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Improving Access to Maternal Health Care Services: Evaluating the SURE-P Maternal and Child Health Project

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Subsidy Reinvestment and Empowerment Programme – Maternal and Child Health (SURE-P MCH)

- Nigeria: high rates of maternal mortality; strong association with short supply of midwives and insufficient healthcare infrastructure
- SURE-P aimed to increase institutional deliveries, skilled birth attendance and use of antenatal care.
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- Recruitment, training and deployment of midwives to needy areas: 500 primary health centres (PHCs) across 36 states and Federal Capital Territory.
- Basic upgrading of PHC facilities

- **Retention incentives** given to midwives: monetary incentives and non-monetary ones

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- Conditional cash transfer
- Pregnant women to be paid N5000 in 4 tranches, conditional on attendance of antenatal care and institutional delivery
- Information disseminated: newspapers, radio and television, community meetings

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Impact evaluation components

SURE-P MCH: overall evaluation

- Impact of the first 9 months of SURE-P MCH on skilled birth attendance and use of antenatal care
- Non-experimental approach

Retention incentives to midwives

- Randomized evaluation
- Relative effectiveness of different types of incentives on midwives attrition.
- Analysis of complementarity between types of incentives
- Identification of impact channels of different incentives

SURE-P MCH: PHC facilities

SURE-P MCH implemented first in 500 PHCs, starting **September 2012**

Spread across the 36 states of Nigeria and the Federal Capital Territory

Main selection criteria:

- **Location**: *"underserved"* area with a catchment area over 10,000
- **Facility staff**: at least one CHEW employed in the facility
- **Infrastructure**: existence of potable water and possibility of power supply (for at least some hours per day); this was upgraded by the programme
- Selection excludes the most poorly equipped PHCs and their respective catchment areas

SURE-P MCH overall impact evaluation: Policy question and empirical strategy

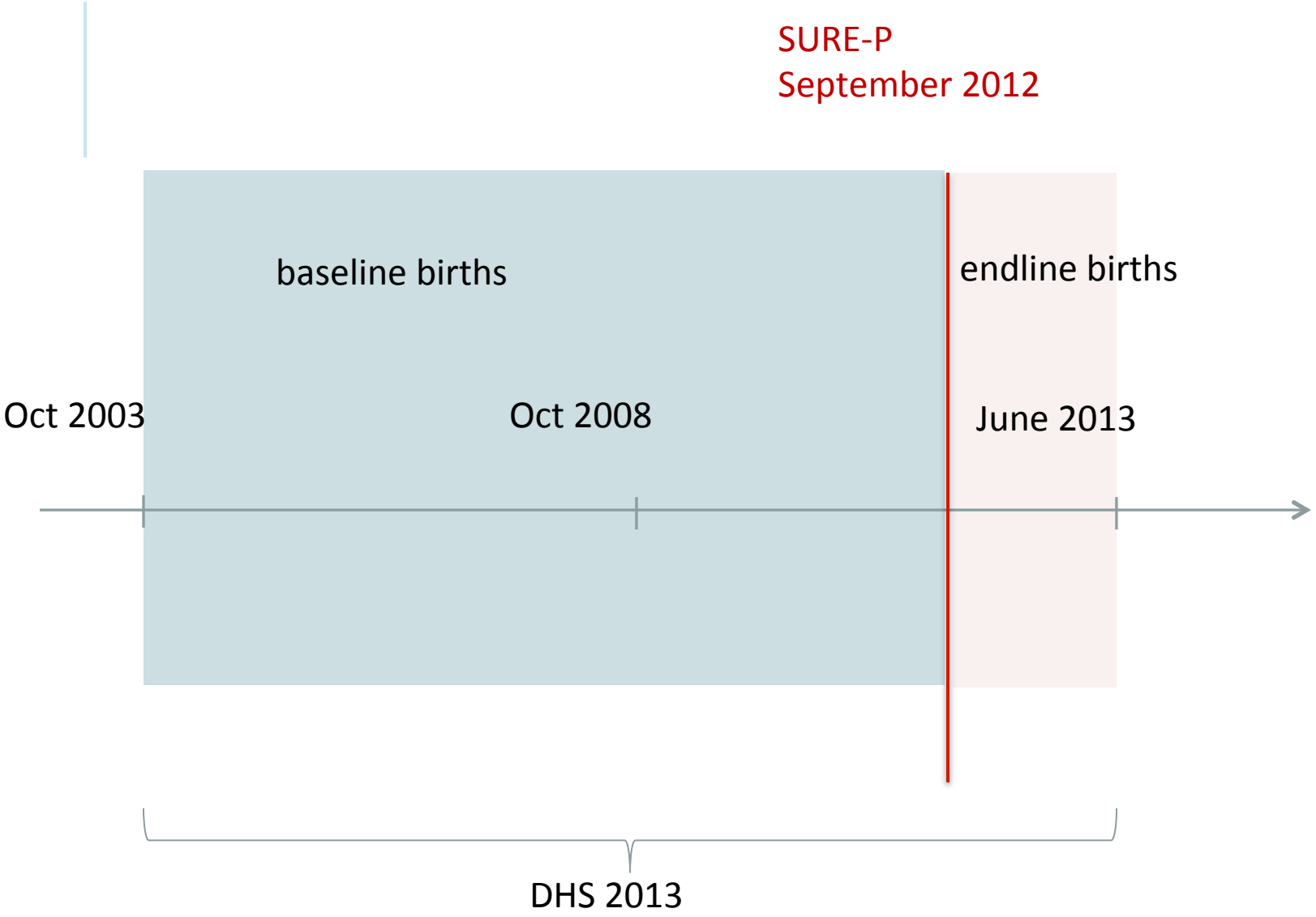
Was SURE-P MCH effective in improving skilled birth attendance and antenatal care use?

