WASH & CLEAN: A Situation Analysis of Hygiene on Maternity Units in India

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on behalf of the **WASH & CLEAN Study Team**

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Content of Session

- Rationale for WASH & CLEAN study
- Study objectives
- Methods & tools
- Key findings & Triangulation of observation with current guidelines and standards for IPC in health care institutions
- Recommendations

NATIONAL RURAL HEALTH MISSION
राष्ट्रीय ग्रामीण स्वास्थ्य मिशन
(2005-2012)

JANANI SISHU SURAKSHA KARYAKRAM (JSSK)

Janani Suraksha Yojana (JSY)

(JSY) is a safe motherhood intervention under the National Rural Health Mission (NRHM) being implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. The Yojana, launched on 12th April 2005, by the Hon'ble Prime Minister states and UTs with special focus on low performing states.

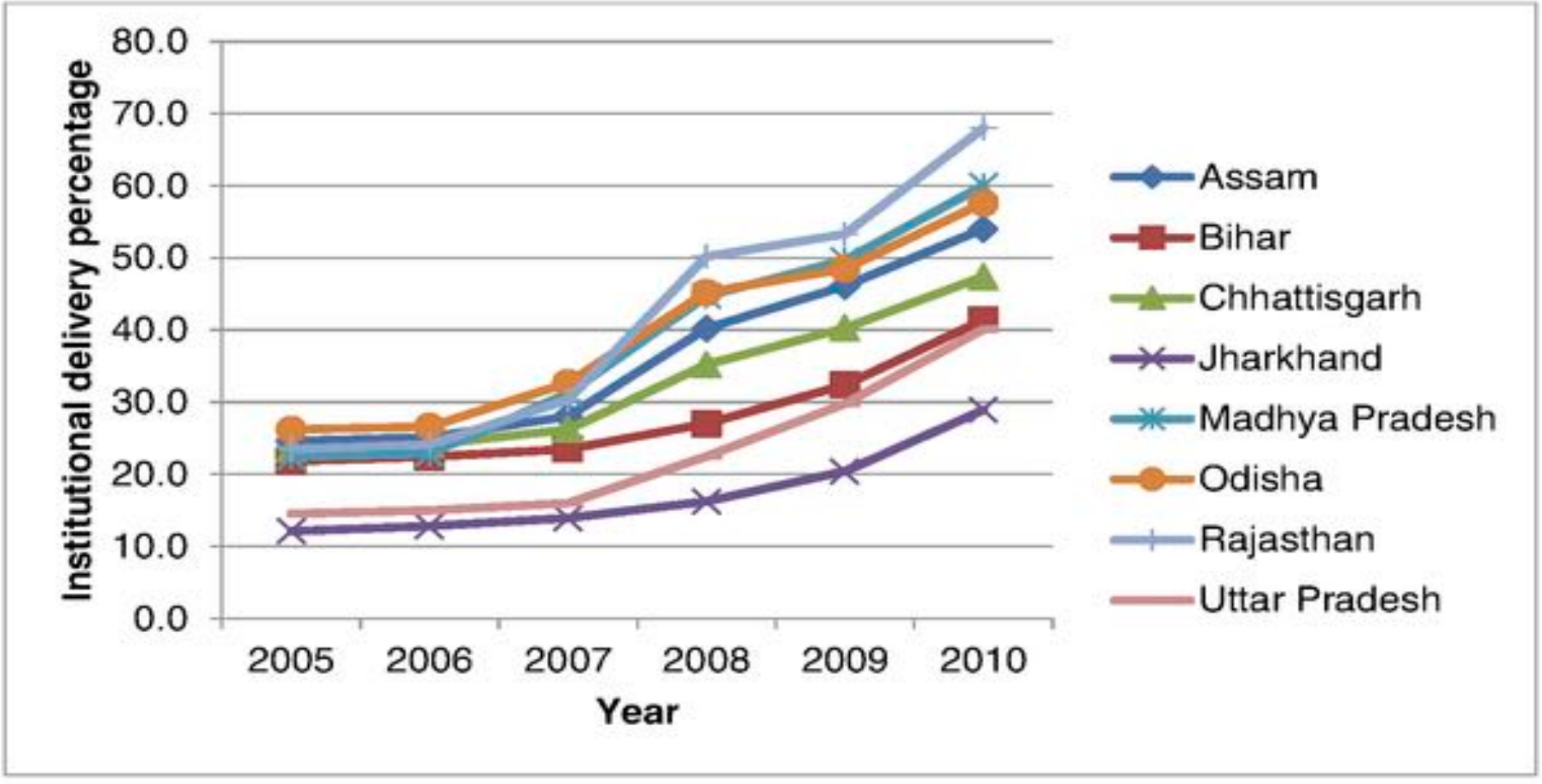
Benefits

Only Institutional Delivery -
Rural area women will get the amount of Rs. 1400/-
Urban area women will get the amount of Rs. 1000/-

