

# Disparity in cost spent on vasectomies and tubectomies done in public health centers in India in 2019-20

Sharvari Mande MBBS<sup>1,2</sup>, Anoushka Arora MBBS Student<sup>1,3</sup>, Parth Sharma MBBS<sup>1,4</sup>, Aiman Parveen Afsar<sup>1,4</sup>, Siddhesh Zadey BSMS, MScGH<sup>1,5,6</sup>

Institution 1 Association for Socially Applicable Research (ASAR), Pune, Maharashtra, India. 2 Rajarshi Chhatrapati Shahu Maharaj Government Medical College and Chhatrapati Pramila Raje Hospital, Kolhapur, Maharashtra, India. 3 Smt. Nathiba Hargovandas Lakhmichand Municipal Medical College, Ahmedabad, Gujarat, India. 4 Maulana Azad Medical College, New Delhi, India. 5 4 Department of Epidemiology, Mailman School of Public Health, Columbia University, NYC NY USA

## Introduction

Qualitative studies<sup>1</sup> have noted that the **burden of family planning disproportionately falls on females in India**, but quantitative analyses are limited. Therefore we aimed to,

- Quantify the inequity in uptake of tubectomies and vasectomies in India
- Estimate the cost spent by the government on sterilization, along with the financial benefit of scaling up the vasectomies .

## Conclusion and Discussion

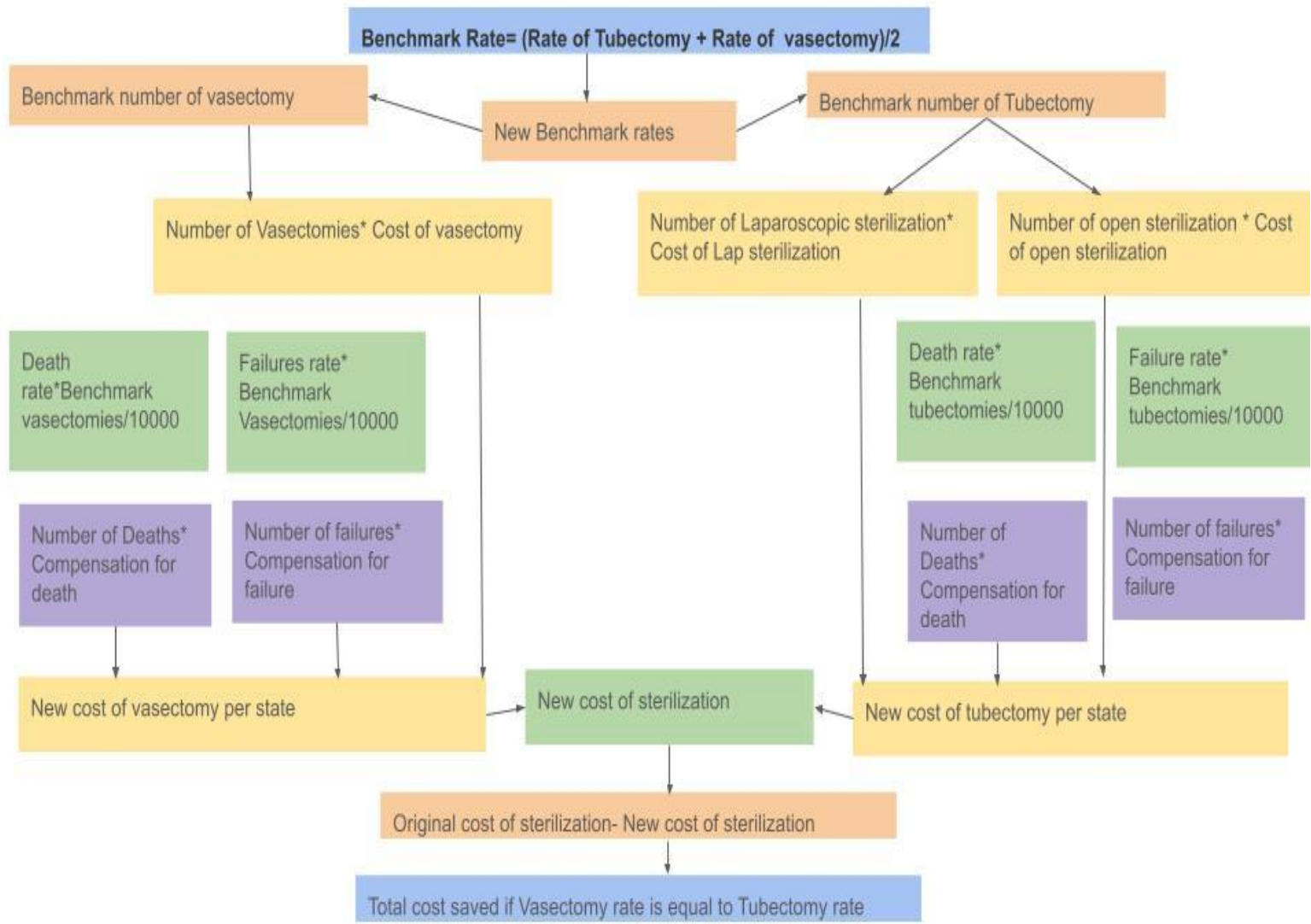
- The is a **disparity in uptake of vasectomy** despite the safety, efficacy and cost effectiveness of vasectomy over tubectomy.
- There will be a **reduction of total cost** of sterilization **if we scale up vasectomies** .
- Vasectomy should be promoted by healthcare workers within appropriate cultural context to the couples who have completed family size.**

