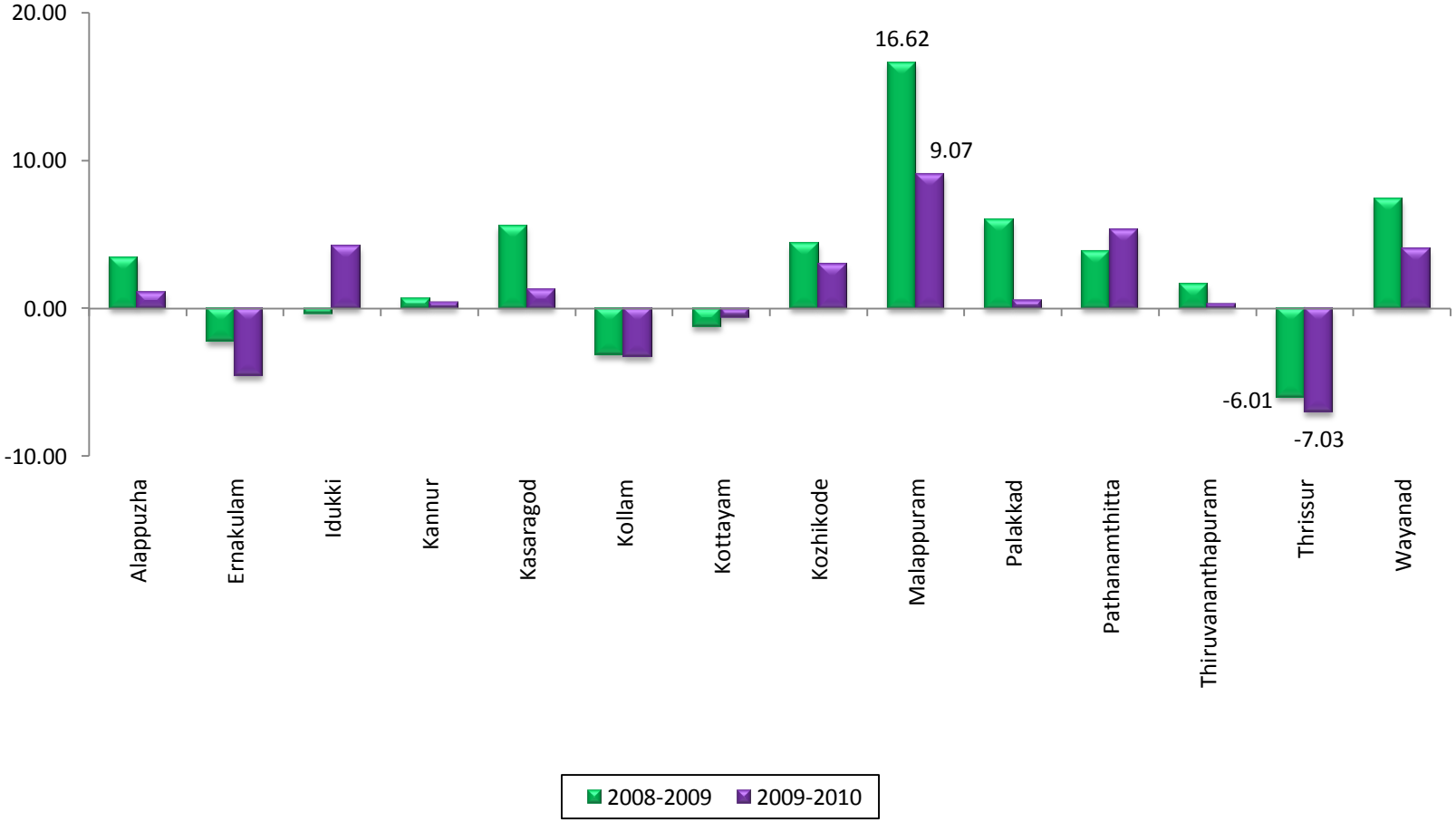
Drop Outs

DPT (1) and DPT (3)