- Rural Area ASHA will get — Rs. 600/- for 1st two delivery,
  Rs. 400/- after 3rd delivery,
  Rs. 200/- after 4th delivery,
  Rs. Nil after 5th delivery & above.
- Urban Area ASHA will get — Rs. 200/-

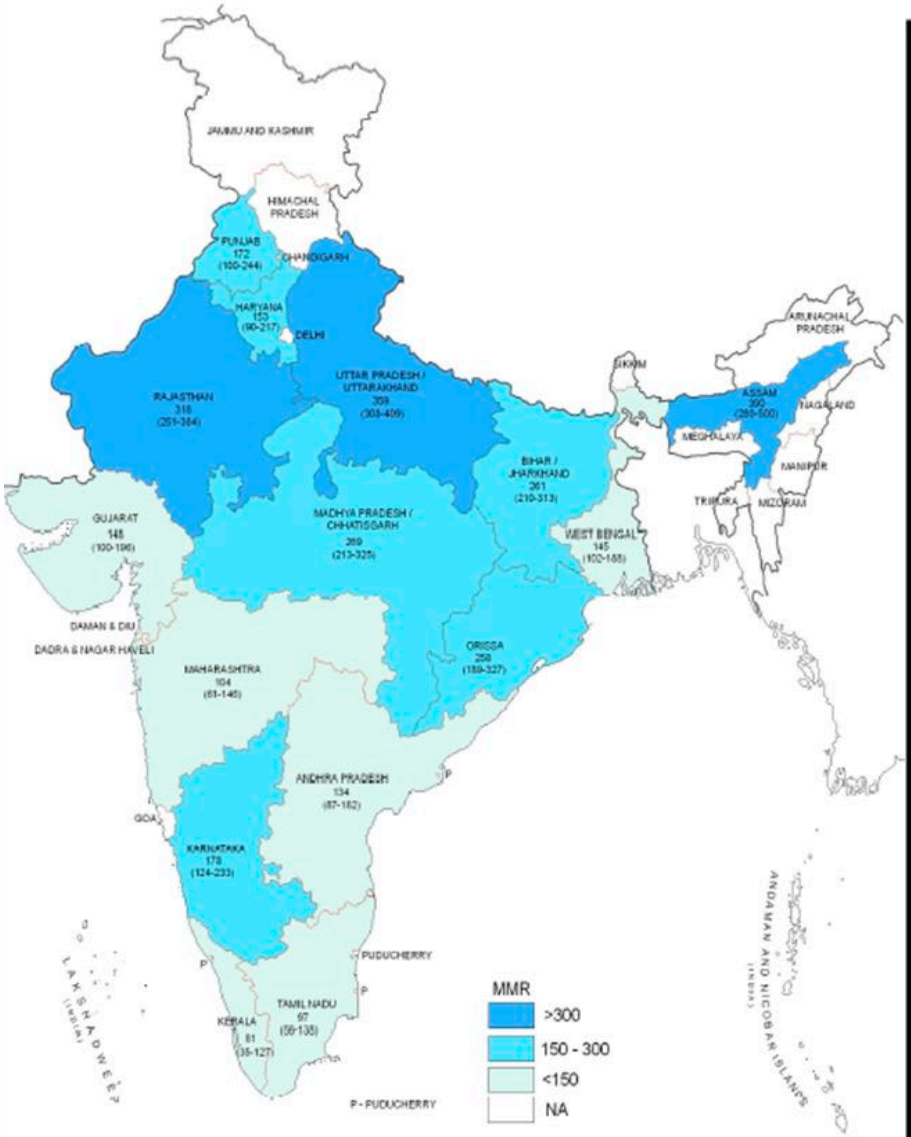
(All are A/c Payee Cheque only)

