TOO LITTLE TOO LATE AND TOO MUCH TOO SOON – THE CASE OF INDIA

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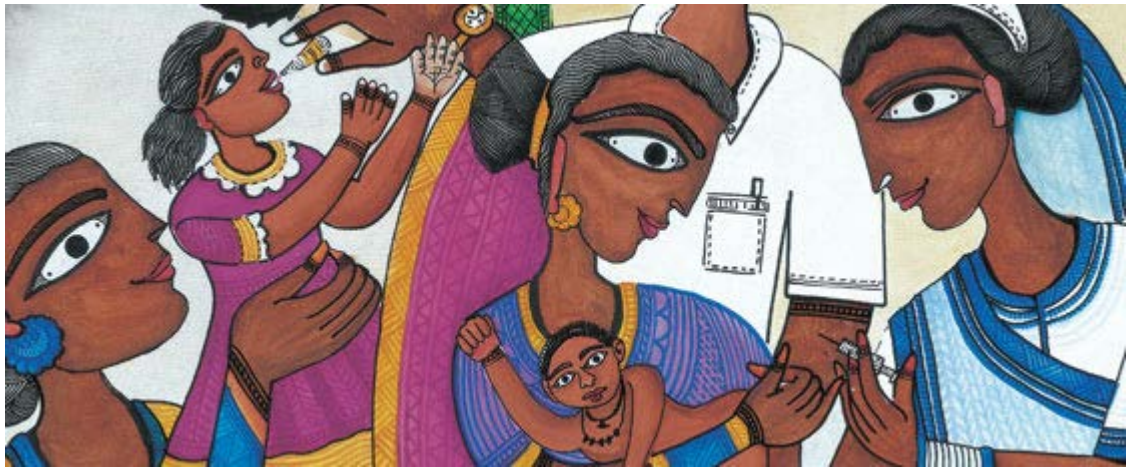
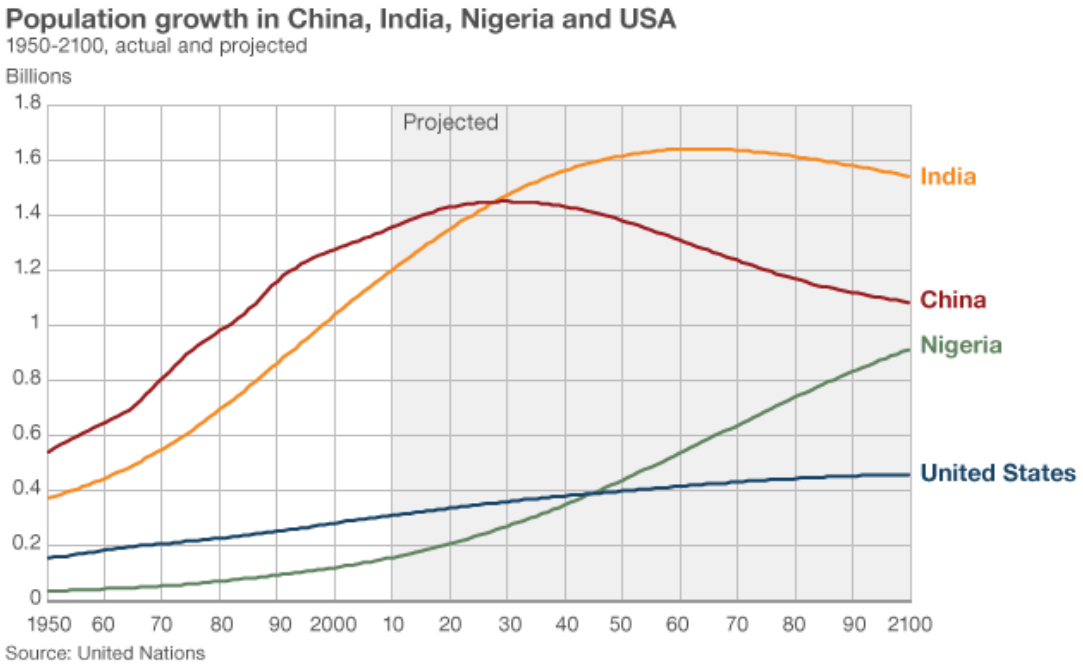


Let's start with some data.

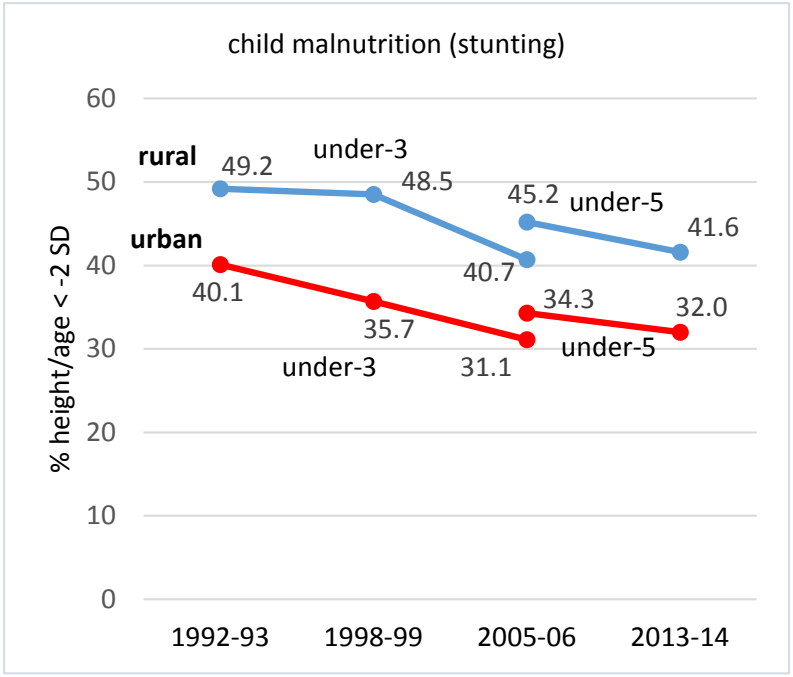
Some important health outcomes are improving in India

