Barriers in Accessibility of Health Facility in India: Evidence from the National Family Health Survey (NFHS-4)

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Background

- About 3.1 billion people across globe and nearly 1 billion people from South Asia will not achieve effective universal health coverage by 2023 (Lozano et.al., 2020)

- The Maternal Mortality Ratio (MMR) of 113 per 100,000 live births in India is much higher from SDG set target of 70 ([1]RGI, 2020). On the other hand, Under 5 Mortality Rate (U5MR) and Infant Mortality Rate (IMR) stands at 36 and 32 per 1000 live birth in India ([2]RGI, 2020).

- Further, both women and child health outcomes varies largely at regional and local level in India.

- More than half of the mortality can be averted through better access to quality health care. However, half of the households in India do not use public health facilities due to poor quality of care, facility not in vicinity and long waiting time (IIPS & ICF, 2017).

- To reduce regional inequality in access to health facilities and to achieve set targets of sustainable development goals (SDG-3) for maternal and child health there is need to explore local level factors which hinders the access to health facilities.

Objective

- The present paper is conceptualized to understand barriers in access to health facilities at states and districts of India. Further we analysed spatial association of maternal and child health outcomes with barriers of access to health services.
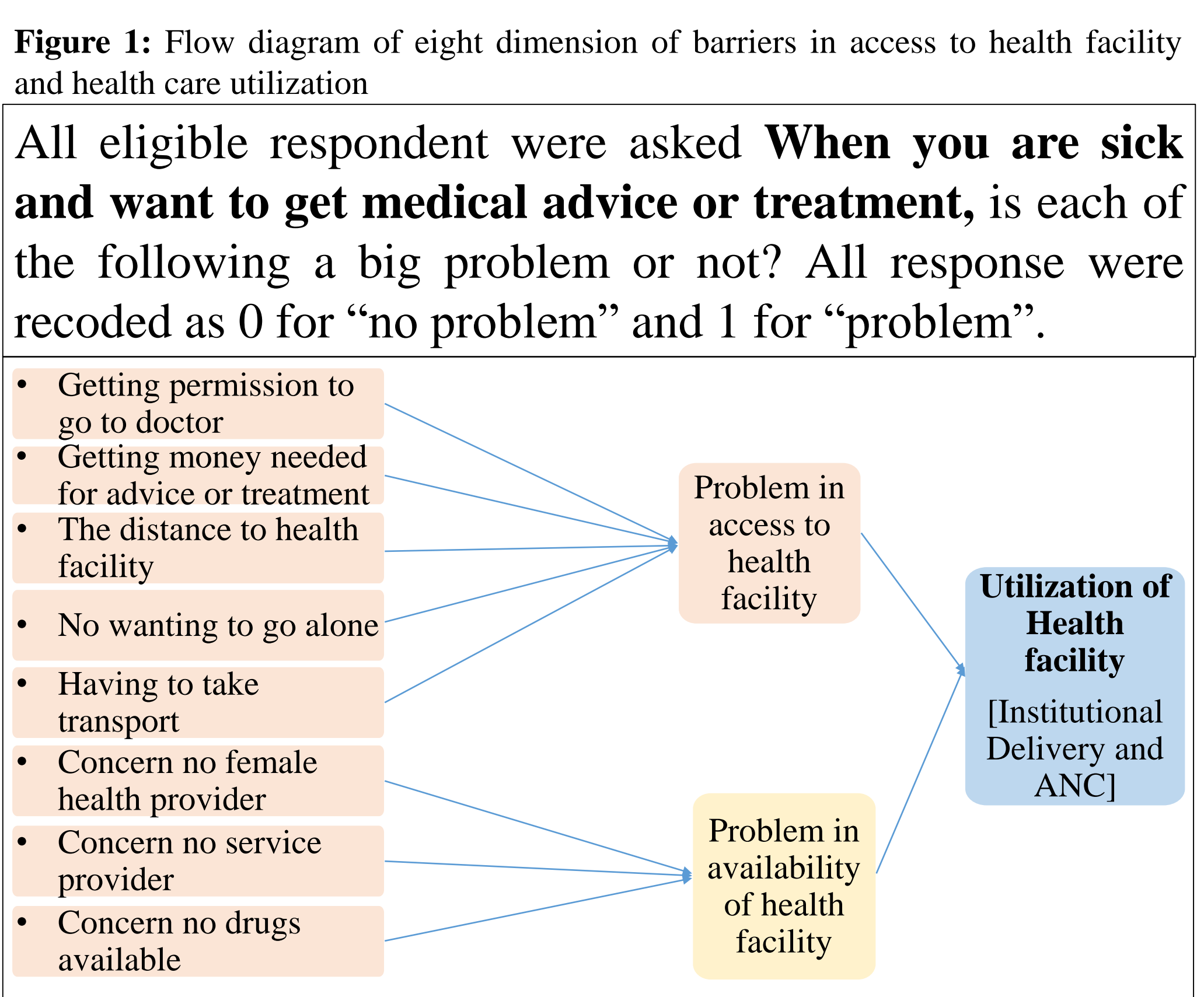
Data and methods