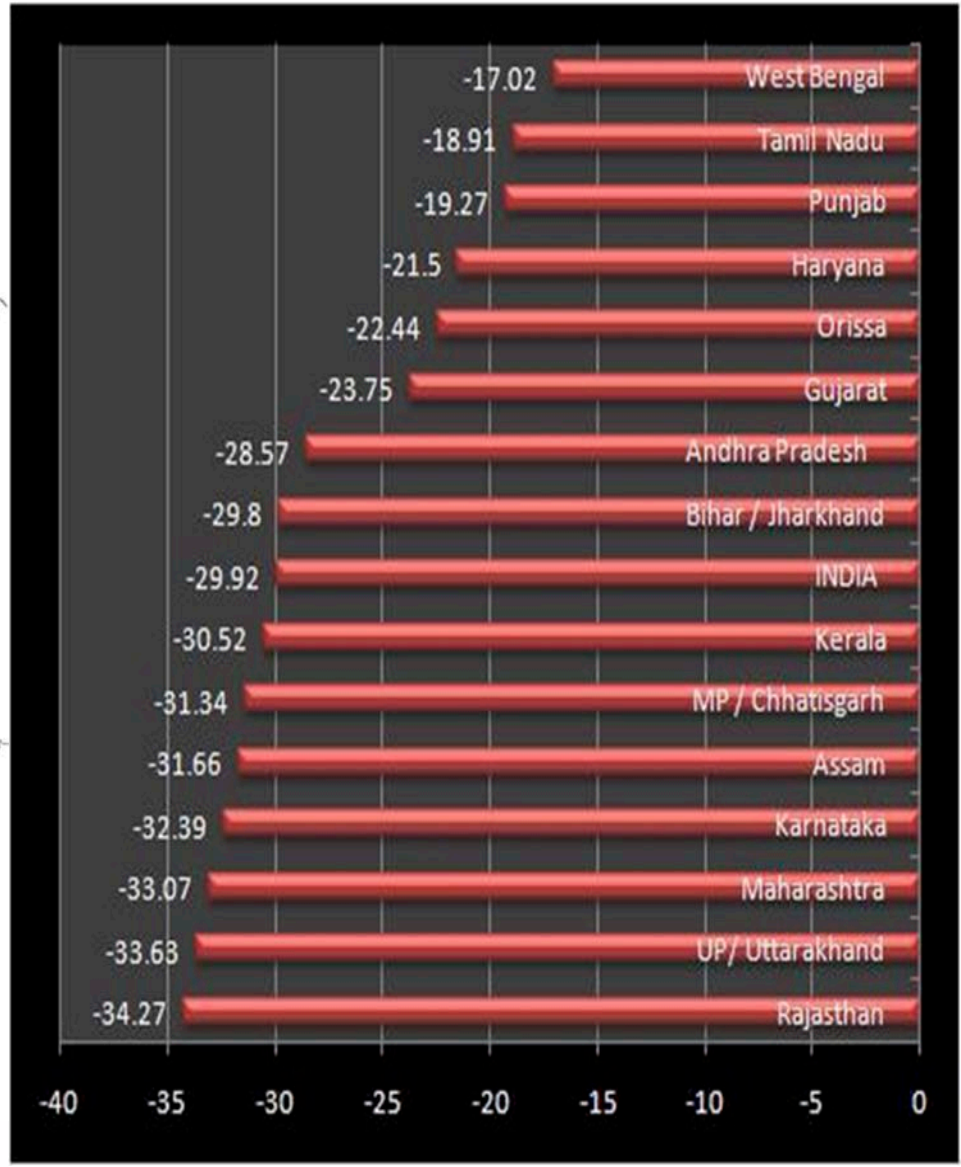
Trends in Institutional Deliveries



Randive B, Diwan V, De Costa A (2013) India's Conditional Cash Transfer Programme (the JSY) to Promote Institutional Birth: Is There an Association between Institutional Birth Proportion and Maternal Mortality?. PLoS ONE 8(6): e67452. doi:10.1371/journal.pone.0067452 http://www.plosone.org/article/info:doi/10.1371/journal.pone.0067452