	1998-99	2005-06	2012
total fertility rate	2.8	2.7	2.4
under-five mortality rate (per 1,000)	101	74	52

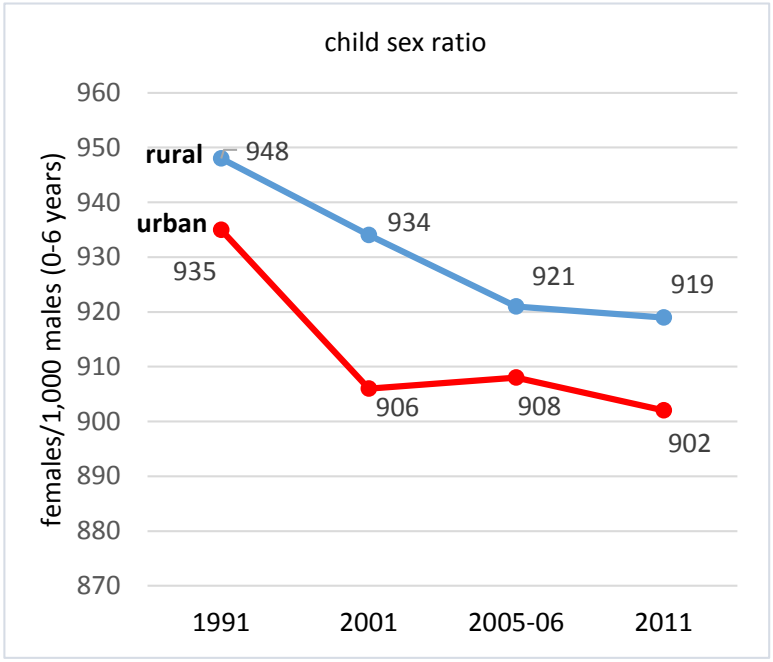
Sources: 1998-99 and 2005-06 National Family Health Surveys; 2012 Sample Registration System



But there are large inequalities, …



Sources: 1992-93, 1998-99 and 2005-06 National Family Health Surveys and 2013-14 Rapid Survey on Children



Sources: 1991, 2001 and 2011 National Census and 2005-06 National Family Health Survey

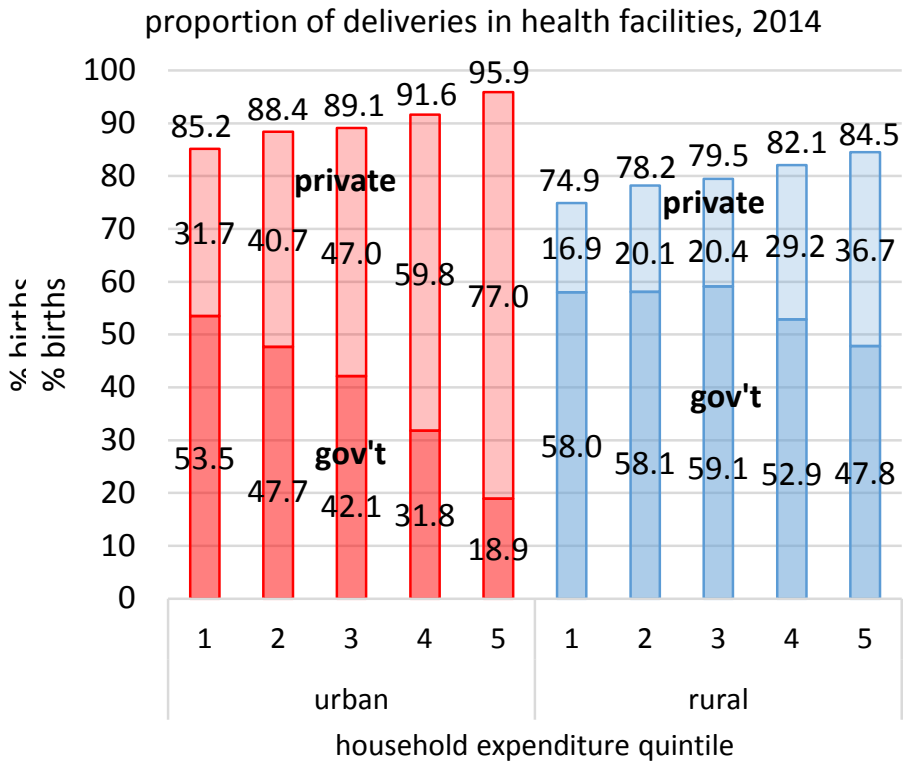
… including urban-rural …

… and socio-economic differences.