Uttarakhand



Kerala

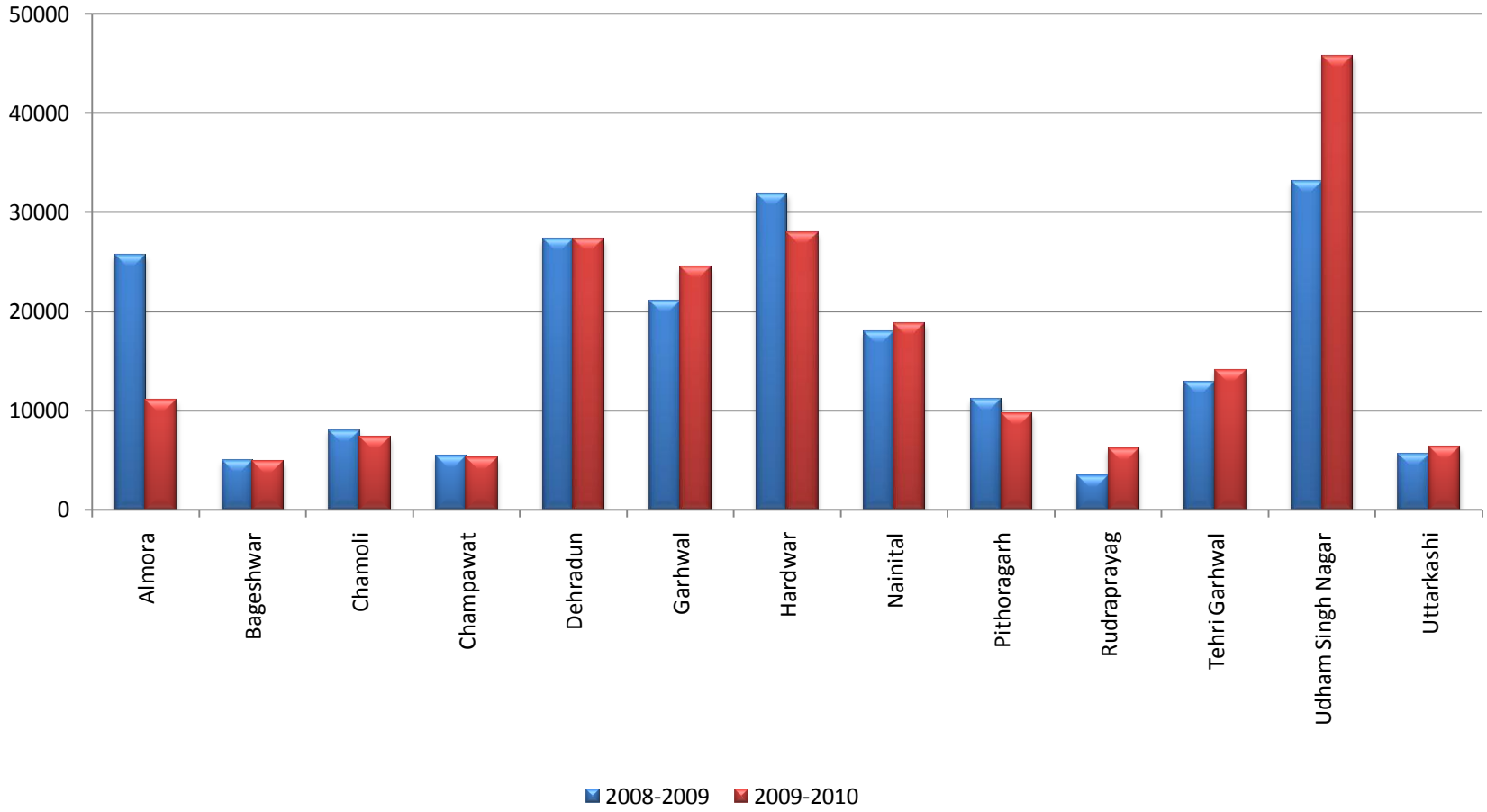

20.00
10.00
0.00
-10.00
16.62
9.07
-6.01
-7.03
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Kerala reported lower drop out rate than Uttarakhand (1.81% and 3.92% respectively)
- Indicating better infrastructure, immunization services and reporting across the state.

