

# Impact of Monthly Surveillance on Utilization of Maternal and Neonatal Health Services among Urban Poor in Slums of Navi Mumbai, India

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# Research Objective and Questions

## Research Objective

To study impact of **Monthly Surveillance** of health needs on **Access, Rational Utilization & Effective Coverage with Maternal and Neonatal Health Services** and the pathways through which the intervention worked

## Research Questions

- Did surveillance improve utilization and effective coverage of MNH services?
- Did surveillance have impact on utilization of referral services for MNH morbidity?
- Is increase in utilization attributable to the intervention?  
(Surveillance system)



# Description of Intervention – Surveillance

## Design & Development of Intervention

- **Institute of Health Management, Pachod (IHMP)** Designed & Pretested the Intervention & Introduced it in **Sure Start** project in 7 Cities of Maharashtra, India.

## Description of Intervention

- **Monthly community based surveillance (Early Detection)** of individuals with MNH needs
- **Linkage** of clients with health providers by **Community Link Workers (CLW)**



# Study Design and Methodology

## Secondary data from NMMC records

Data from the routine NMMC - **MIS of 2008 and 2009** - to study any change in the utilization of MNH services

## Interview of recently delivered mothers

Post intervention study: Comparison of health seeking behaviours during the last two pregnancies.

Interviewed 200 randomly selected, recently delivered mothers, with 2 or more children, to determine a change in health seeking behaviour between the **most recent delivery (exposed to intervention)** and the **previous delivery** and gather evidence whether change is attributable to monthly surveillance



# Sampling the respondents:

## Interview of recently delivered mothers

- **Study respondent:** Women who have delivered recently; within the reference period April 2009 to March 2010, and who have a minimum of 2 live births
- **10 out of 20 Urban Health Posts (UHP)** randomly selected from the project area
- **3 Link Workers** randomly selected from each UHP area
- **7 Respondents** randomly selected from each Link Worker's area
- **Sample size:** 200 recently delivered mothers to detect a 10 percent difference in coverage with minimum, standard antenatal care, with an alpha of 0.05 to achieve 80 percent power. (Fleiss et al, 2003)