- We combine multiple sources of data for a non-experimental policy evaluation (difference-in differences approach)

Data

- **Household-level data**: Demographic and Health Surveys (DHS), 2013
  - Data collected in geo-referenced clusters; women aged 15-49 interviewed
  - Baseline: births from October 2003 to Sept 2012
  - Endline: births from October 2012 to June 2013; 9 months of SURE-P implementation

Data


SURE-P
September 2012
baseline births
endline births
Oct 2003
Oct 2008
June 2013
DHS 2013

Data

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  - Baseline: births from October 2008 to Sept 2012
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- **Facility-level data**:
  - SURE-P PHCs: GPS coordinates of the 500 SURE-P facilities, some **administrative data** and **purposefully collected facility-level data**
  - Other PHCs: Nigeria Millenium Development Goals Information System (**NIMIS**). GPS coordinates of all PHCs in Nigeria that offer maternal healthcare and skilled birth attendance in 2012

Treated and control

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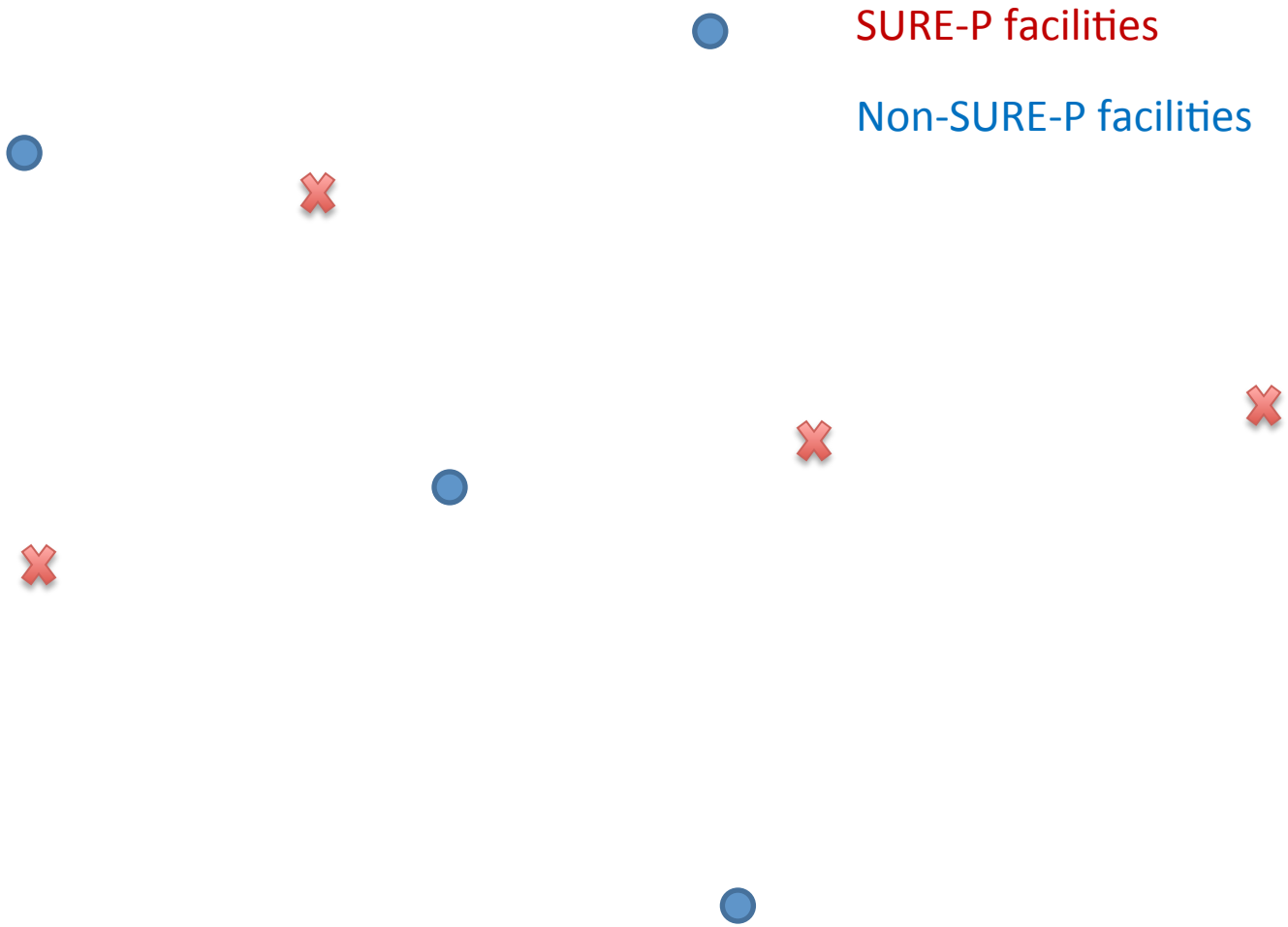