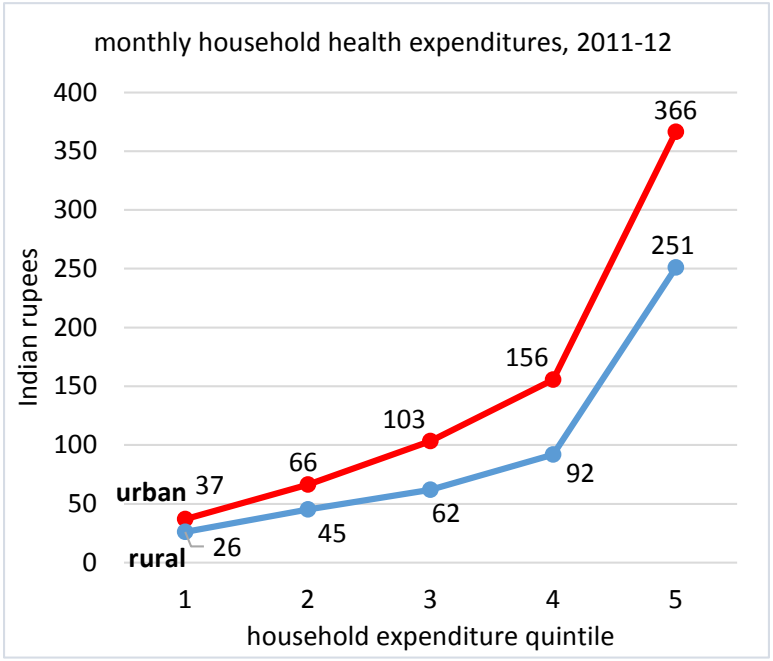
	wealth index quintile	
	lowest	highest
stunting (% under-5)	50.7	26.7
birthweight < 2,500 g (%)	22.3	15.6
exclusively breastfed (% 0-5 months)	70.0	61.7
given complementary foods)% 6-8 months)	41.2	62.1
vitamin A supplementation (% 6-59 months)	38.5	50.2
fully immunized (% 12-23 months)	50.6	80.0
received ORT when sick with diarrhea (% 0-59 months)	48.1	61.8

Source: 2013-14 Rapid Survey on Children

The poor are less likely to access healthcare...



Source: 2014 National Sample Survey.

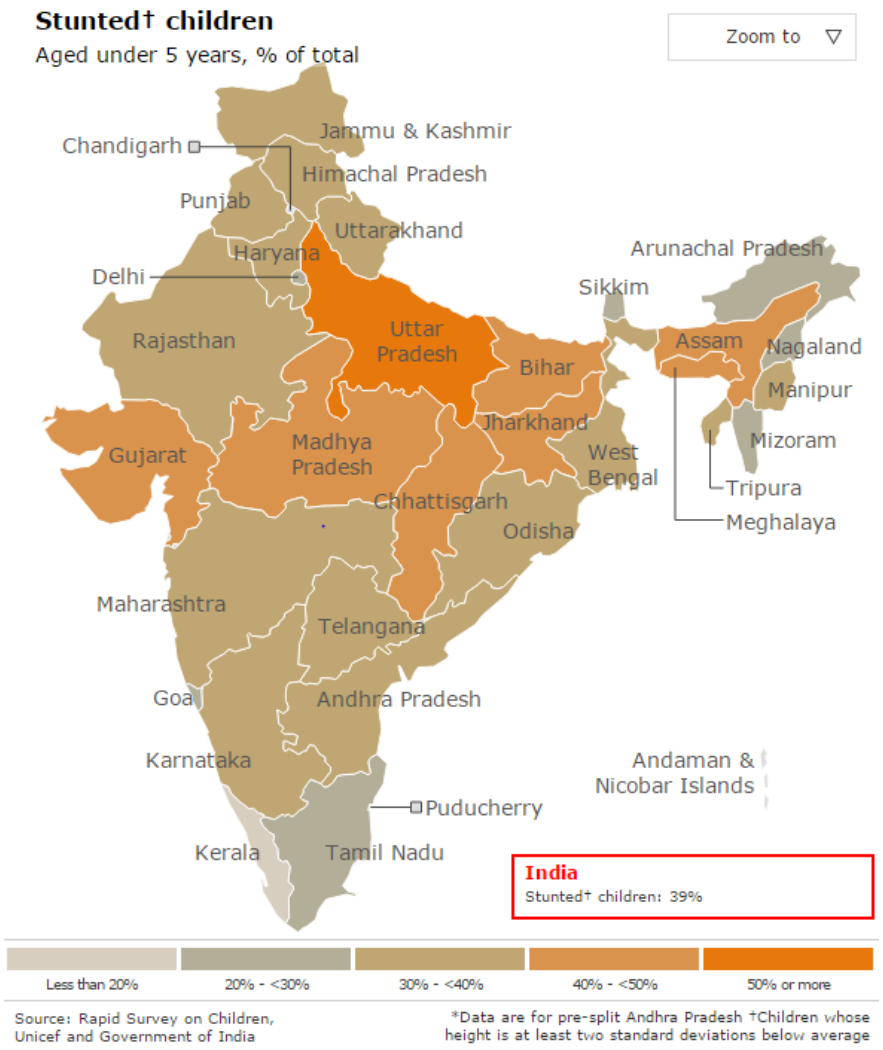


Source: 2014 National Sample Survey.

... spend less on healthcare, and depend more on government services.