Trends in MMR in India

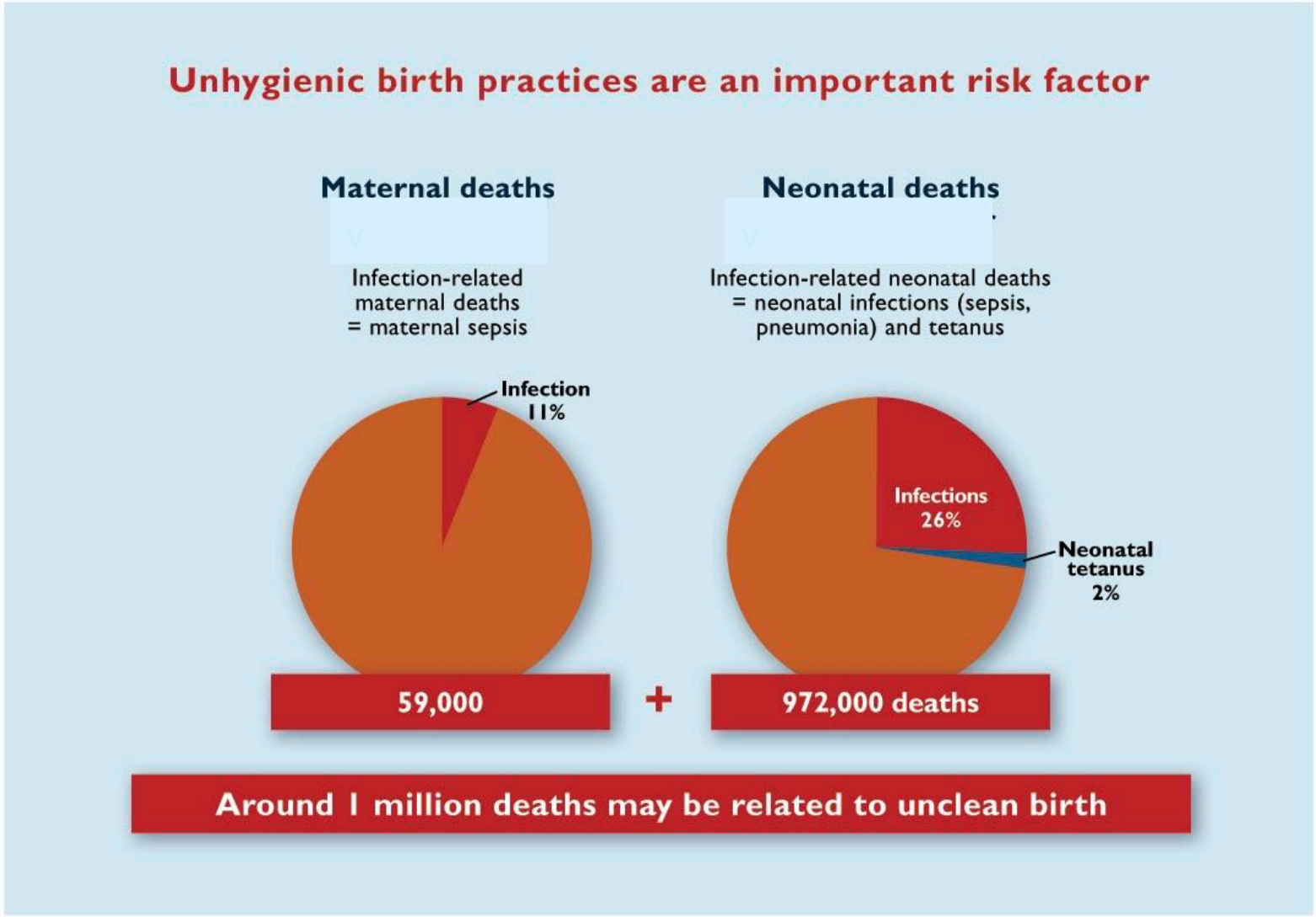




SRS : Special Bulletin on MMR 2010-12 & RGI Jan 2014

A preventable burden

Figure 1: Global maternal and neonatal deaths due to infections



Source: Blencowe, Lawn and Graham 2010

Study objectives

- To develop tools for capturing levels of cleanliness on maternity wards & key determinants
- To apply tools to sample of maternity units in Gujarat State of India
- To synthesize and communicate the findings for further use.