- The fourth round of the National Family Health Survey (2015-16) is used to fulfil objective of this paper. Further, details can be found out through national report publically available at IIPS and DHS (IIPS & ICF, 2017).

- Our sample size is 699,686 women from age group 15-49 years and 259,627 children age group 0-5 years taken from all over the country.

Methods:

- Descriptive statistics, scatter plot matrix, spatial autocorrelation, univariate and bivariate local indicator of spatial association (LISA) and mapping at district level were used. For spatial analysis queen contiguity weight matrix was applied after examining other available options.

Outcome variable:

- Barriers in access to health facility
  - Problem in access to health facility
  - Problem in availability of health facility

- Utilization of health services
  - Institutional delivery
  - Antenatal care (4 or 4+ visits)

Figure 1: Flow diagram of eight dimension of barriers in access to health facility and health care utilization

All eligible respondent were asked **When you are sick and want to get medical advice or treatment,** is each of the following a big problem or not? All response were recoded as 0 for "no problem" and 1 for "problem".

- Getting permission to go to doctor
- Getting money needed for advice or treatment
- The distance to health facility
- No wanting to go alone
- Having to take transport
- Concern no female health provider
- Concern no service provider
- Concern no drugs available

→ Problem in access to health facility

→ Problem in availability of health facility

→ **Utilization of Health facility** [Institutional Delivery and ANC]

Results

Figure 2: Percent distribution of women reported problem in access to health facility in India 2015-16.
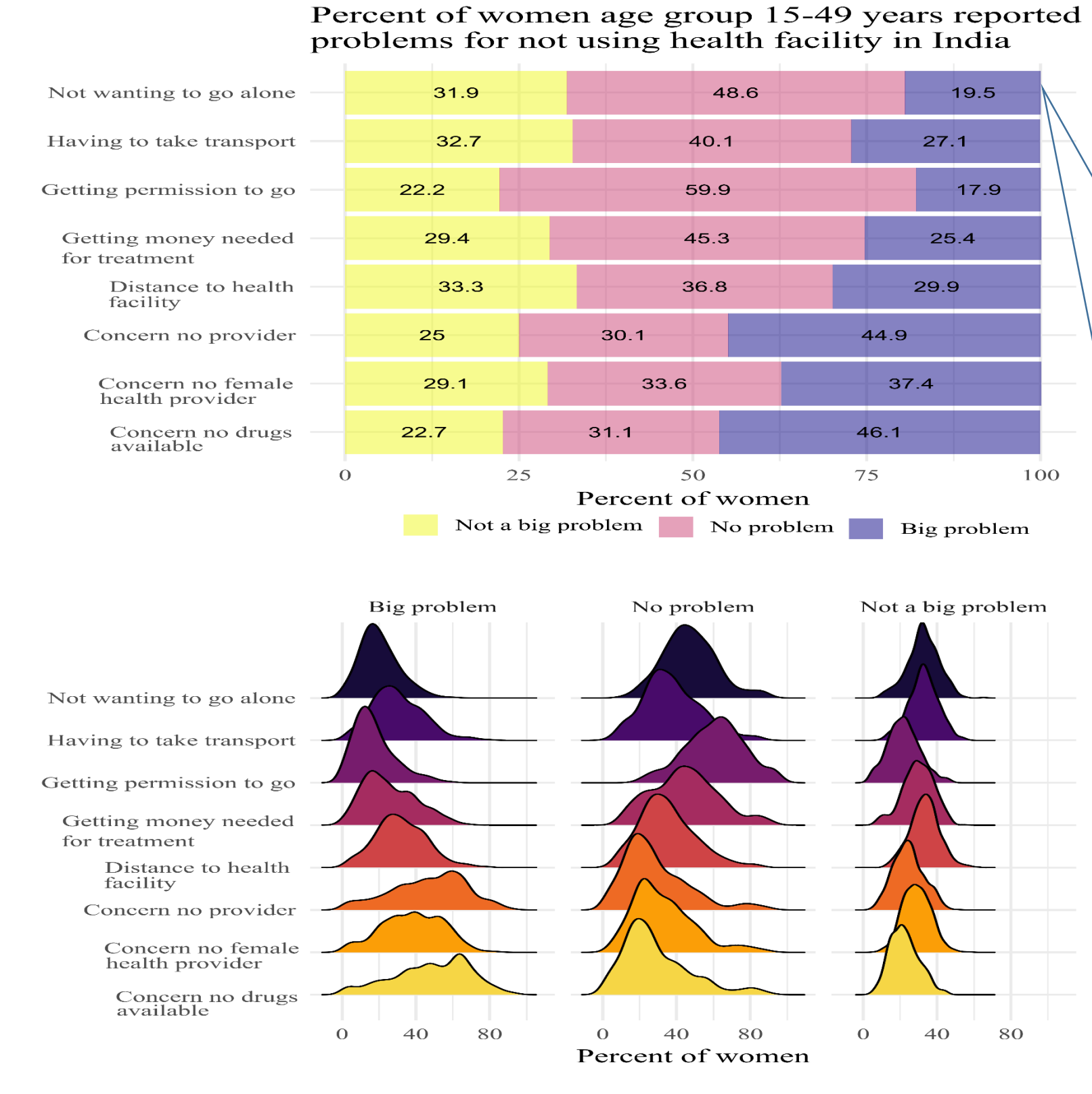
- Nearly 45 % of women reported big problem in availability of service provider and drugs at health facility.
- Around one third of the women reported distance to health facility as a big problem while accessing health facilities.
- Visiting health facility alone was a big problem for about one fifth of the women .