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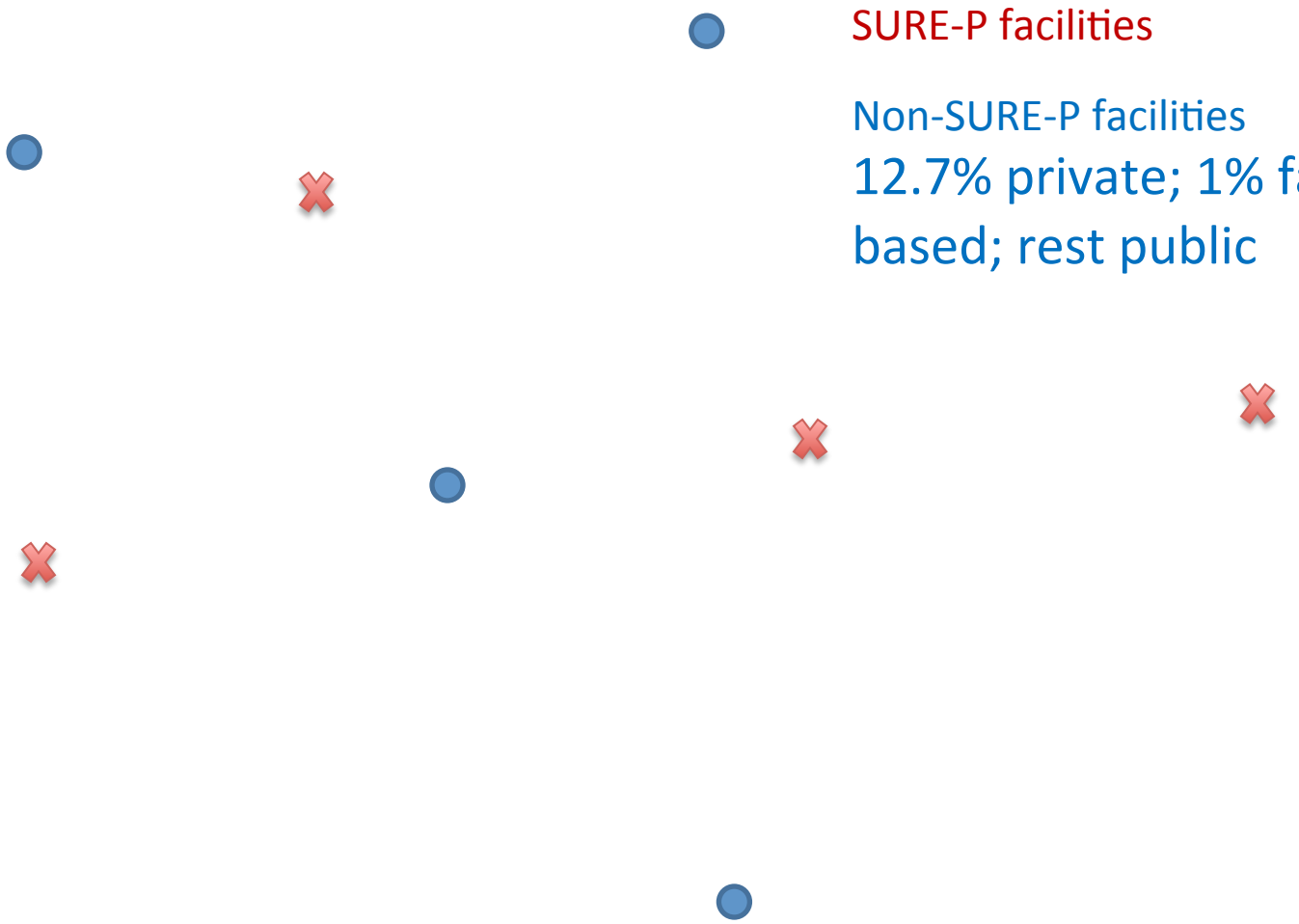
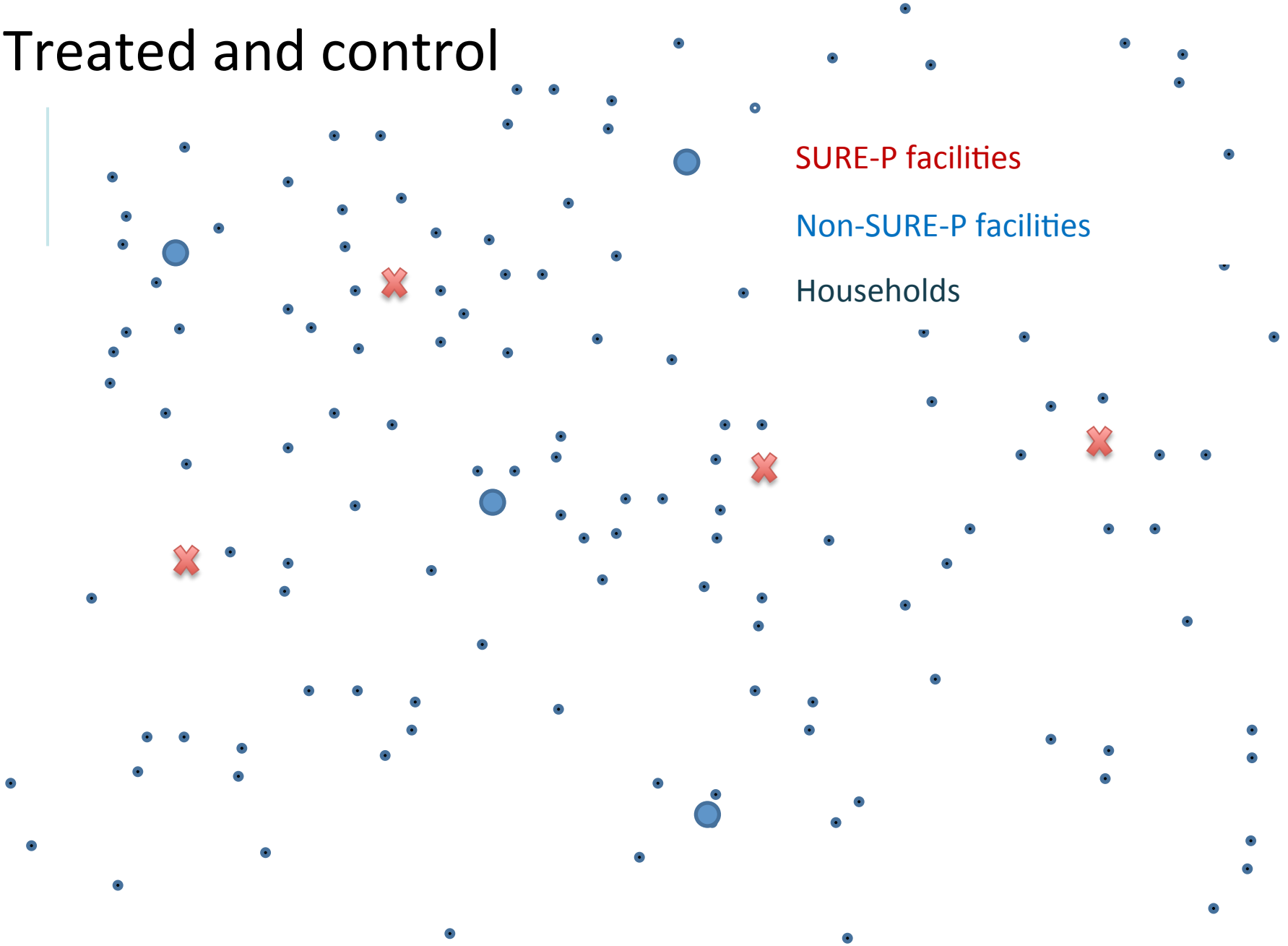