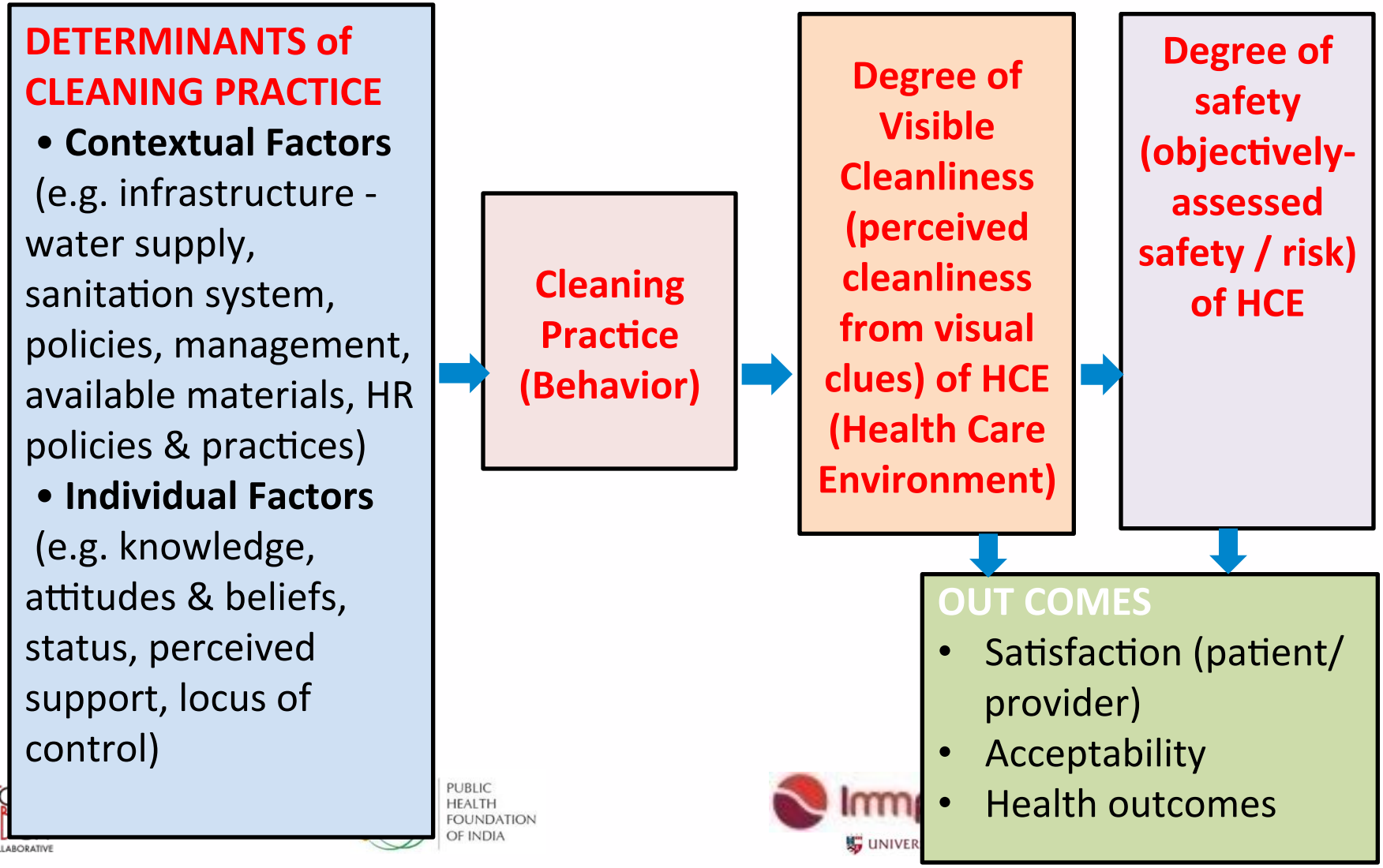
Three phases to current project

1. Formative : develop a "toolbox" to capture objectively levels of cleanliness and to reveal key determinants .

2. Situation analysis : to apply toolbox to selected maternity units in Gujarat State.

3. Synthesis & communication : to revise toolbox & share findings.

Conceptual Framework



WASH & CLEAN
Tool box

Tool 1: Walkthrough Checklist

Tool 2: Facility Needs Assessment Tool & Document Capture

Tool 3: Semi-structured interview with management

Tool 4: Photo-prompted semi-structured interviews with healthcare providers

Tool 5: Photo-prompted semi-structured interviews with staff (nurses /cleaners / moppers)

Tool 6: Photo-prompted semi-structured interviews with recently delivered women

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Survey methods

- Mixed methods approach
- Multiple stakeholders
- Novel elements

Formative Phase (Dec 2013-Jan 2014)

- Two maternity units Gujarat, India
- Two maternity units Dhaka Division, Bangladesh

Situation Analysis Phase (Feb – May 2014)

- Seven maternity units, Gujarat
- Eight maternity units, Dhaka Division
- Public & private facilities
- High and low caseloads

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Novel Element in WASH & CLEAN: Use of Photo-elicitation

- **Participatory Photography** (Formative Phase Only)
  - Healthcare providers & cleaners
  - Ethical considerations
  - Basic camera skills
  - Visual literacy & photo dialogue
  - Taking of photographs & individual interviews
  - Data used to inform situation analysis phase

- **Photo Elicitation** (Formative & Situation Analysis Phase)
- Photo-elicitation technique has proved useful particularly with illiterate/semi-literate participants and marginalised groups
- Rarely applied in developing country contexts, less in healthcare environments

Tool 1: Walkthrough Checklist

- Healthcare environment

- 3 methods of data collection:
  - Walkthrough Checklist Questionnaire
    - Visual state of hygiene & determinants
  - Photographs
    - Visual state of hygiene & determinants
  - Microbiology
    - State of hygiene

Microbiology

- Swab samples from up to 30 designated sites
- Stored 2-8°C for a maximum of 4 hours
- Variety of agar mediums
- Examined at 24 and 48 hours at 37°C aerobic conditions
- Species identification – Gram staining & standard biochemical tests
- Reported presence of potential pathogens (e.g. *Staphlococcus aureas*, *Klebsiella* & *Pseudomonas*) & non-pathogenic organisms (*Bacillus subtillis*)

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Tool 2: Facility Needs Assessment Tool

- Healthcare organisation, systems & operations, human resources, IPC & healthcare practices
- Questionnaire
  - Interview format
- Document Availability Checklist
  - Policies & Protocols
  - Healthcare system

Tool 3

- Semi-structured interview with management

Tool 4

- Photo-prompted semi-structured interviews with healthcare provider

Tool 5

- Photo-prompted semi-structured interviews with staff (nurses / cleaners / moppers)

Tool6 : Semi-structured interviews with recently-delivered women

- Collected Respondent characteristics
- Views and perceptions of women on their understanding of hygiene at birth, & their satisfaction with care on maternity unit
- Use of photo-prompted & closed questions
- India – only Exit interviews; Bangladesh – Exit Interviews & Community follow-up

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Findings from Gujarat, India

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Background

- **Formative Phase (Dec 2013-Jan 2014)**
  - Two maternity units Gujarat, India
- **Situation Analysis Phase (Feb 2014 – May 2014)**
  - Seven maternity units Gujarat, India
- Mix of public and private facilities (including an NGO facility)
- Public facilities selected in consultation with state government