Figure 3: Problem in access to health facility by education, place of residence, caste and wealth index in India 2015-16
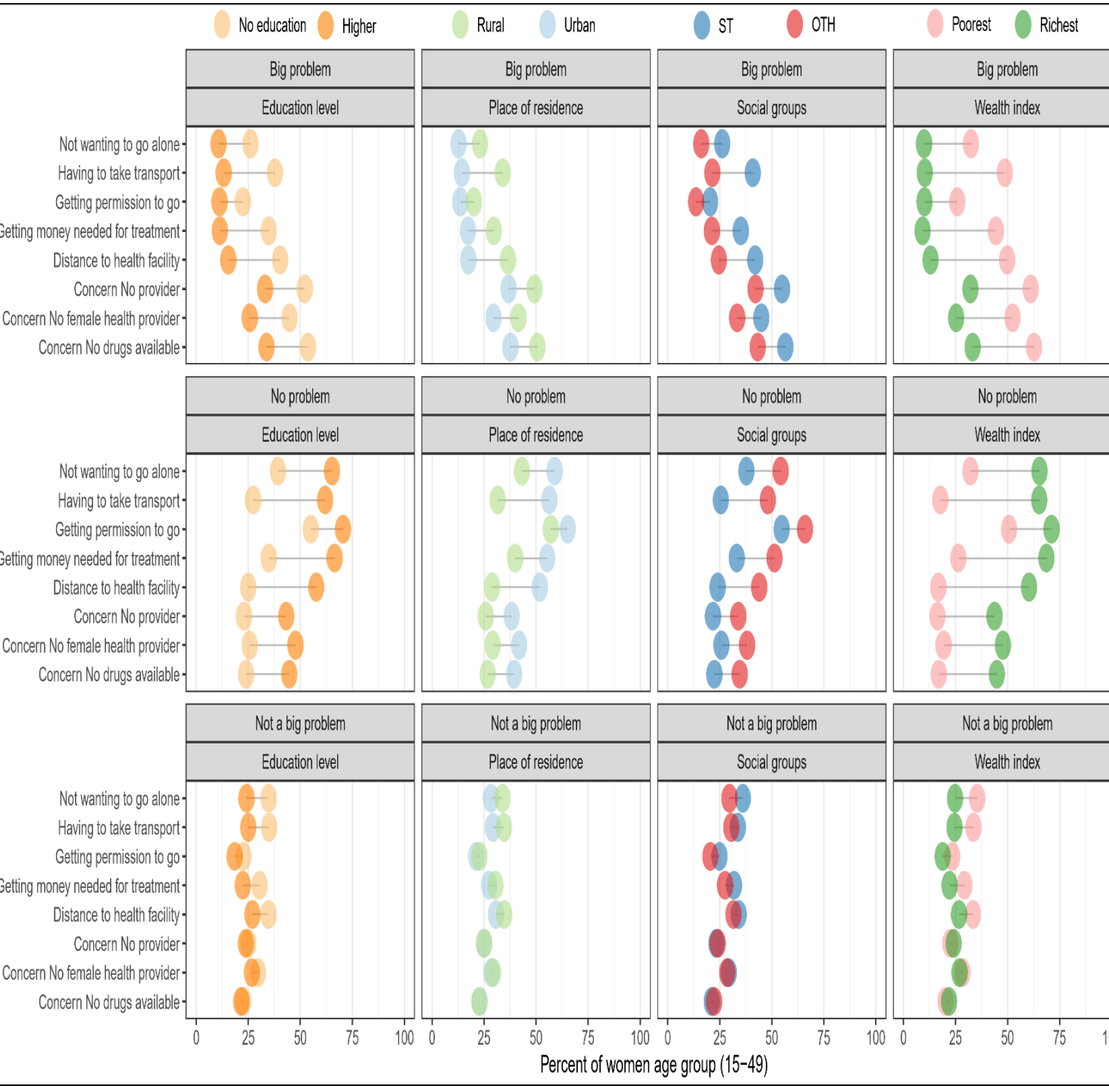