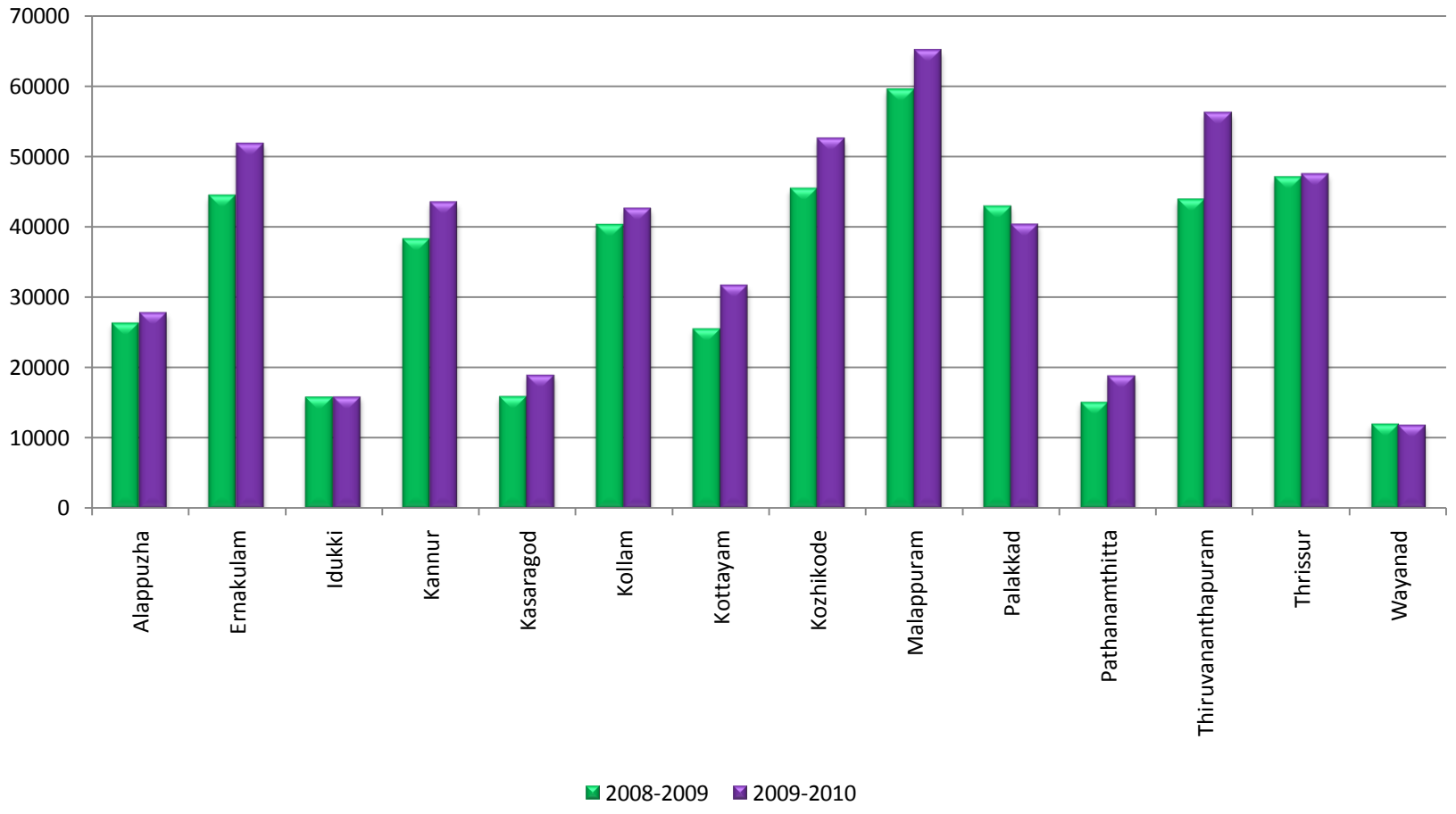
Full Immunization (09-11 months aged children)

- Full Immunisation is the number of children 9 to 12 months who completed their immunisation schedule; BCG, OPV (0-3) and DPT (1-3) and measles.
- Drop outs take place during the period