Study sites

Phase	Criteria for selection	Districts & levels of facilities
Formative phase	2 government facilities (Mid level facility, At least 30 deliveries/mth)	Mid level (CHC)
Situational analysis Phase	7 multi level facilities (At least 30 deliveries/mth) ✓ 5 Government facilities ✓ 1 Private maternity hospital ✓ 1 Non Governmental Organization (NGO), Maternity & nursing home	Primary level (24*7 PHC)
		Mid level (CHC)
		Sub District Hospital (SDH)
		Private Maternity hospital
		NGO maternity & nursing home
Total	Nine facilities located in five districts	

Walkthrough and Needs Assessment

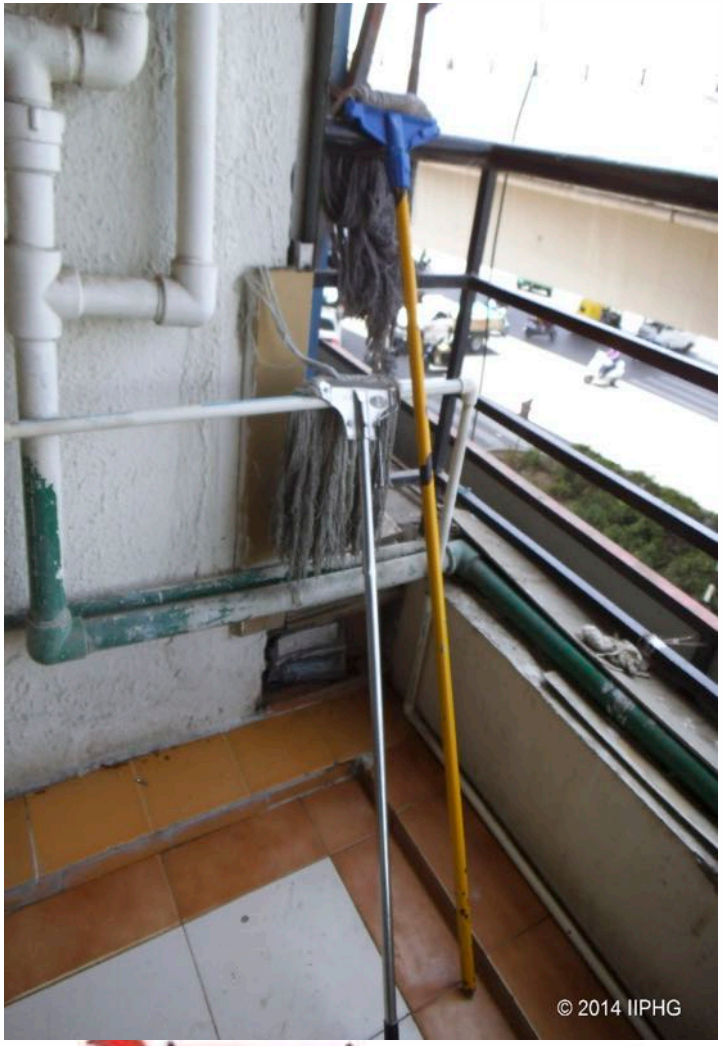
- Sterilization equipment were available in all facilities
- Waste was segregated & disposed off as per the biomedical waste rules in all facilities except one private facility
- Availability of water & electricity in all facilities

- No written protocols or policies for IPC in any of the facilities
- Sharp disposal box available in only two government facilities
- Display of protocols for BMW in all govt. facilities but none of private facilities
- None of the units had availability of place to store cleaning supplies including mops

Walkthrough and Needs Assessment

- All facilities scored “good” for visual cleanliness and had more or less same score of 50-60% except one private facility scored “very good” at 95%.
- **None of the facility practiced microbiology surveillance for Labour Rooms .**
- **No protocol / SOP for microbiological surveillance.**
- **Antibiotics are given to all women who delivered in all 7 facilities irrespective of indication.**
- **None of the facilities document puerperal sepsis.**