Figure 4: Spatial distribution of percent of women reported big problem in access to health facility in India
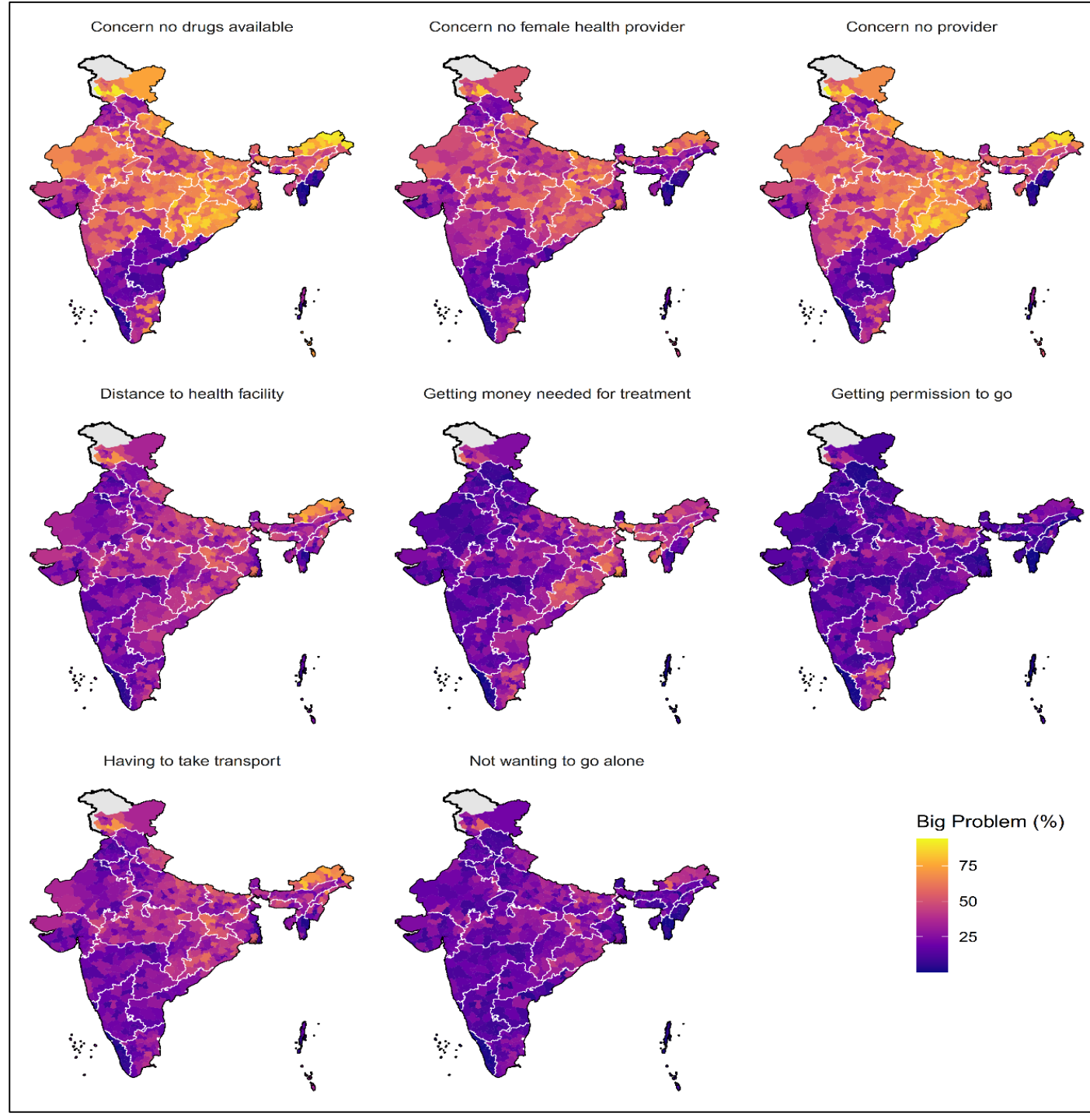