SURE-P facilities

Non-SURE-P facilities

12.7% private; 1% faith-based; rest public

Treated and control



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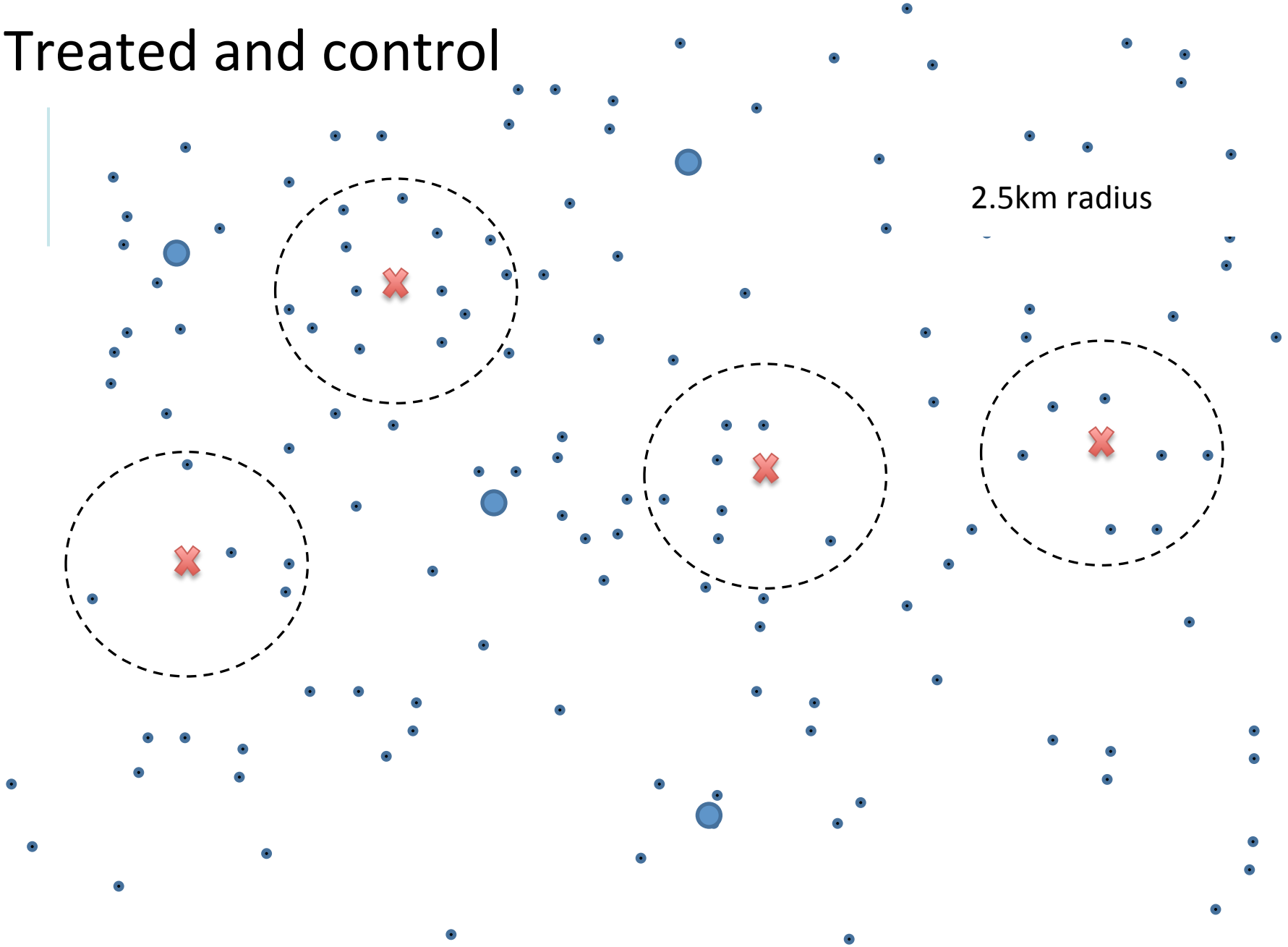