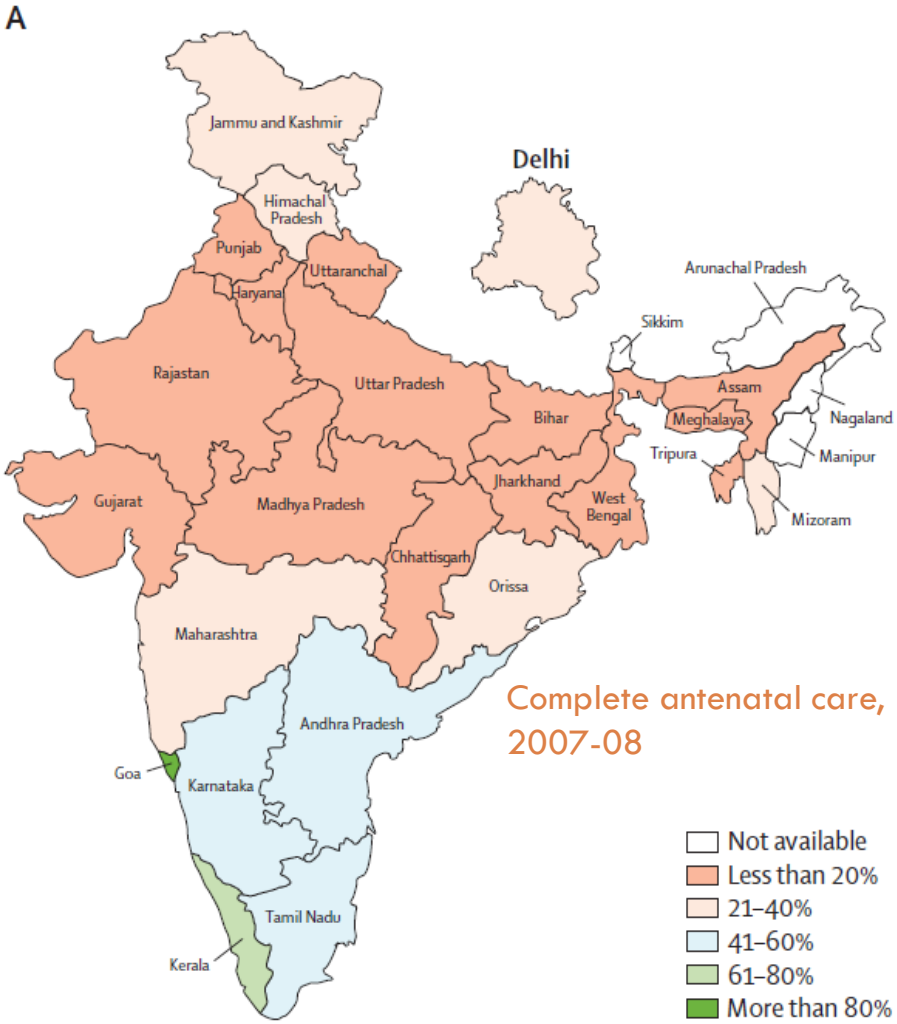
There are also large differences in outcomes …

… between the 29 states (and 7 Union Territories) across the country.



Source: *The Economist* (data from 2013-14 Rapid Survey on Children).

As well as differences in access to basic health services.



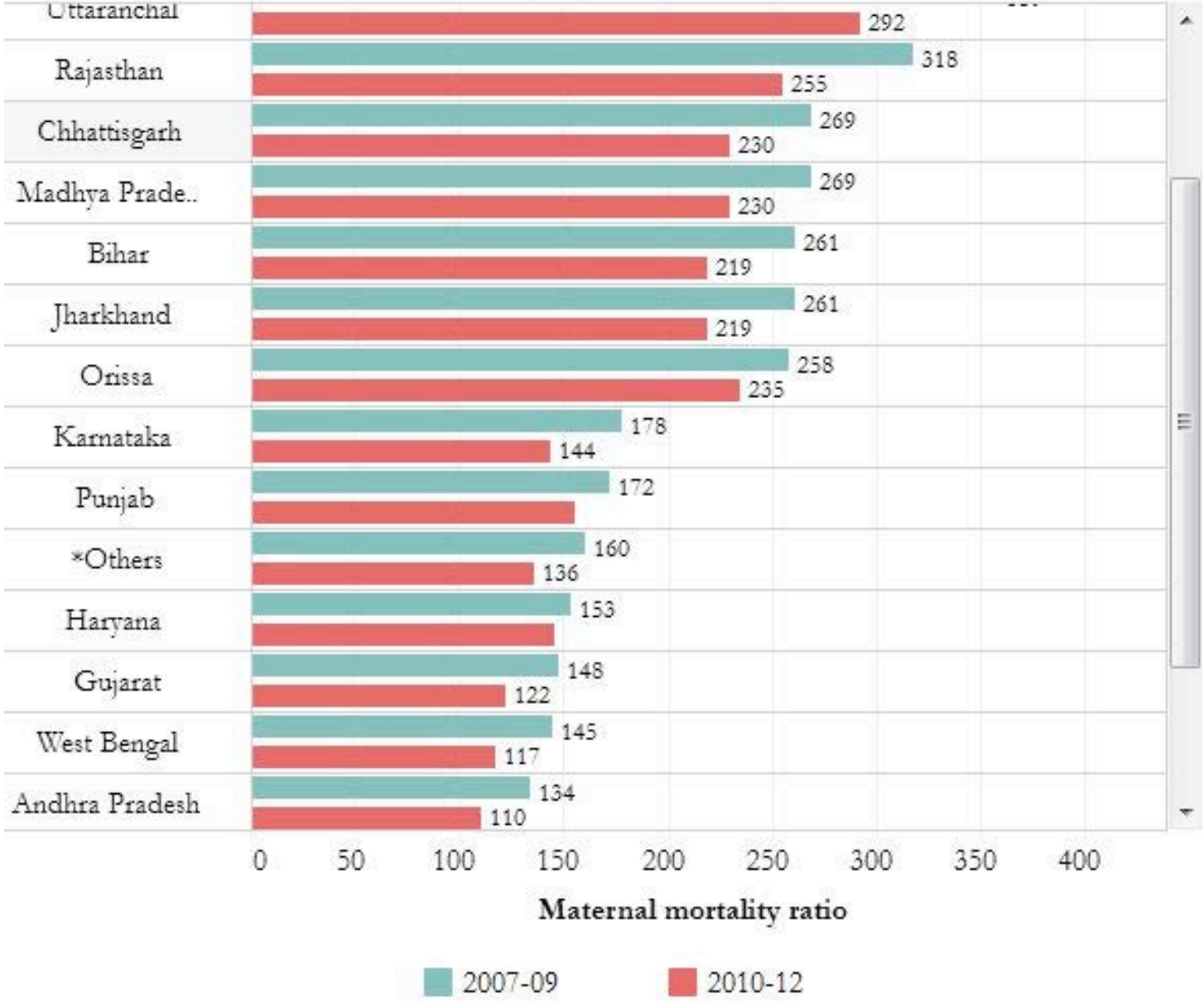
Source: Paul, Vinod Kumar, *et al.* (2011) "Reproductive health, and child health and nutrition in India: meeting the challenge." *The Lancet* 377.9762: 332-349. (data from 2007-08 District Level Household and Facility Survey)