Figure 5: Percent of women reported problem in availability and access to health facility in states of India
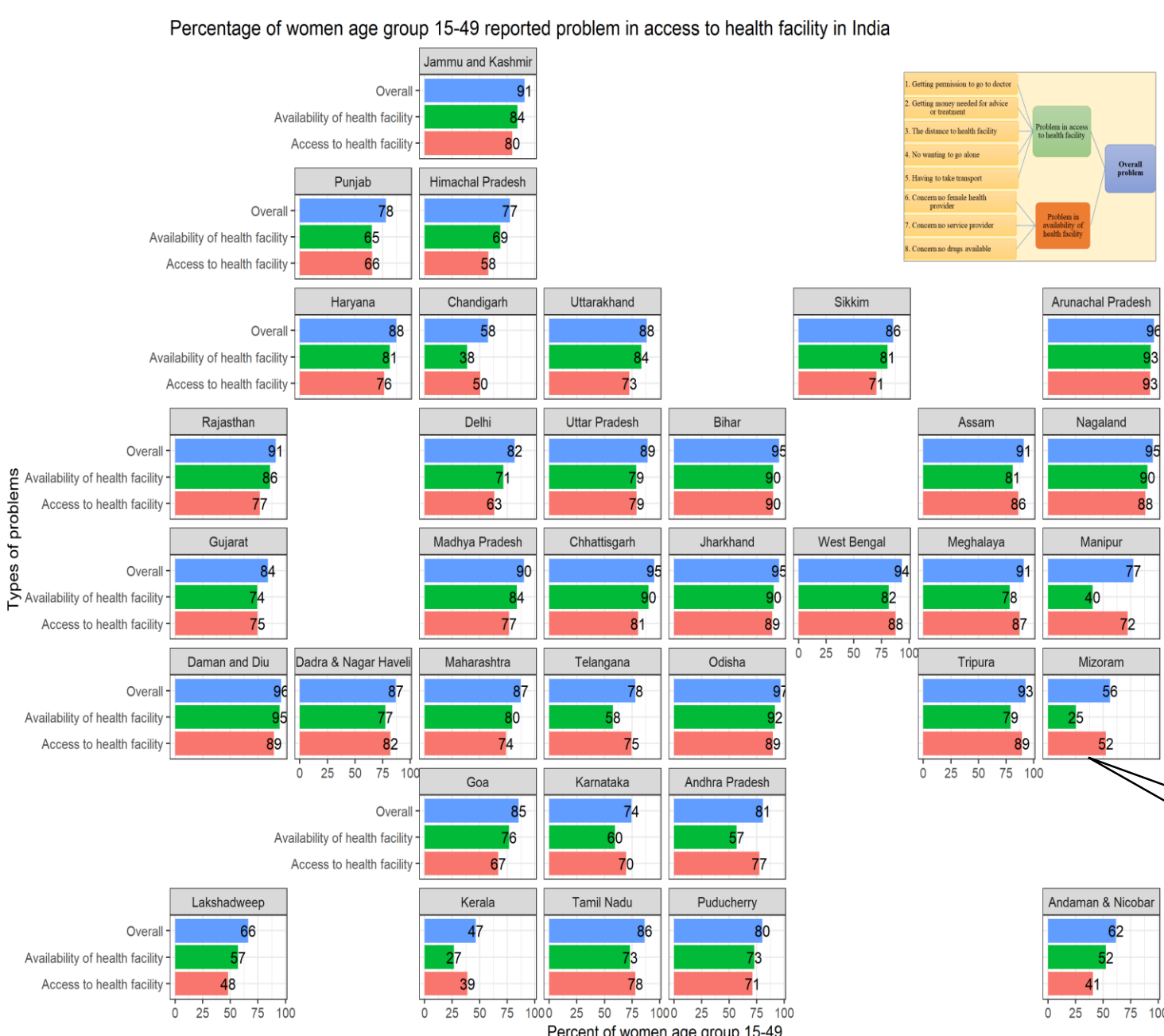