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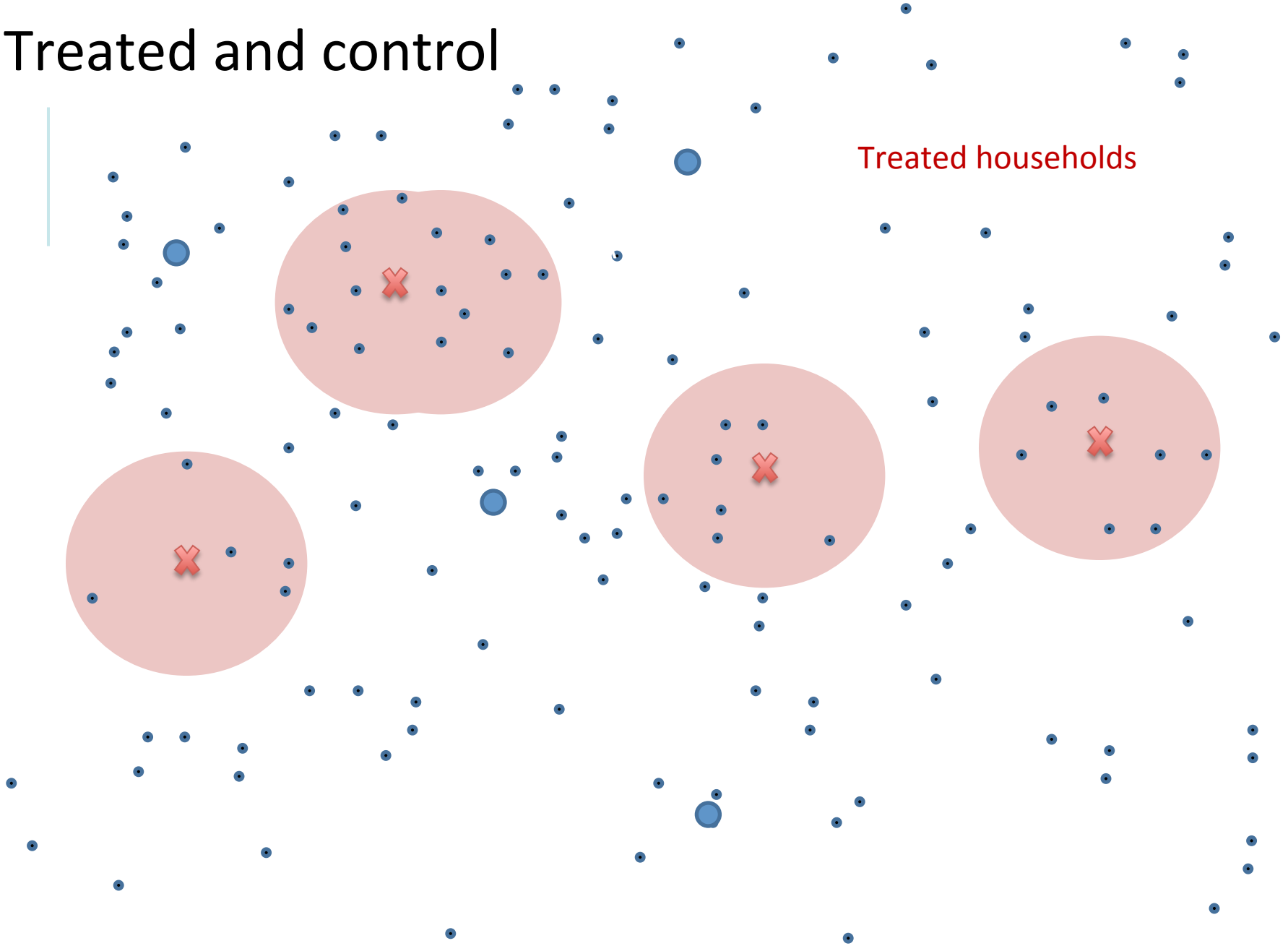