Uttarakhand



Kerala

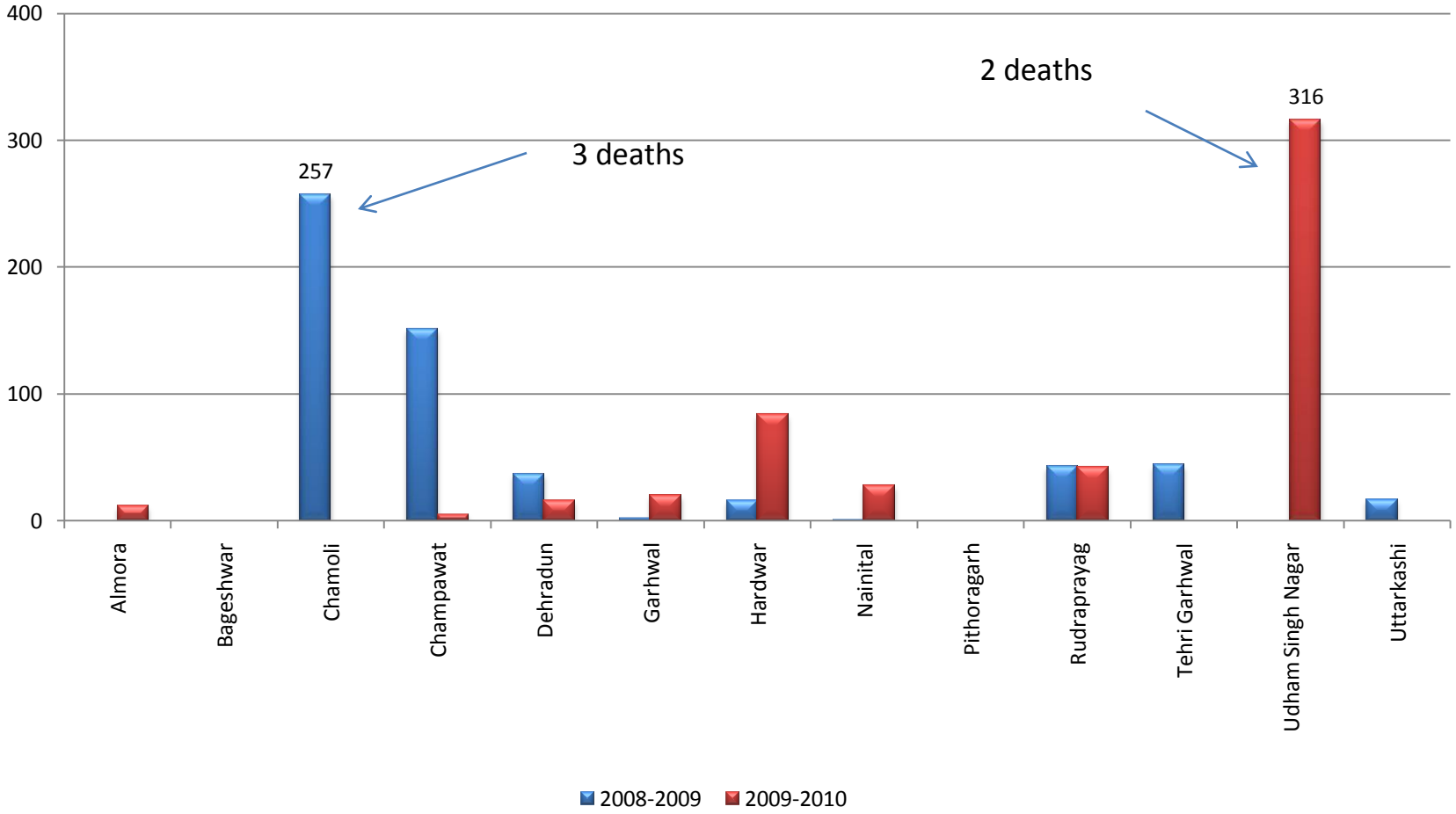

70000
60000
50000
40000
30000
20000
10000
0
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Uttarakhand showed variation among all the districts
- Kerala reported an increasing trend throughout all the districts
- It indicates immunization services have improved periodically in Kerala when compared with Uttarakhand.

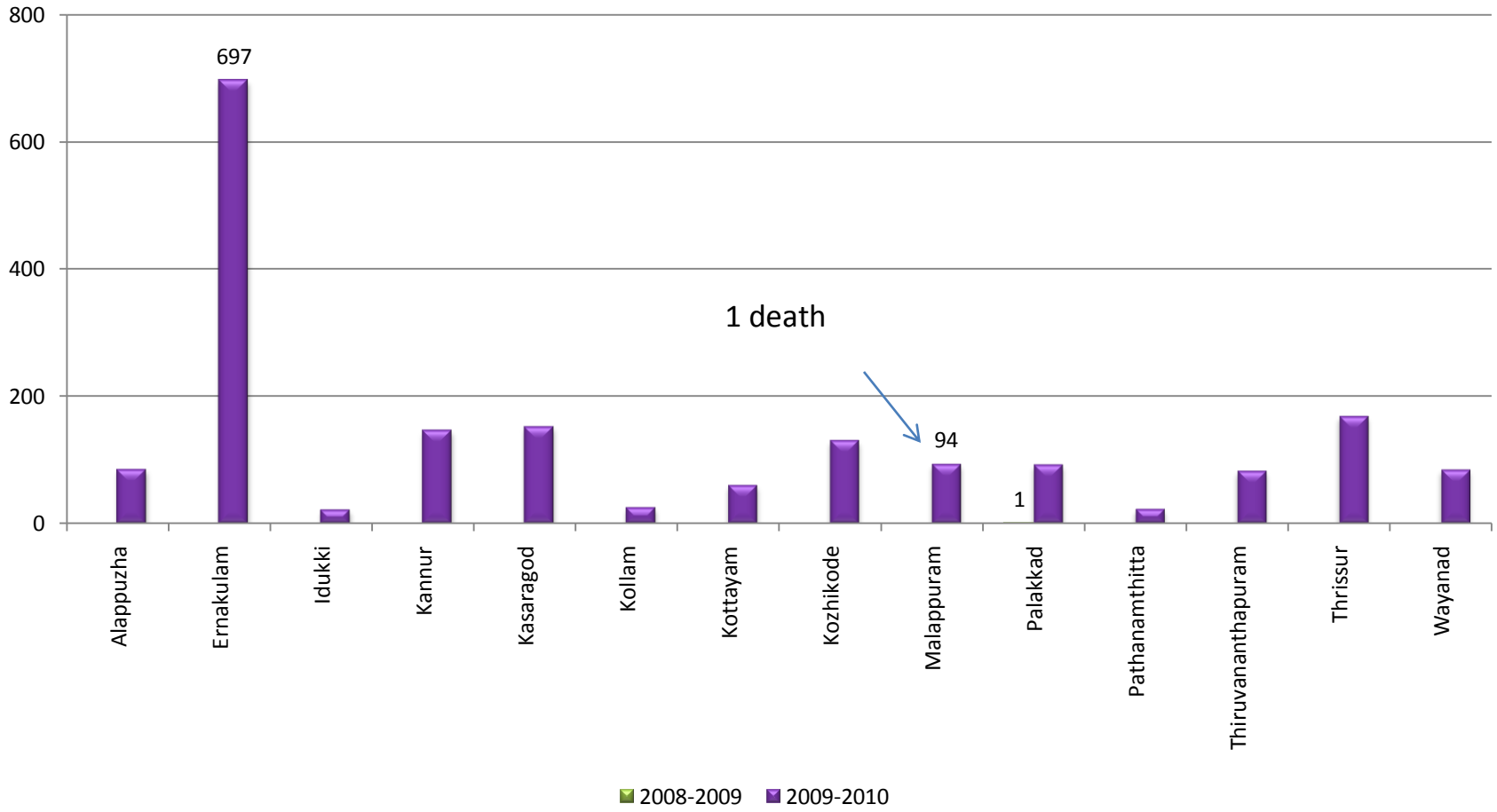
Reported Adverse events following Immunization