Table 1: Univariate Moran's I and LISA analysis for problems in availability and access to health facility in districts of India

Problem in access to health facility	Moran's I	Z-Score	P-value	LISA Cluster (Number of Districts)				
				High-High	Low-Low	Low-High	Low-High	Not Sig.
Problem in availability of health facility	0.576	24.19	0.000	119	79	7	3	432
Problem in access to health facility	0.560	22.65	0.000	135	74	7	5	419

Figure 6: Univariate LISA clustering of problem in availability and access to health facility in India

Problem in availability of health facility were clustered in districts of Chhattisgarh, Odisha, Jharkhand, Bihar and Arunachal Pradesh.

Lowest level of problems in availability and access to health facility were reported in states of Kerala followed by Mizoram,

Problem in access to health facility were clustered in districts of Odisha, Jharkhand, Bihar, West Bengal and Arunachal Pradesh.

Significant negative association was observed between health care utilization and problems in access to health facility.

Bivariate LISA analysis indicated that high access and availability problem leads to low utilization of antenatal care and Institutional delivery in districts of Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh and North-eastern states of India.

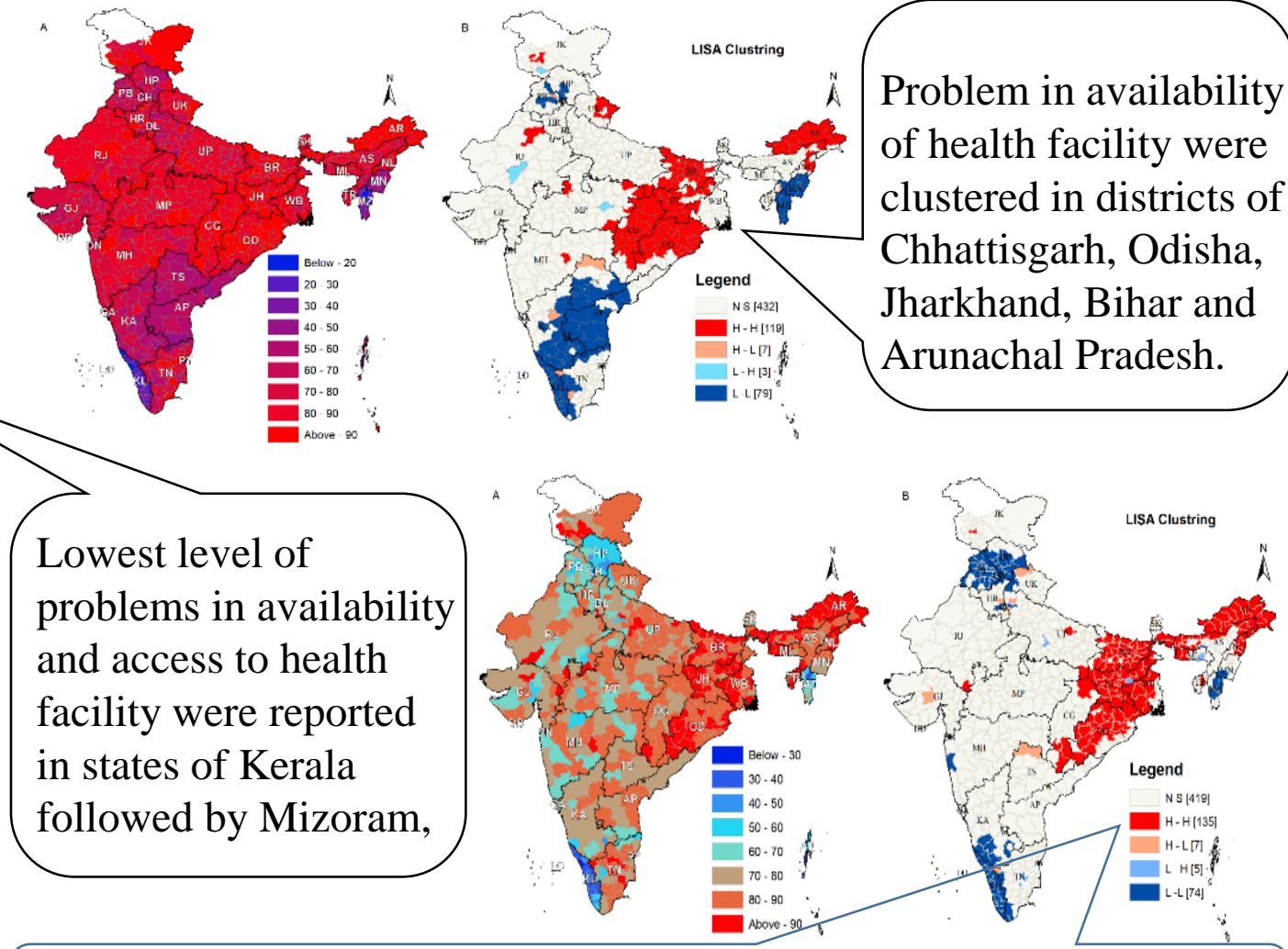**Figure 7:** Scatter plot matrix of problem in availability and access to health facility and health care utilization in India