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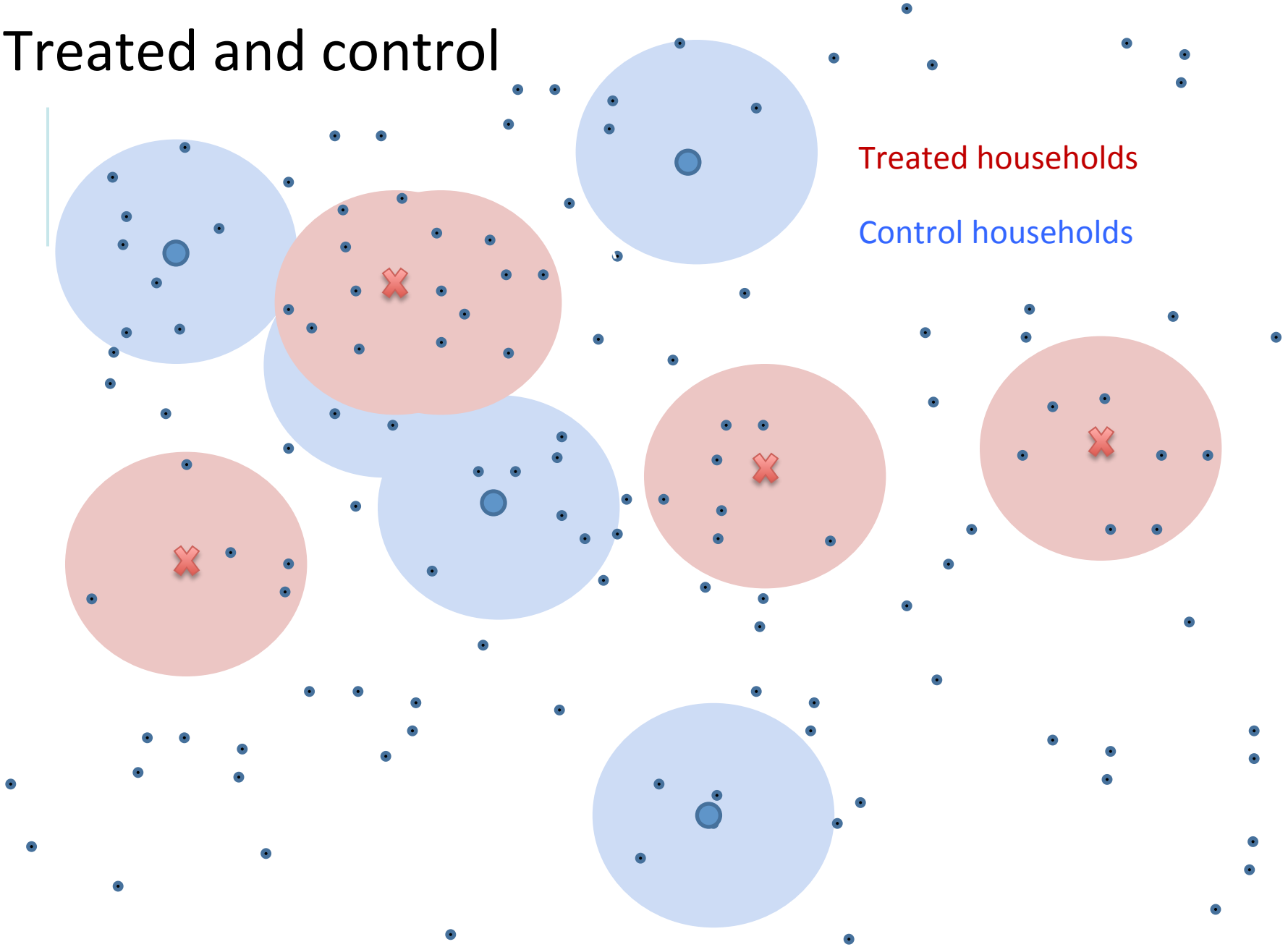
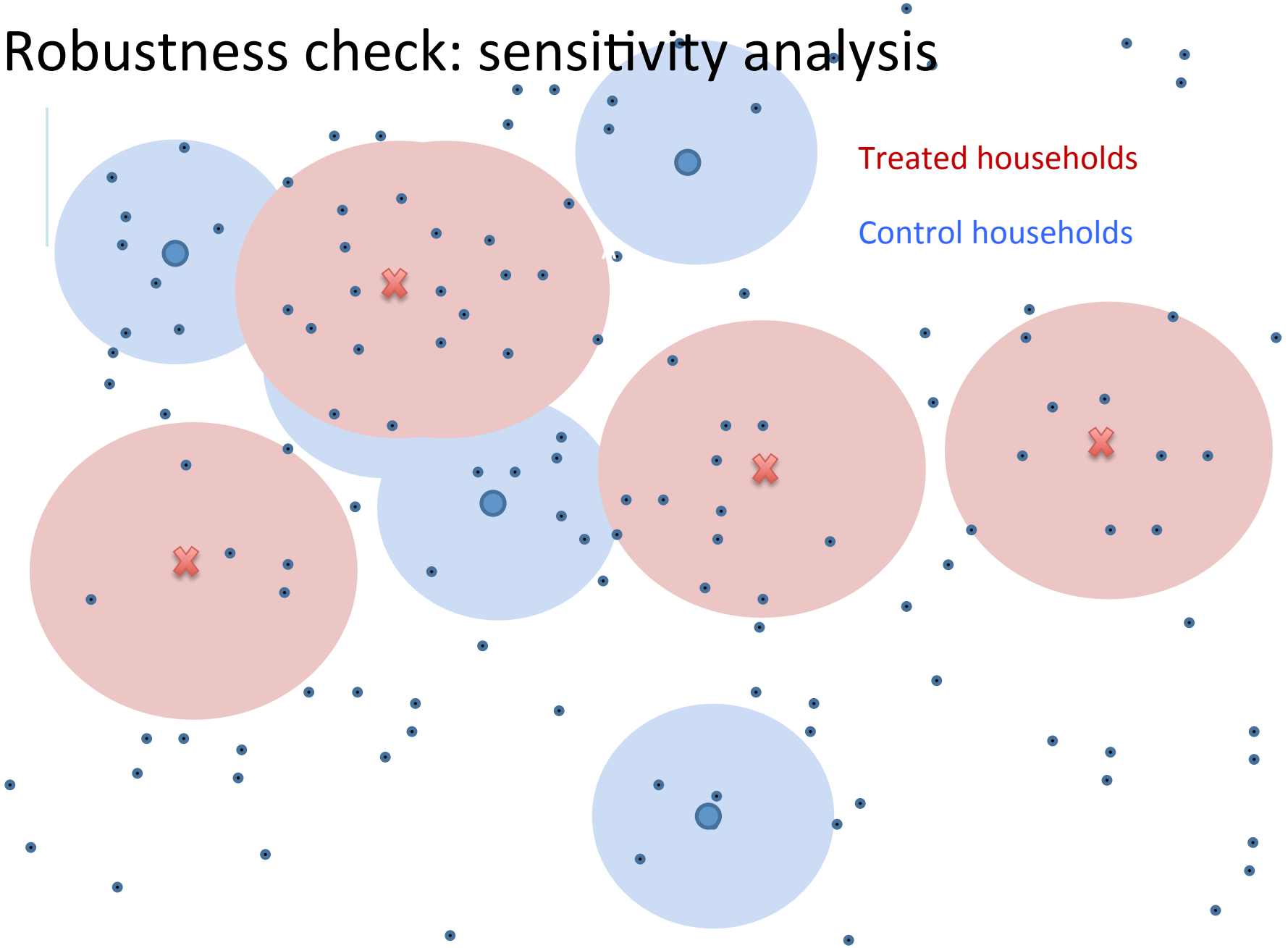