India's state of maternal health reflects all these differences …

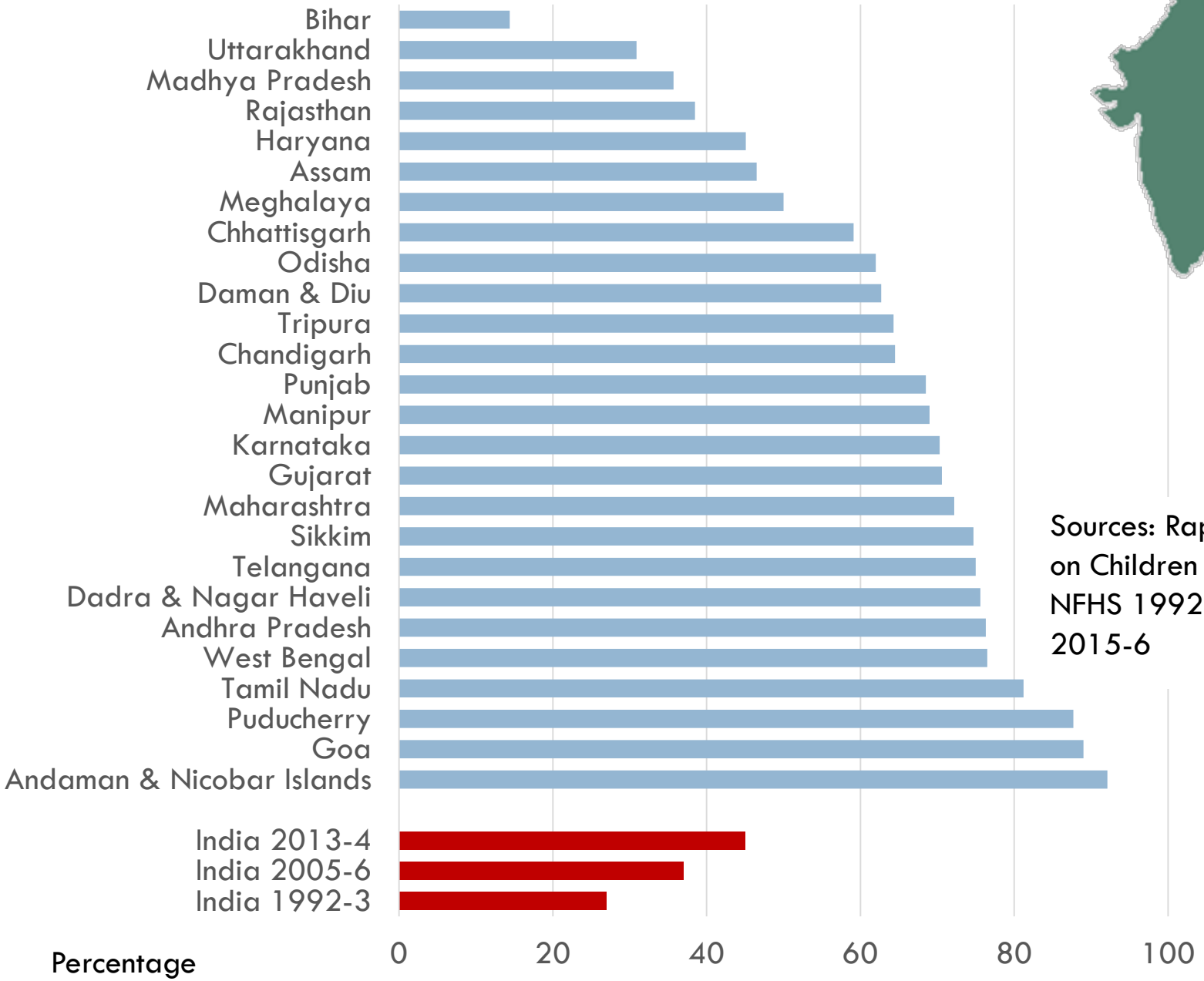
- India has an MMR of 167/100,000 live birth, despite a 70% fall in MMR over the past 25 years
  - 45.000 women die every year from maternal causes
  - Huge differences in MMR between wealth quintiles and regionally
  - Uttar Pradesh MMR 285 vs. Kerala MMR of 61
- Janani Suraksha Yojana (JSY) – government program aimed at reducing India's high MMR by promoting institutional deliveries
- But the public health infrastructure is unable to support the rising number of institutional deliveries => lack of quality service
- There is a 77% shortage of OBGYN in Community Health Centers (CHCs) nationwide, and 15 states and union territories have more than 90% shortage of obstetricians, gynecologists in CHCs