Note: Access_prob.= Accessibility problem; Avail_prob.= Availability problem; ANC4 = Antenatal care 4 or 4+ visits; Inst._del = Institutional delivery
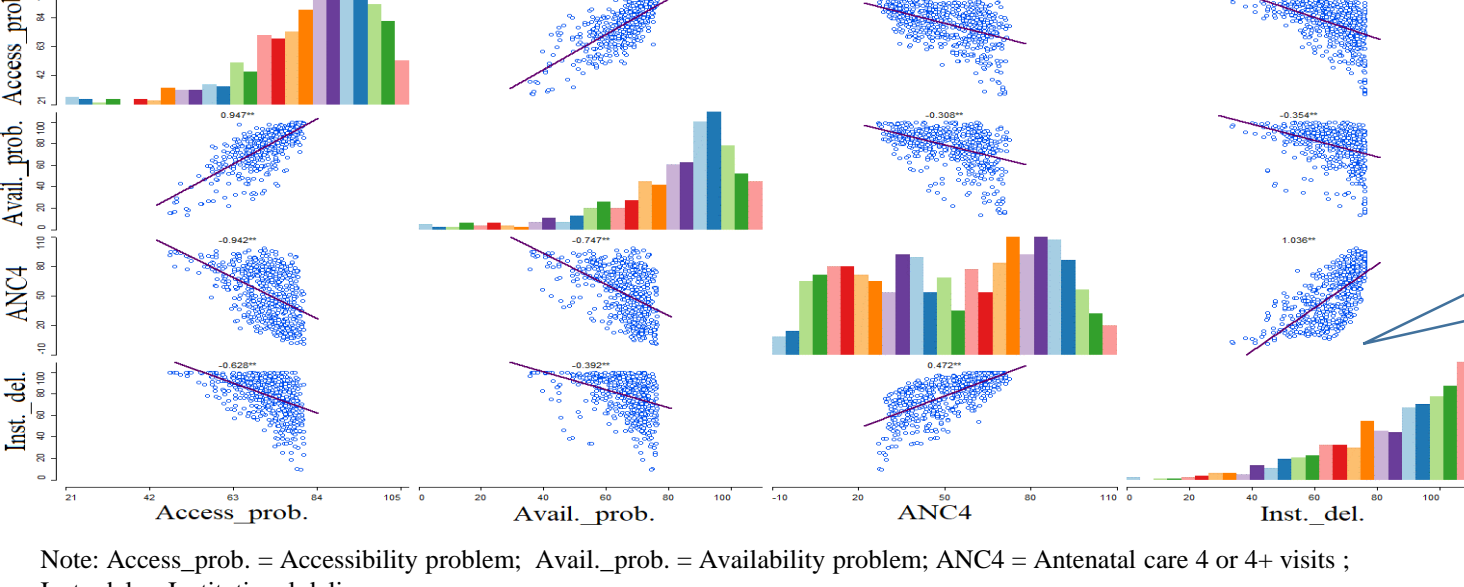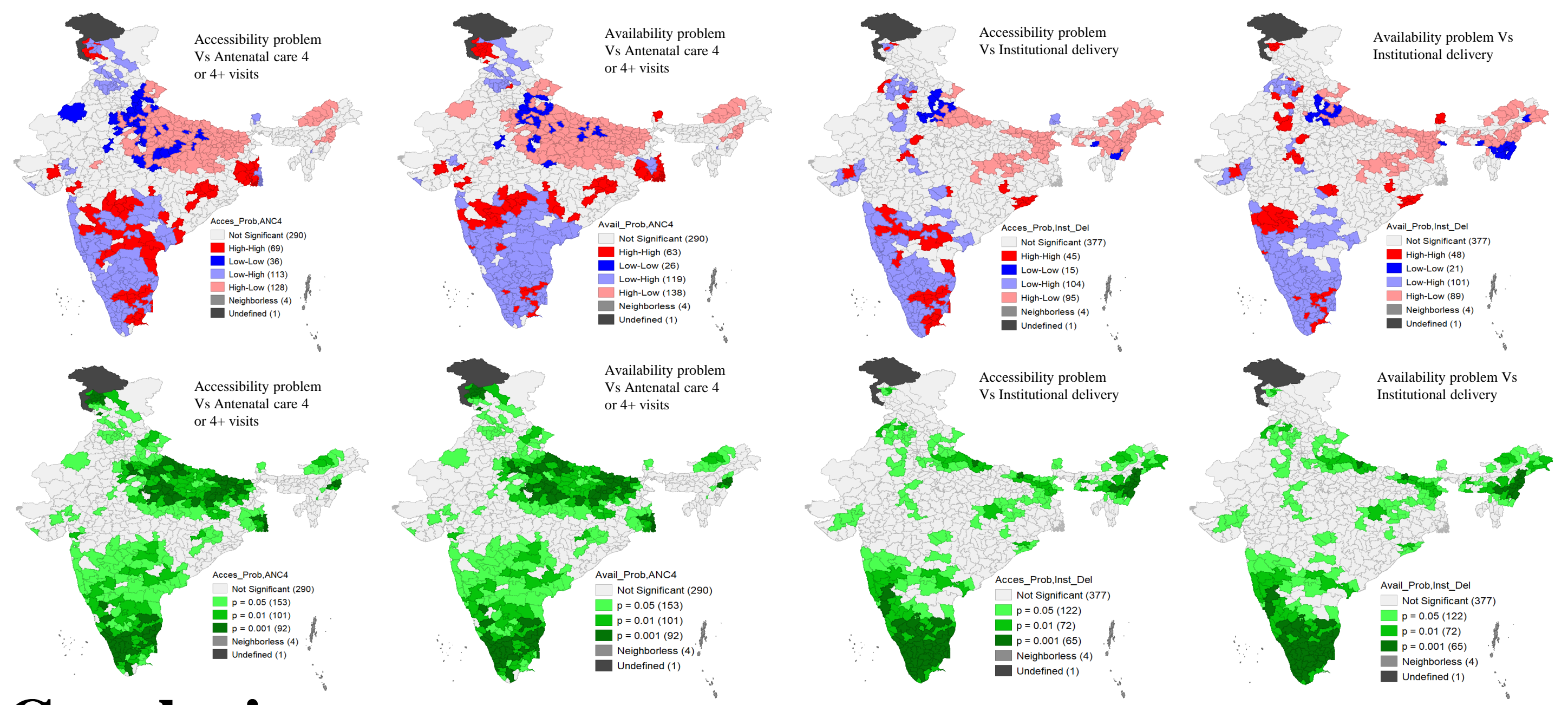
Figure 8: Bivariate LISA clustering and significance maps of health care utilization and problem in availability and access to health facility in districts of India 2015-16

Conclusion

- Scaling up of availability of health services and resources is required for better access to health facility.

- Distance to health facility and availability of transportation services need to taken care for better access.

- Women from lower socio-economic strata reported more problem in availability access to health facility as compared to women from higher socio-economic strata.

- States such as Bihar, Jharkhand, Uttar Pradesh, Odisha, Chhattisgarh, Madhya Pradesh, Arunachal Pradesh and Nagaland need to address barriers in access to health facility as high-high spatial clustering of barriers was observed.

- To increase in utilization of health services there is need to resolve problems at regional and local level.

Reference

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- [1]RGI., (2020). Special bulletin on maternal mortality in India 2016-18. New Delhi: Registrar General of India - Vital Statistics Division; July 2020.

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Contact

Please feel free to write us if you have any queries and suggestions. Your valuable questions and suggestions are welcome. Gulshan Kumar, Email at - kumargulshan630@gmail.com ; Dr. Reshmi R..S. email. at - reshmi@iips.net