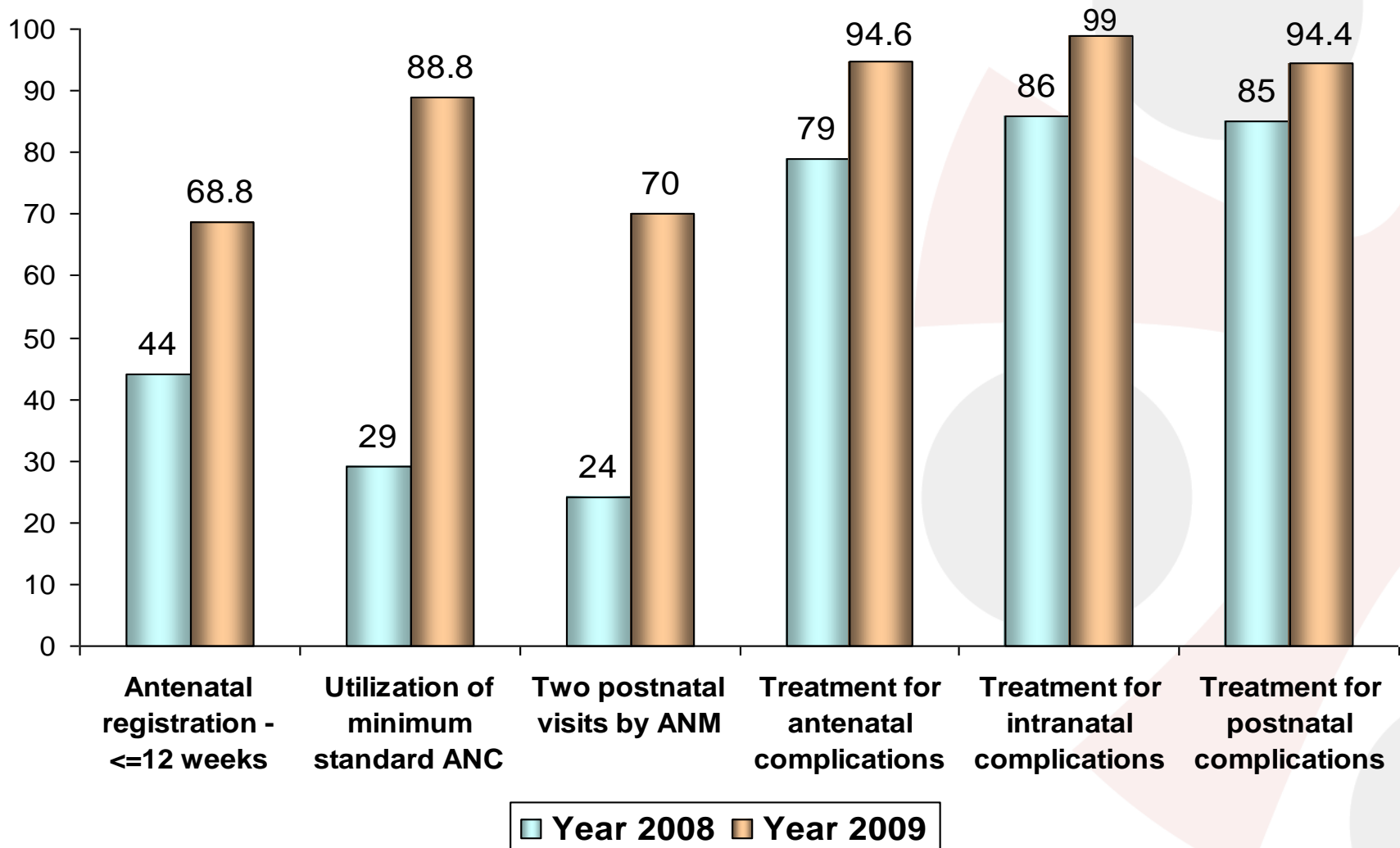


# Study Findings

## A. Findings based on secondary data from the Routine Project MIS



# Utilization of Maternal Health Services by Project Year (MIS)



# Study Findings

## B. Findings based on interview of recently-delivered mothers



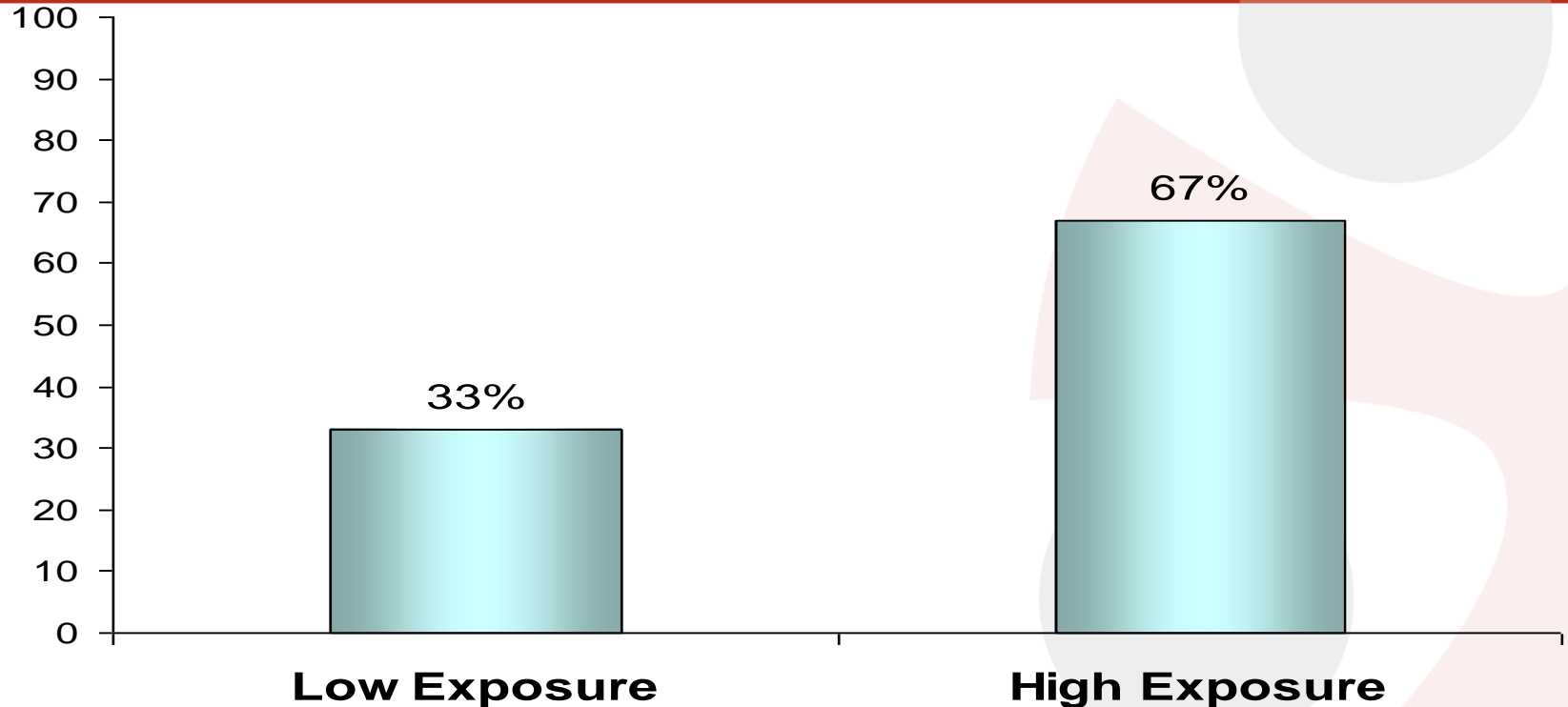


# Socio-demographic characteristics of the respondents

Characteristics	
Mean current age of the respondents	25.81 years
Respondent's education $\leq$ 8 <sup>th</sup> standard	58.3%
Husband's education $\leq$ 8 <sup>th</sup> standard	38.8%
Nuclear families	64.6%
Low Economic Status (ES) (living in 1 room tenement)	58.7%
Religion – Hindu	77.2%