- *“Immunization adverse event can be described as a medical event that takes place after an immunization that causes concern and is believed to be caused by immunization.”*
- Sensitive indicator of quality of immunization
- Adverse event can be categorized as:
  - Abscess
  - Death
  - Others (allergy, anaphylaxis, hypotensive / hyporesponsive episodes, BCG lymphadenitis, etc)

Uttarakhand



Kerala


800
600
400
200
0
697
1 death
94
1
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
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2008-2009
2009-2010

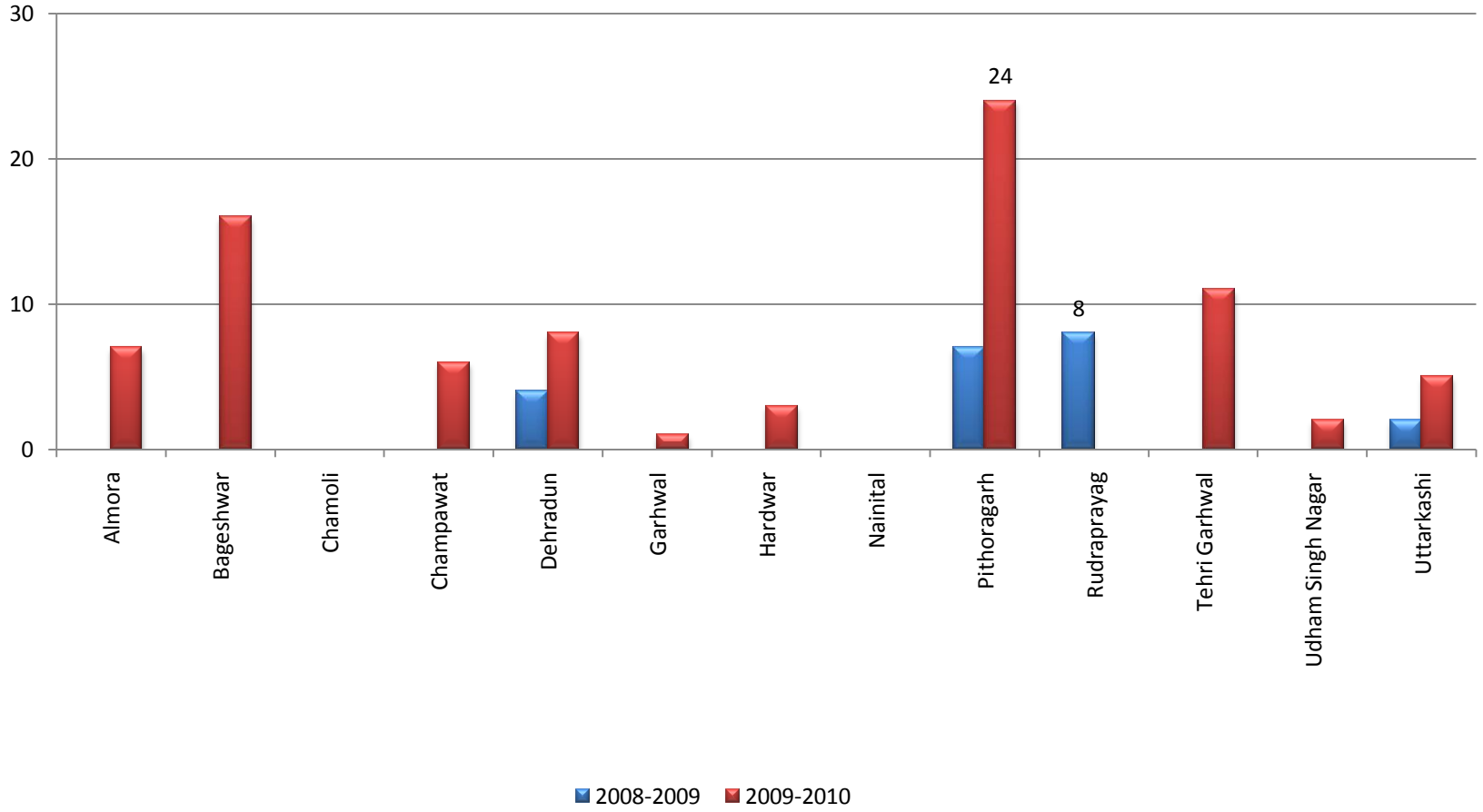
- Uttarakhand reported lower cases of adverse events than Kerala.
- Five deaths were reported in Uttarakhand while Kerala reported just one death