Cleaning Practices



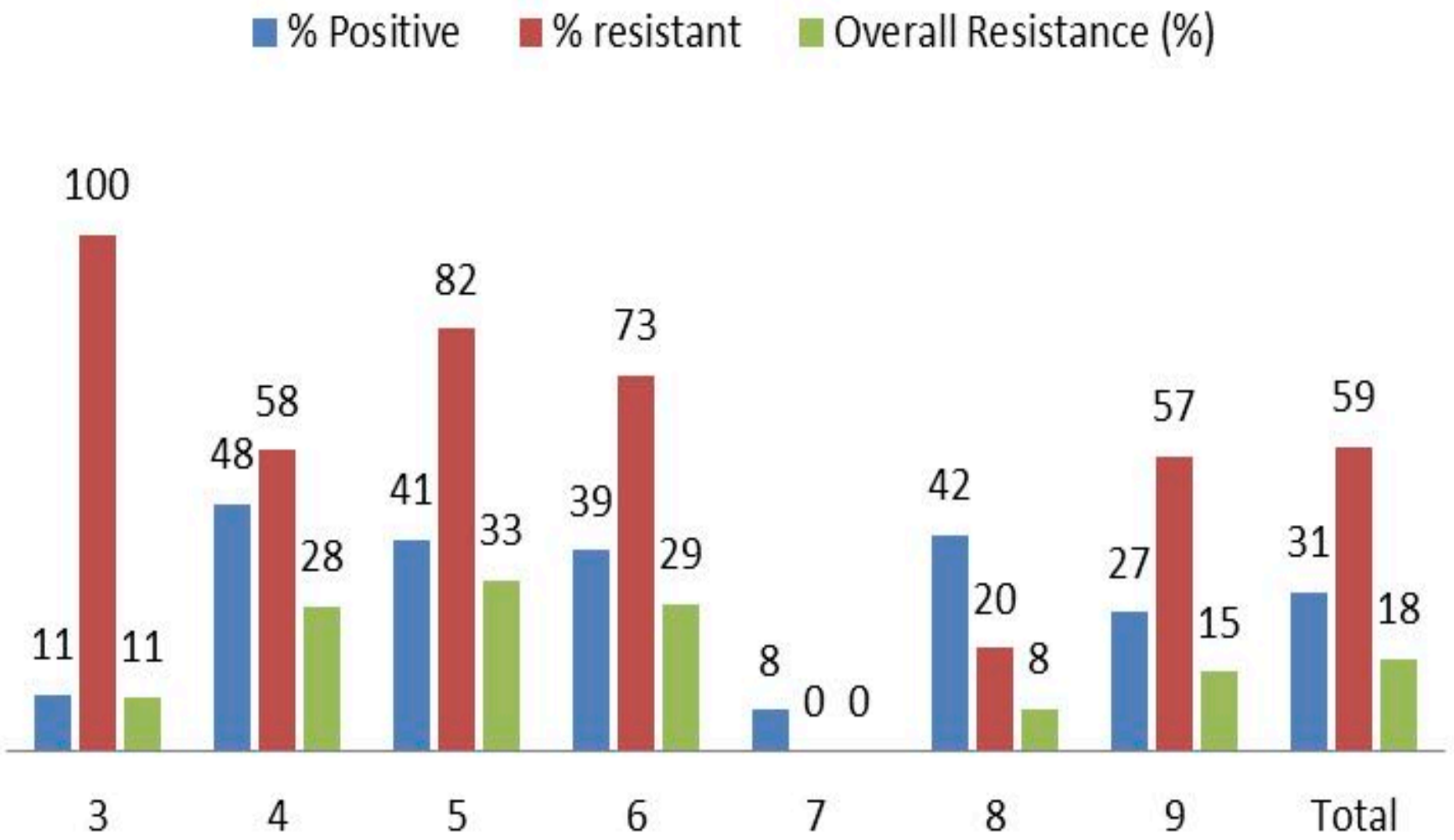
Microbiological Assessments

- **Visibly clean surfaces were not microbiologically sterile.**
- **Pathogenic bacteria were found from maternity beds, mops and buckets.**
- Commonly found bacteria were Pseudomonas, S. Aureus and Coagulase negative Staphylococcus.
- **31%** of total 183 swab samples were found to be positive for pathogenic bacteria.
-