  (Source: Rural Health Statistics, 2016)

Maternal Mortality Ratio In India, By State



Mothers with 4+ antenatal care visits

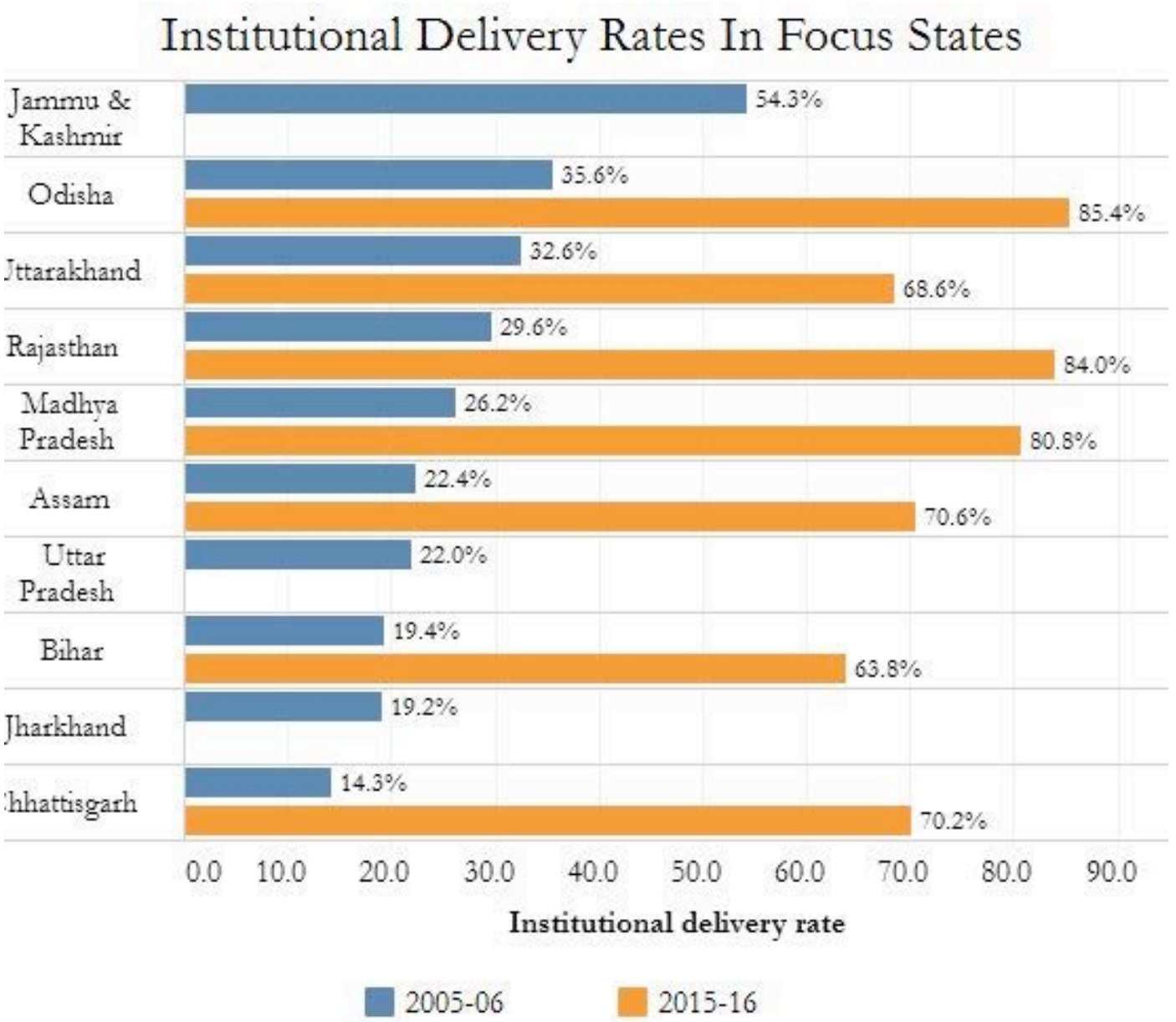


Sources: Rapid Survey on Children 2013-4; NFHS 1992-3, 2005-6, 2015-6

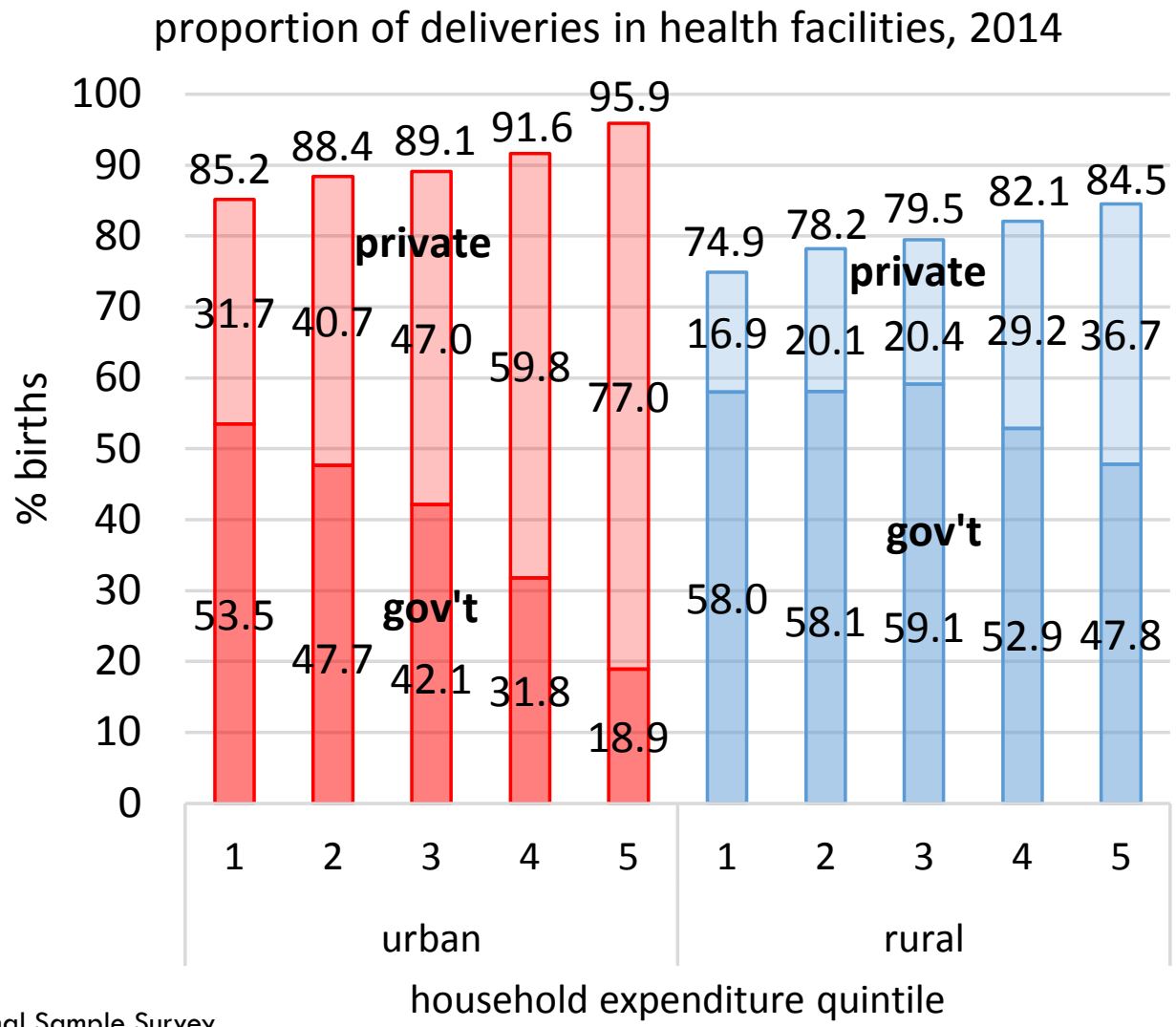
Recent trends in place of delivery

- The number of institutional deliveries rose by 15% over the decade ending 2014, mostly aided by the JSY
- Deliveries in government hospitals rose by 22%, fell by 8% in private hospitals and home-births dropped by 16%.