Infant Deaths

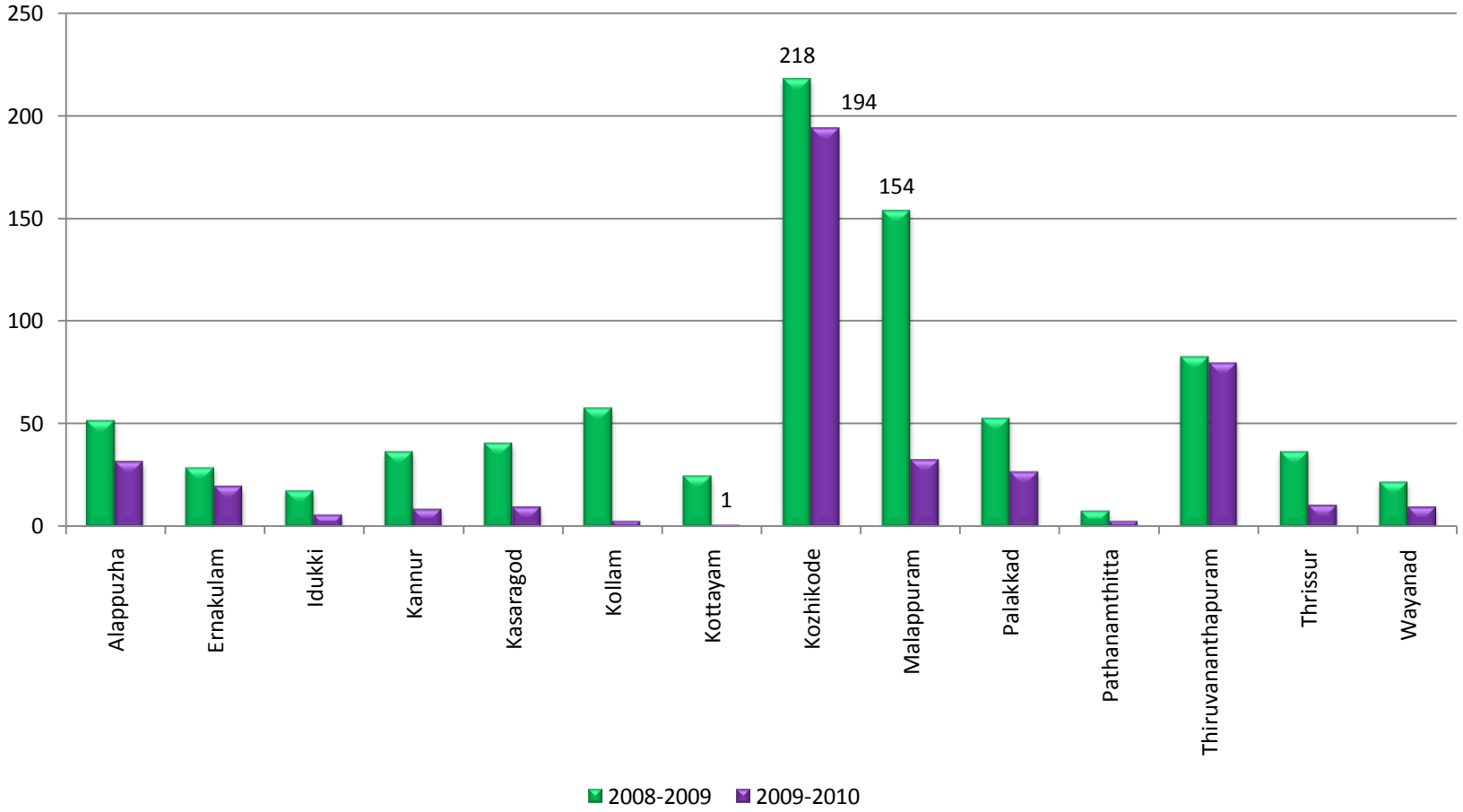
Within 24 hours of Birth

- First 24 hours after birth are the most crucial for a neonate.
- Majority of neonatal deaths take place within 24 hours of birth.
- Low birth weight, prematurity, birth injuries and congenital anomalies are some of the indirect causes for death