# Levels of Exposure of Respondents to surveillance by CLWs for MNH



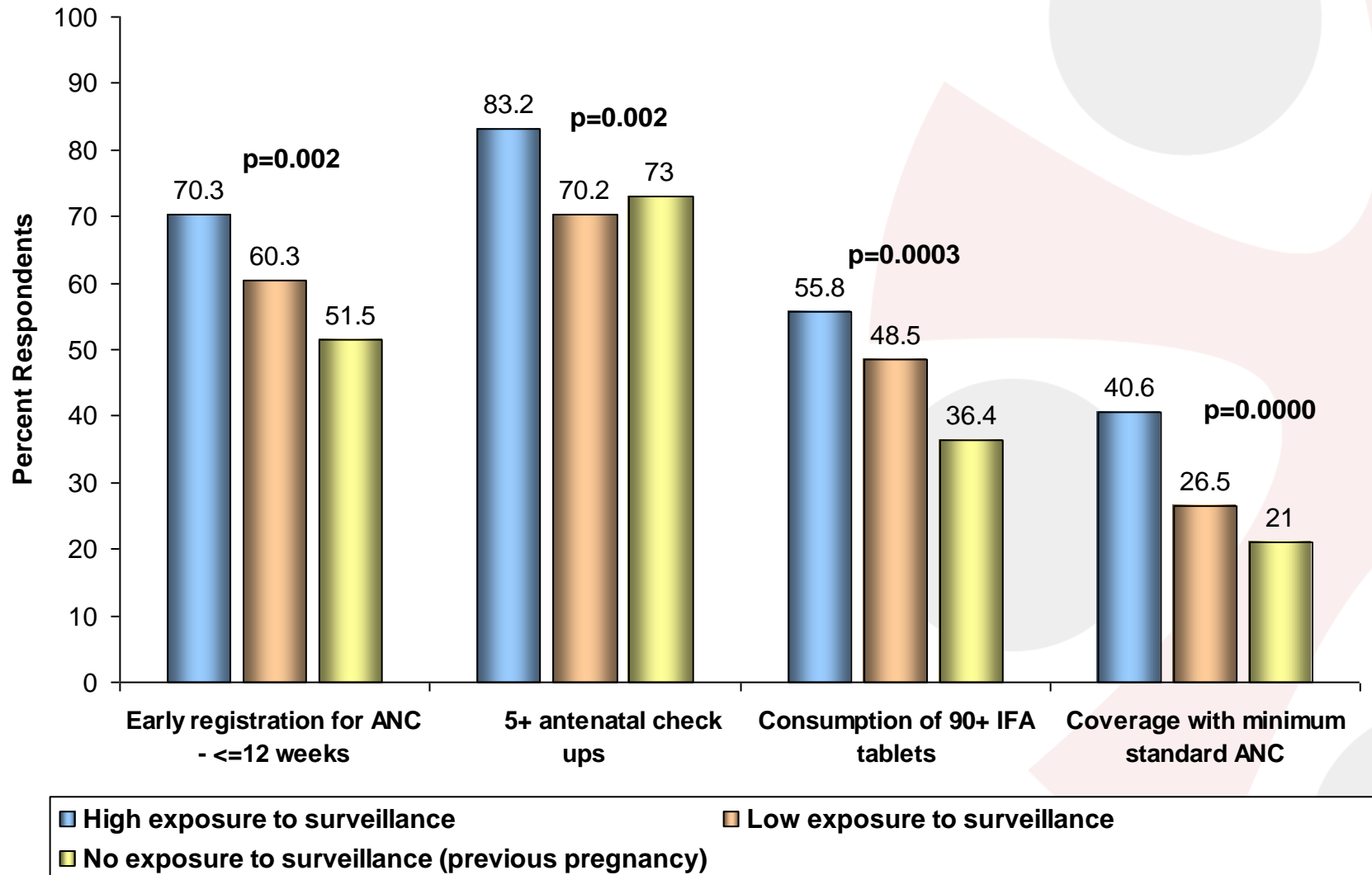
Low Exposure -  $\leq 3$  Surveillance visits during pregnancy by Link Worker

High Exposure -  $\geq 4$  Surveillance visits during pregnancy by Link Worker

**During surveillance visits CLWs inquired about AN registration, AN examination, IFA consumption, symptoms of ante-natal, post-natal, neonatal morbidity**