Microbiology

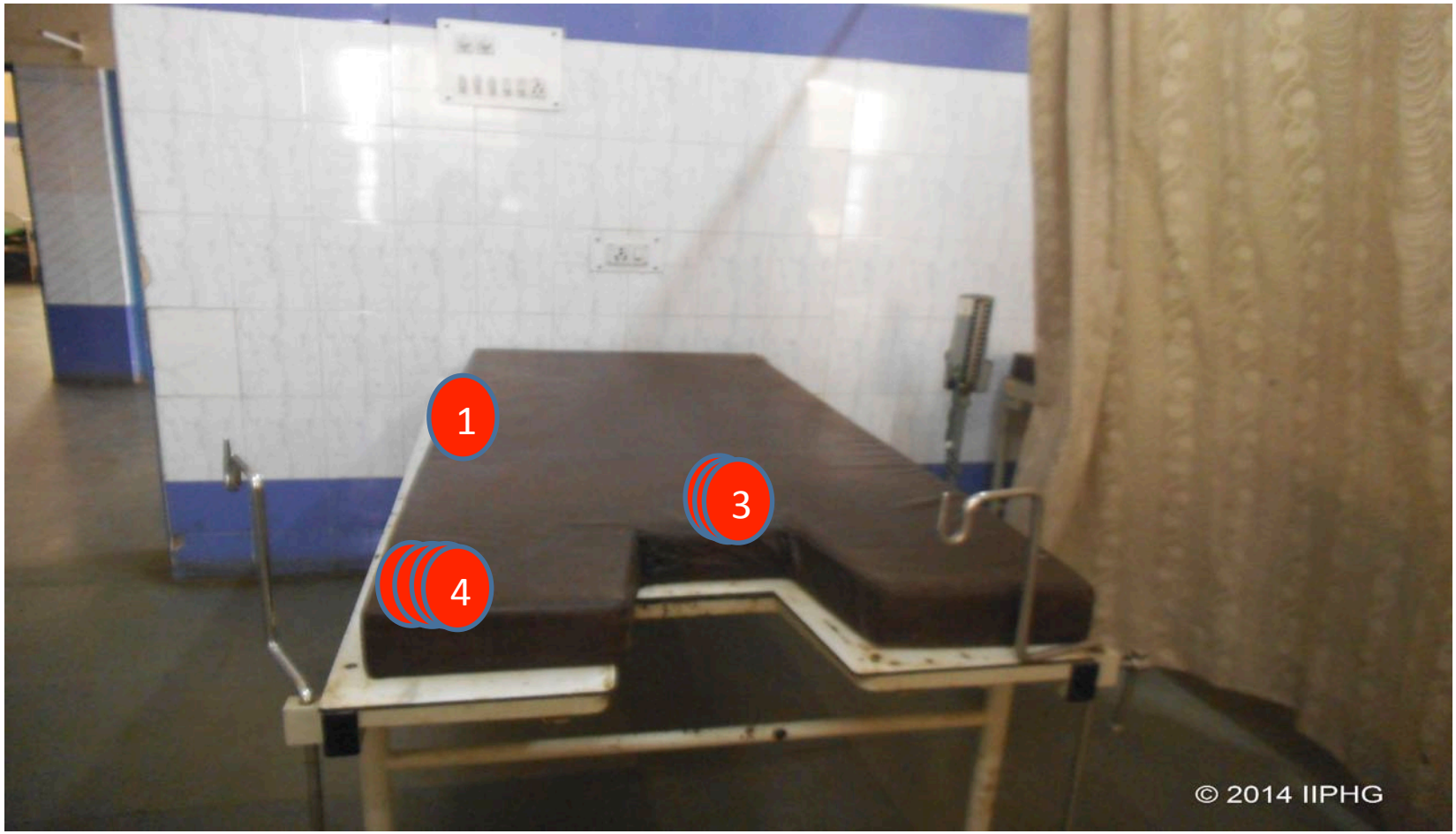
- The private facility that had **highest cleanliness** score had **high contamination** (39% of all swabs tested positive for pathogenic bacteria)
- **61% of positive samples were resistant to at least one antibiotic**
- **67% of positive sample from LR were resistant to more than one antibiotics**.

Microbiology findings



Microbiological Contamination: Maternity Ward

Microbiological Contamination: Labor Ward



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Microbiological Contamination in cleaning apparatus

Findings of Photo elicitation

Human Resource Issues

- Scarcity of staff and multiple responsibilities
- Remuneration difference between contractual and permanent staff (paramedical & cleaning staff)
- Lack of systematic training on IPC/ or hospital cleaning

Infrastructural Issues

- Facilities do not have bathrooms attached to the labor wards or maternity wards.
- No utility room in any of the facilities.

Findings of Photo elicitation

Management issues

- Inadequate funds and mismatch with the work load
- Local managers have limited decision-making
- Managers are medical graduates without training in management or public health, focus on clinical work & preventive work-
- Dependent on clerical staff for administration.

Supply

- Shortage of disposables including gloves, sheets etc.
- Supply does not match with the case load!

Women's Satisfaction

- **All mothers were satisfied with the cleanliness of facilities**

Triangulation with Current scenario on standards and guidelines

- Lack of standards:
  - IPHS available but focus on infrastructure not on processes
- Evidence informed policy is inadequate due to lack of monitoring postnatal infections among mothers and neonates
- Logistics support:
  - Irregular or no supply of basic tools such as mops, disinfectants
  - Storage of material
- LR / Maternity wards not included in Microbiological surveillance

Recommendations

- State and district level infection control nodal-officer to be appointed
- Systematic training for Infection Prevention and Control (IPC)
- **HR Solutions:**
  - Salary, working conditions of cleaners
  - Post of housekeeping manager wherever possible or extra responsibility to staff (include it in job chart) e.g. Block level Public Health Nurse cum house keeping manager
- **5S+**: focus 5S on maintenance of sterile environment with microbiology surveillance in health facilities

Actionable Recommendations….

- Include Labor room in routine Microbiological Surveillance *(Microbiological Surveillance already in place for surgical OT)*
- Incorporating Sepsis as a part of HMIS *(Already established MCTS, IDSP and Postnatal visits by HCW's)*
- Ensure availability of Mops , Training on SOP for Mopping , cleaning and maintaining record for same. *(RKS is already in place, SOP for general cleaning available under NRHM, Infection prevention and Control committees can be geared up).*
- Create demand for "SAFE institutional delivery" *(Mamta Day Abhiyan, VHSCNC , JSY , JSSK already in place)*

WASH & CLEAN Toolkit

Thanks

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