- However, there are great differences by place and wealth

Source: Brookings India (2016), based on National Sample Survey Office (NSSO) data.

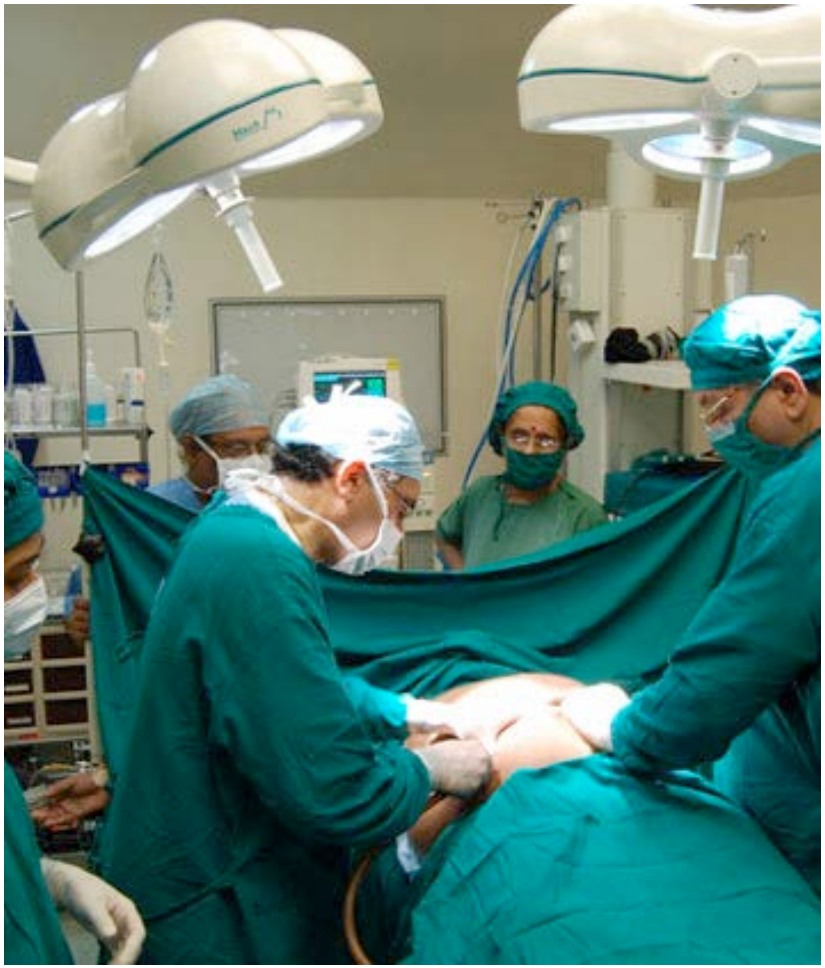

Institutional Delivery Rates In Focus States
Jammu & Kashmir
54.3%
Odisha
35.6%
85.4%
Uttarakhand
32.6%
68.6%
Rajasthan
29.6%
84.0%
Madhya Pradesh
26.2%
80.8%
Assam
22.4%
70.6%
Uttar Pradesh
22.0%
Bihar
19.4%
63.8%
Jharkhand
19.2%
Chhattisgarh
14.3%
70.2%
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0
Institutional delivery rate
2005-06
2015-16