# Association Between Surveillance and Utilization of Antenatal Services

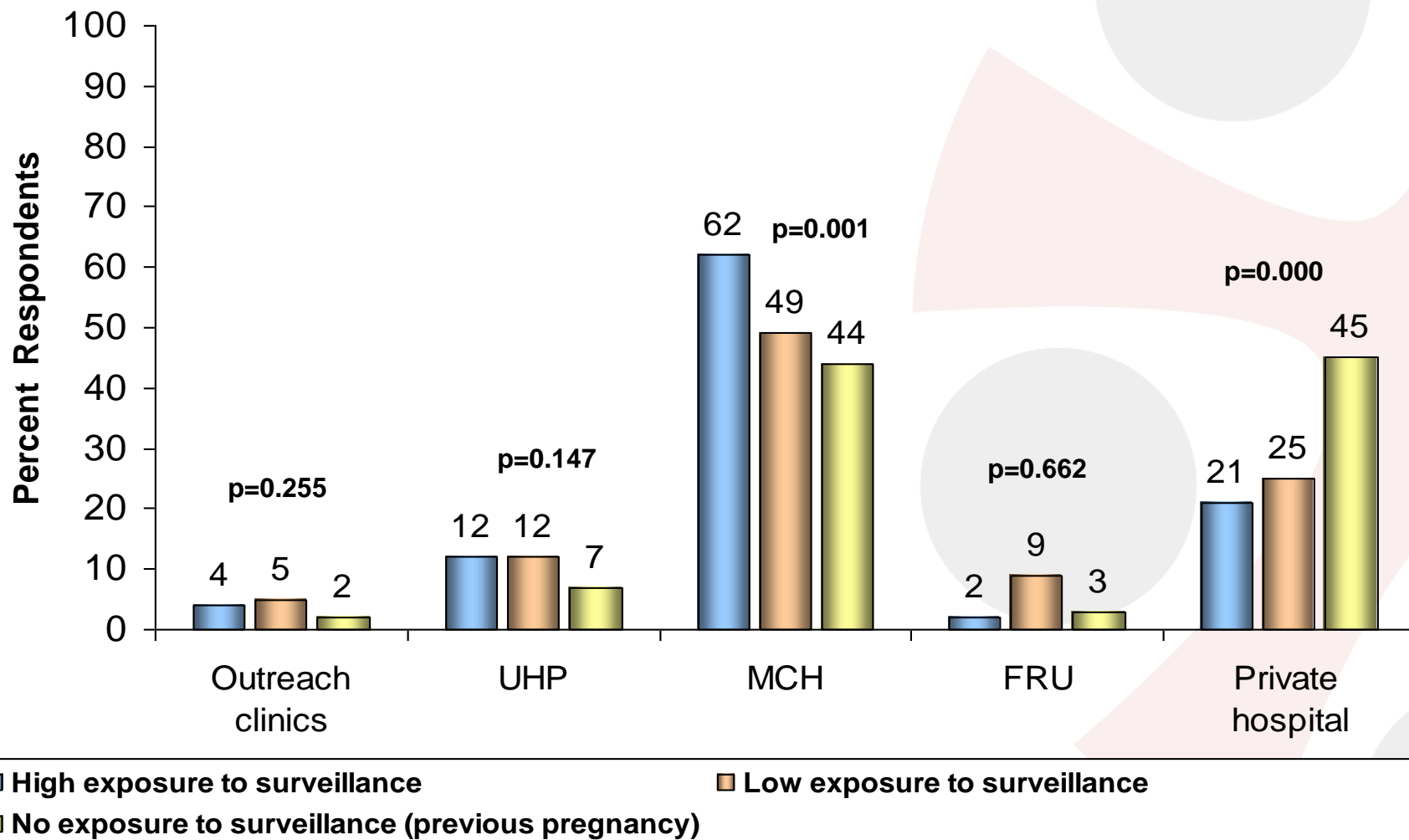


# Adjusted Odds of Coverage with Minimum, Standard Antenatal Care

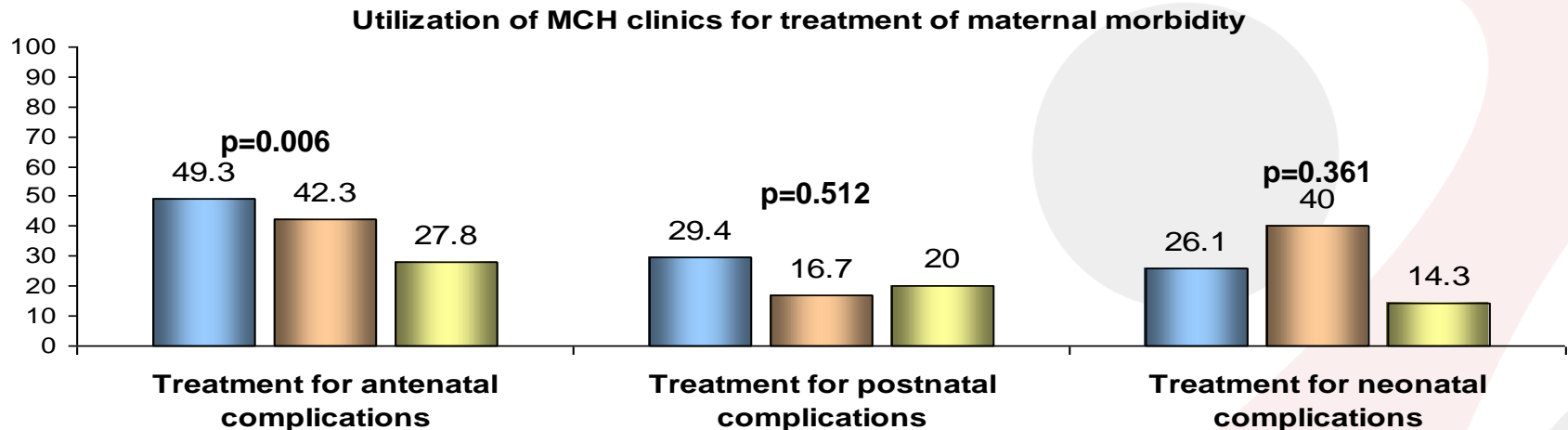
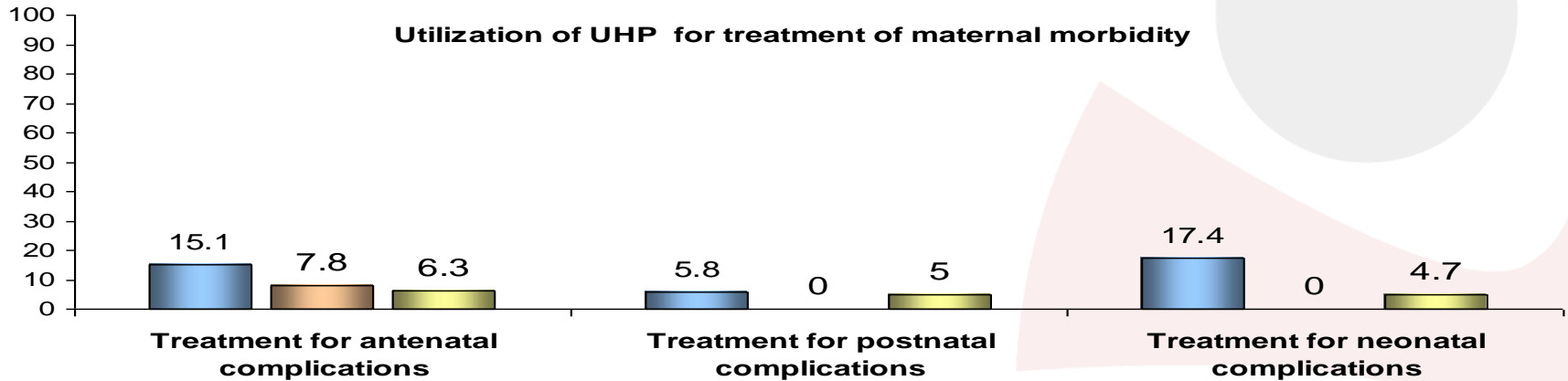
Variables /categories	Adjusted Odds	Confidence/intervals
<b>Current age</b> <ul style="list-style-type: none"> <li>▪ ≤ 24 years (reference)</li> <li>▪ 25-29 years</li> <li>▪ 30+ years</li> </ul>	1.00 1.30 1.58	0.66 – 2.55 0.65 – 3.85
<b>Education</b> <ul style="list-style-type: none"> <li>▪ ≤ 7 standard (reference)</li> <li>▪ <b>8+ standard</b></li> </ul>	1.00 <b>1.97*</b>	1.01 - 3.08
<b>Socio-economic status</b> <ul style="list-style-type: none"> <li>▪ High (reference)</li> <li>▪ Low</li> </ul>	1.00 0.76	0.39 – 1.51
<b>Exposure to surveillance</b> <ul style="list-style-type: none"> <li>▪ Low (reference)</li> <li>▪ <b>High</b></li> </ul>	1.00 <b>1.90*</b>	1.01 - 3.66
<b>N = 206      Log likelihood = --127.82549      Pseudo R2 = 0.0497      *p&lt;0.05</b> <i>Adjusted for current age, education of respondent, education of husband, socio-economic status, type of family</i>		