Uttarakhand



Kerala


250
200
150
100
50
0
218
194
154
1
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

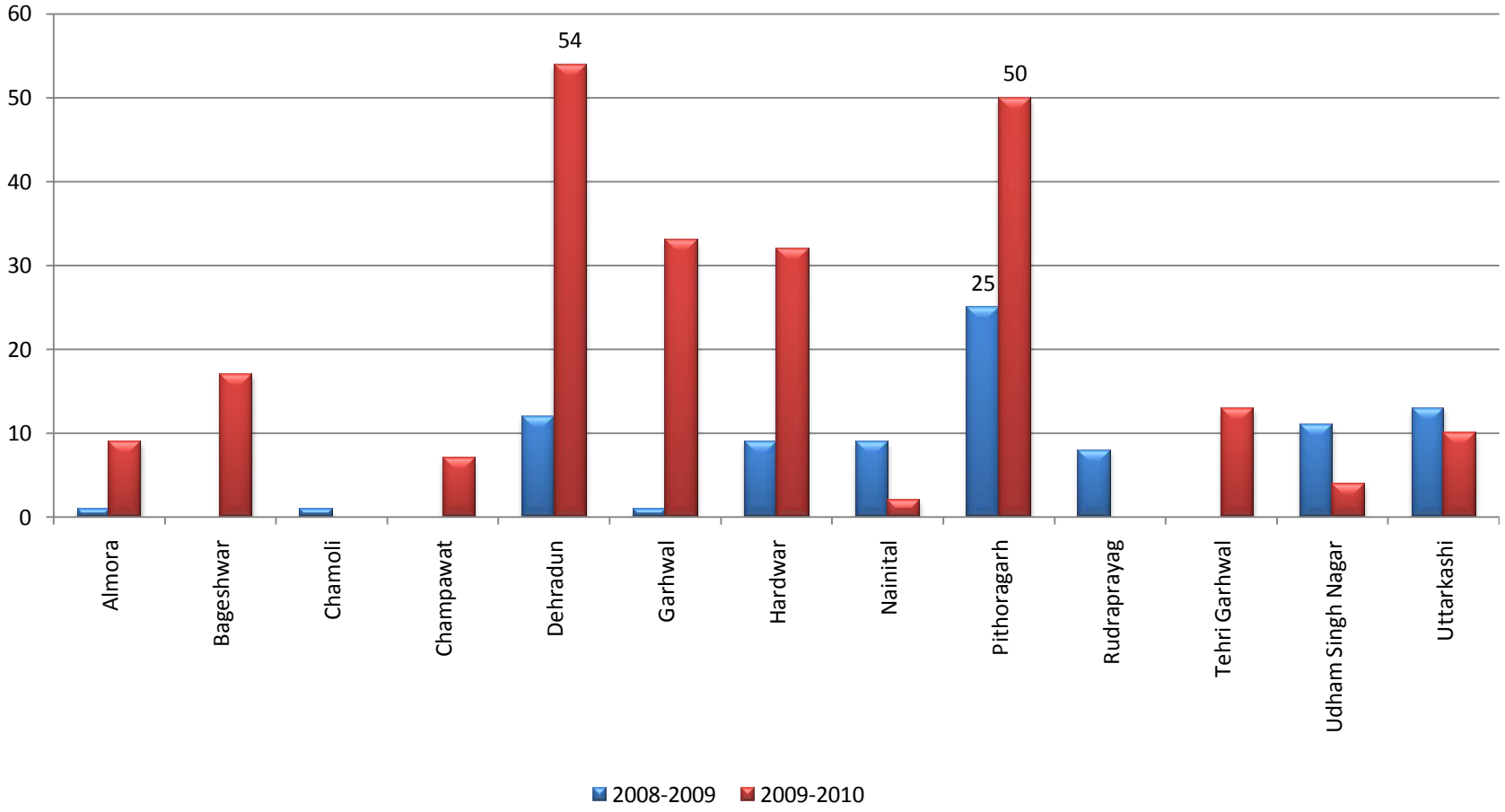
- Kerala reported very high infant deaths as compared to Uttarakhand despite of prevalence of better health facilities
- Requires deep insight for the same