Place of delivery by sector and wealth



Source: 2014 National Sample Survey

TLTL and TMTS – India's dual maternity care burden



- India still has an overall low coverage of caesarean section (< 10%), indicating TLTL
- But it also has one of the highest ratios between wealth quintiles, suggesting TMTS for wealthy women
- According to WHO, C/S that are medically unnecessary command a disproportionate share of global economic resources.
- Apart from the medical risks, C/S function as a barrier to universal coverage with necessary health services
- 'Excess' C/S can have negative implications for health equity both within and across countries

But there are other interventions in maternity care that are routinely overused

- Pubic shaving
- Enema
- Induction and/or augmentation of labor
- Intravenous infusion
- Episiotomy for 1st births
  (85.1% in a recent study of 120.000 deliveries in 18 tertiary hospitals)
- Lithotomy position for delivery
- Manual revision of the uterus

Non-evidence based use of uterotonic drugs during childbirth is widespread

- Many studies across India have found routine use of oxytocin during first and particularly second stage of labor for **labor augmentation** (78.9% in 2011 according to the 2016 *Lancet* study)
  - => instead of the WHO recommended use of oxytocin for the prevention of PPH during the third stage of labor
- This is true in private and public facilities as well as in home deliveries
- Unmonitored intrapartum oxytocin use poses high risks for mothers and babies (e.g. uterine rupture, fetal distress)
- Often the oxytocin is administered intramuscularly by untrained practitioners and not stored properly (non refrigerated)

Reasons for the widespread inappropriate use of uterotonics at facilities and in communities

- There are cultural as well as contextual factors that promote the use of uterotonics, particularly **oxytocin**, for **labor augmentation**:
  - A high value placed on pain during labor (Karnataka, Tamil Nadu)
  - A cultural belief that outside intervention is necessary during childbirth (Gujarat)
  - The belief that pain speeds up delivery and is equivalent to active, progressing, and/or adequate labor (Uttar Pradesh)
  - Perceived pressure to provide and receive uterotonics early in labor and delivery => it is regarded as good, modern medical practice by practitioners and communities
  - Lack of knowledge regarding proper storage, dosage and administration of oxytocin
  - Danger of policies, which aim to increase provision of hospital birth without a commensurate concern for quality

What can be done to address the overuse of uterotonic drugs?

- Include messages about oxytocin misuse in maternal and neonatal health campaigns
- Expand pre-service and in-service/refresher training
- Improve quality of care in public and private facilities
- Ensure better health governance to guarantee adherence to evidence-based national and international guidelines
- Improve regulations of rural medical practice
- Take the issue into account in policy initiatives such as IMCI and the National Rural Health Mission
- Train more skilled midwives
- Conduct research on maternal and neonatal outcomes of inappropriate use of uterotonics

Sources

- Van Hollen, C. (2003). *Invoking Vali: Painful technologies of modern birth in South India*. Medical Anthropology Quarterly, 17(1), 49.
- Deepak NN, Mirzabagi E, Koski A, Tripathi V (2013) *Knowledge, Attitudes, and Practices Related to Uterotonic Drugs during Childbirth in Karnataka, India: A Qualitative Research Study*. PLoS ONE 8(4): e62801.
- Sharan M, Strobino D, Ahmed S. (2005) *Intrapartum oxytocin use for labor acceleration in rural India*. Int J Gynecol Obstet, 90: 251-257.
- Jeffery P, Das A, Dasgupta J, Jefferey R. (2007) *Unmonitored intrapartum oxytocin Use in home deliveries: evidence from Uttar Pradesh*. India Reprod Health Matters, 15 (30): 172-178.
- Sharma B, Giri G, Christensson K, Ramani KV, Johansson E. (2013) *The transition of childbirth practices among tribal women in Gujarat, India - a grounded theory approach*. BMC International Health and Human Rights, 13:41.
- Stanton C, et al. (2014) *Direct observation of uterotonic drug use at public health facility-based deliveries in four districts in India* International Journal of Gynecology & Obstetrics, Volume 127, Issue 1, Pages 25-30.
- Hulton LA, Matthews Z, Stones RW (2007). *Applying a framework for assessing the quality of maternal health services in urban India*. Soc Sci Med, 64:2083– 95.
- Singh S, Thakur T, Chandhiok N. (2016) *Pattern of episiotomy use & its immediate complications among vaginal deliveries in 18* tertiary care hospitals in India. Indian Journal of Medical Research, 143(4):474-80.
- Nagpal, J., Sachdeva, A., Sengupta Dhar, R., Bhargava, V. L., & Bhartia, A. (2015). *Widespread non-adherence to evidence-based maternity care guidelines: a population-based cluster randomised household survey*. BJOG: An International Journal of Obstetrics & Gynaecology, *122*(2), 238-247.
- Gibbons, L., Belizán, J. M., Lauer, J. A., Betrán, A. P., Merialdi, M., & Althabe, F. (2010). *The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage*. World Health Report, 30, 1-31.

Thank you for your attention!