# Association Between Surveillance & Place of Registration for ANC



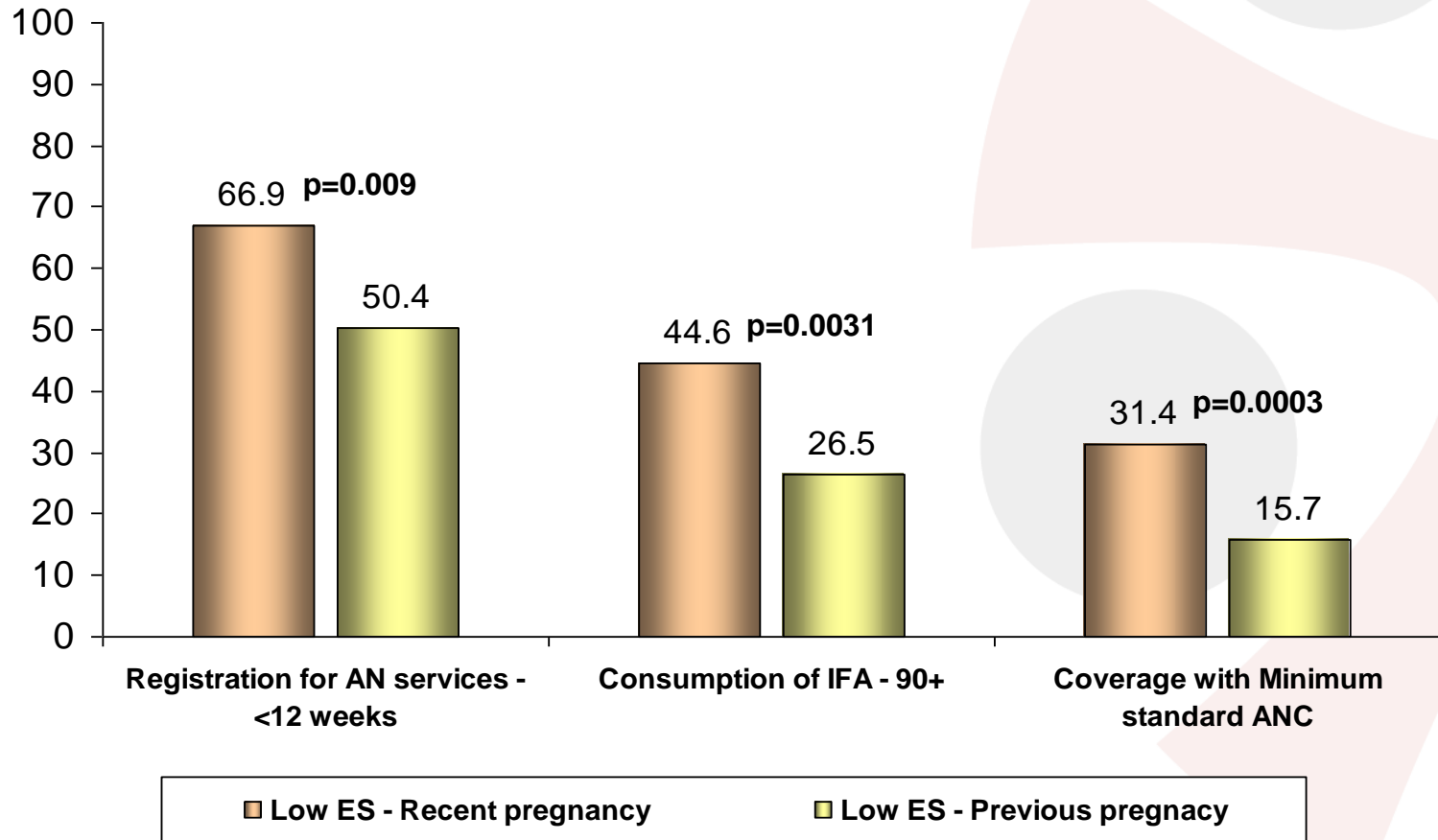
# Utilization of Urban Health Posts and MCH Clinics for Treatment of Maternal Morbidity



■ High exposure of surveillance     
 ■ Low exposure to surveillance  
■ No exposure to surveillance (previous pregnancy)



# Utilization of Antenatal Care by Economic status



# Conclusions

## **Surveillance associated with significant increase in**

- Utilization of MNH services.
  - Early antenatal registration.
  - Consumption of IFA tablets.
  - Coverage with minimum standard antenatal care.
  - Treatment for maternal and neonatal morbidity.
  - **Minimal evidence of rational utilization of services.**
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- Evidence of Equity - increase in service utilization by marginalized households.





# Acknowledgements

## Authors

- 1. Institute of Health Management, Pachod**
- 2. Sure Start Project, PATH**
- 3. Navi Mumbai Municipal Corporation**

# Thank you