Infant Deaths

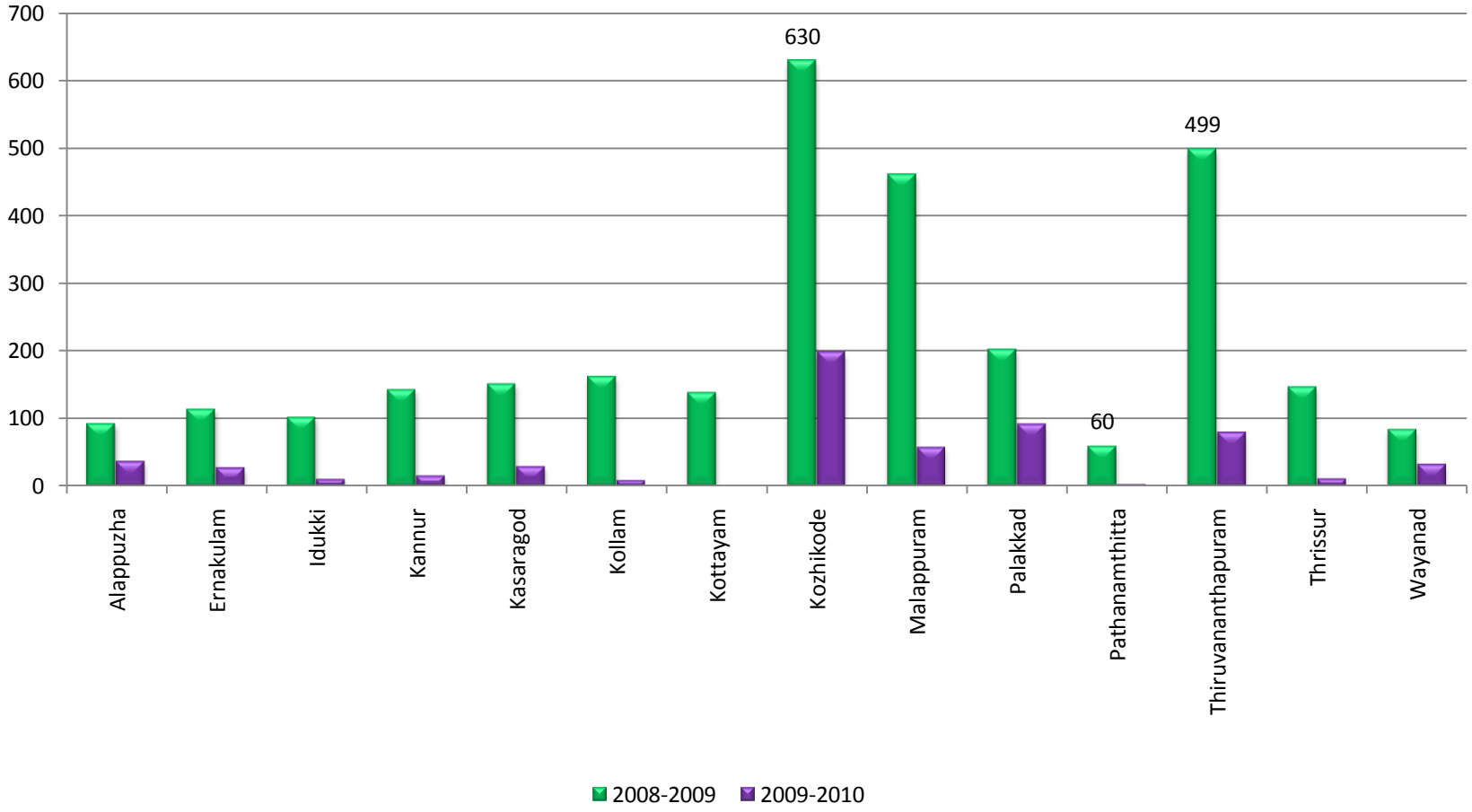
Neonatal Deaths

- Almost 40% of deaths in children are of those younger than 5 years.
- About a quarter of global neonatal deaths occur in India.
- WHO has attributed
  - 30% of neonatal deaths to preterm birth
  - 27% to sepsis or pneumonia
  - 23% to birth asphyxia
  - 6% to congenital abnormalities
  - 4% to tetanus
  - 3% to diarrhoea
  - 7% to other causes.

Uttarakhand



Kerala


700
600
500
400
300
200
100
0
630
499
60
Alappuzha
Ernakulam
Idukki
Kannur
Kasaragod
Kollam
Kottayam
Kozhikode
Malappuram
Palakkad
Pathanamthitta
Thiruvananthapuram
Thrissur
Wayanad
2008-2009
2009-2010

- Kerala reported very high number of neonatal deaths for both the years
- While Uttarakhand reported much less number
- Thereby this may be a point of concern for Kerala Health personnels

Conclusion

- Quality of reporting
- Large number of LBW
- Low proportion of early initiation of Breastfeeding practices
- High drop outs
- Neonatal deaths

Recommendation

- Trainings
- Involvement of PRCs
- Awareness
  - ANC
  - Early initiation of Breastfeeding
  - Immunization
- Necessary action regarding high number of neonatal deaths

HMIS Future

District Data Manager, Barpeta, Assam requested a read only user id and password to view institution wise performance of Health Institutions. The decision was taken during District Health Society Meeting. The user id and password will be used by Deputy Commissioner and MLA.

THANK YOU