Robustness check: sensitivity analysis



Treated and control

- Clusters ≤ 2.5Km from the nearest SURE-P facility considered treated
- Clusters > 2.5Km from the nearest SURE-P facility and ≤ 2.5Km from the nearest non-SURE-P facility considered control
- Clusters > 2.5Km from both the nearest SURE-P and > 2.5Km from the nearest non-SURE-P facilities are considered remote and discarded
- Threshold of 2.5Km:
  - Suggested in recent health services research in Nigeria (Okwaraji and Edmond, BMJ 2012)
  - Roughly corroborated by administrative data on SURE-P facilities
  - Sensitivity analysis by varying the threshold from 2.5Km to 10Km

Treated and control: differences in means at baseline

Variable	SURE-P	NON SURE-P
Institutional deliveries	72%	43%**
SBA	70%	42%**
ANC (≥ one visit)	97%	97%
ANC (≥ four visits)	84%	61%**

SURE-P targeted “better” catchment areas

More room to improve in institutional deliveries or SBA than in ANC

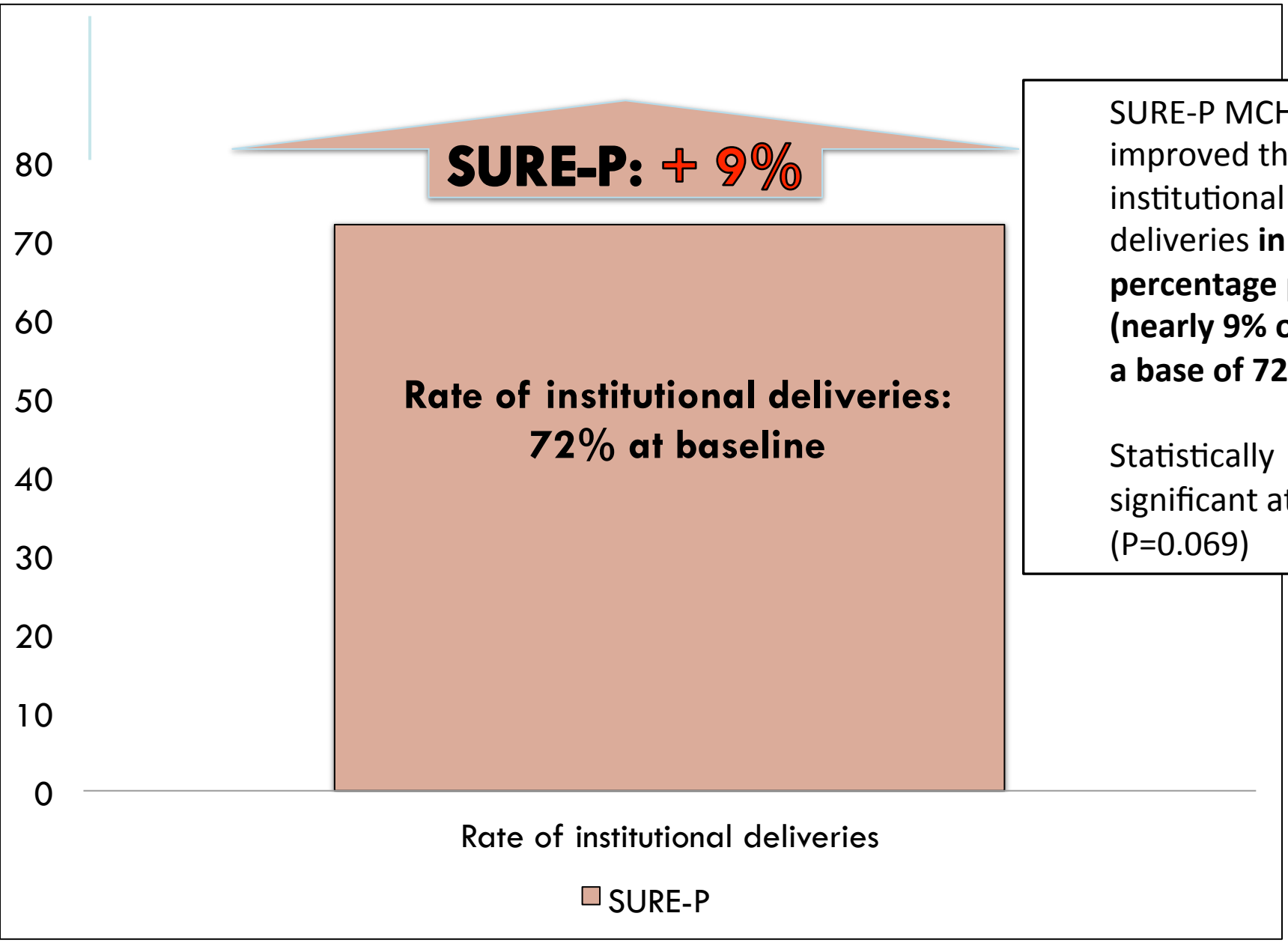
Evaluation method

Difference-in-differences:

Compare rates of change in the outcome variables between SURE-P and non SURE-P catchment areas

Under the assumption of common trends, it deals with the pre-existing differences between SURE-P and non SURE-P areas

Findings



SURE-P MCH improved the rate of institutional deliveries **in 6.7 percentage points (nearly 9% over from a base of 72%**)

Statistically significant at 10% (P=0.069)

Findings

Institutional deliveries:

- SURE-P MCH improved the rate of institutional deliveries in 6.7 percentage points (from a base of 72%)
- Statistically significant at 10% (P=0.069)
- Similar results for catchment area radius of 2000 and 3000 meters
- Common trend assumption held between 2008 and September 2012 (P=0.30)

Findings

4 or more ANC visits:

- No statistically significant effects
- Scope for improvement smaller than that for institutional deliveries (at baseline coverage was already 84% vs. 72% for institutional deliveries)

Robustness checks and sensitivity analysis

Treatment definition:

- Placebo launch: simulated policy launch in years prior to the policy; no effects found
- Varied threshold from 2.5Km to 2Km and 3Km: effects on IBA robust
- Alternative definition: households closer from SURE-P facility than the nearest non-SURE P one. No significant difference in results
- Inclusion of the CCT pilot facilities: no change in results

SURE-P MCH overall impact: lessons learnt

- **Large impact** of SURE-P MCH on the rates of **institutional delivery** (roughly 9% of baseline) after just **9 months** of implementation

- Routine health system monitoring needs urgent improvement to ensure good data is available to help improve public service delivery.

- IBA / SBA coverage in SURE-P **at baseline** much higher than control: potential for possibly higher effects if implemented in **more deprived areas**

- Nine-month window and number of treated facilities too limited to find effects on maternal mortality

- No statistically significant effect on **ANC**: unsurprising, since coverage at baseline already 85% in SURE-P MCH areas. Further **demand-side promotion** may be necessary

Thank you!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