## Methodology

- Retrospective secondary data analysis of 733 districts and 35 states of India with the following data sources.

Health Management Information System 2019-20 (2)	Tubectomies and vasectomies done, failure and deaths
PMJAY Health Benefit Package 2022 (3)	Cost of Tubectomy
Article by Seamans et al. (4)	Cost of Vasectomy
Family planning indemnity scheme 2016(5,6)	Compensation for loss of daily wages, Compensation for failure and death
Census based population projections 2020	Mid year population in reproductive age (15-49 years)

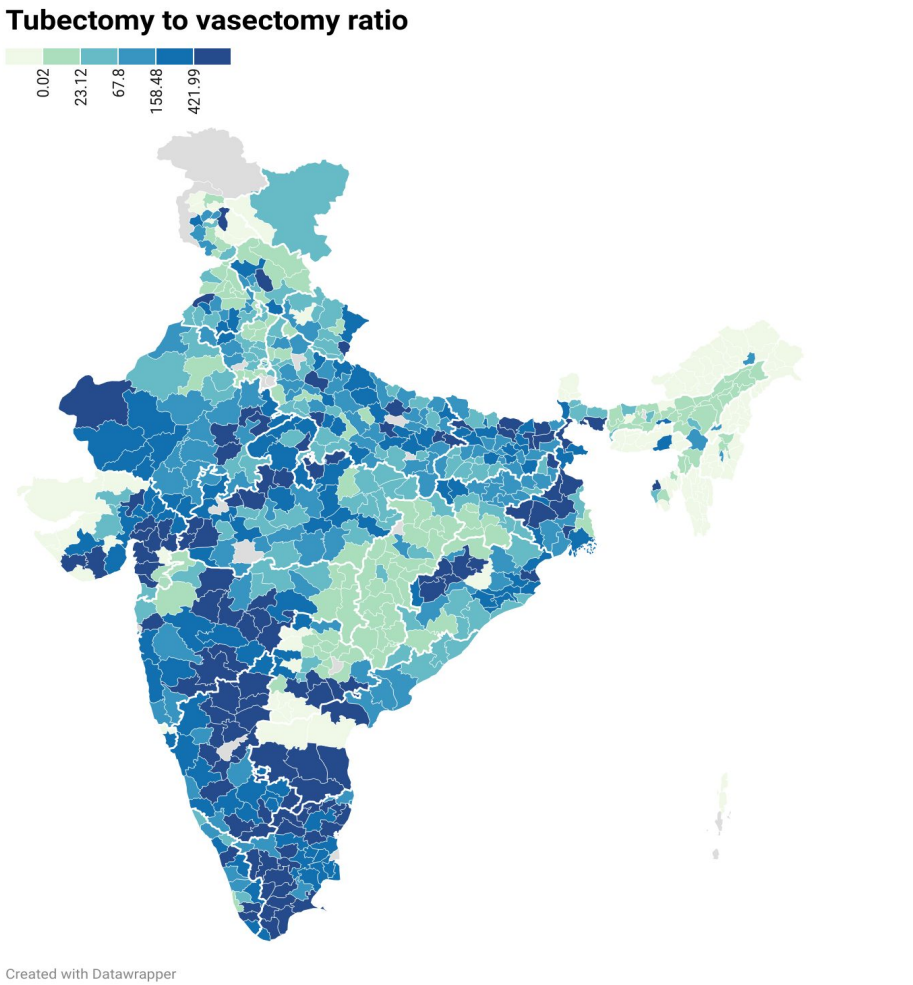
- Rate of =  $\frac{\text{Number of sterilizations done} \times 10000}{\text{sterilization Population in reproductive age group (15-49 years)}}$
- Total cost spent on sterilization=  $\text{total cost of procedure} + \text{compensation for loss of daily wages} + \text{compensation for failure} + \text{compensation for death sterilization}$
- For calculation of cost saved after scaling up vasectomies to match the rate of tubectomy, keeping total rate constant.



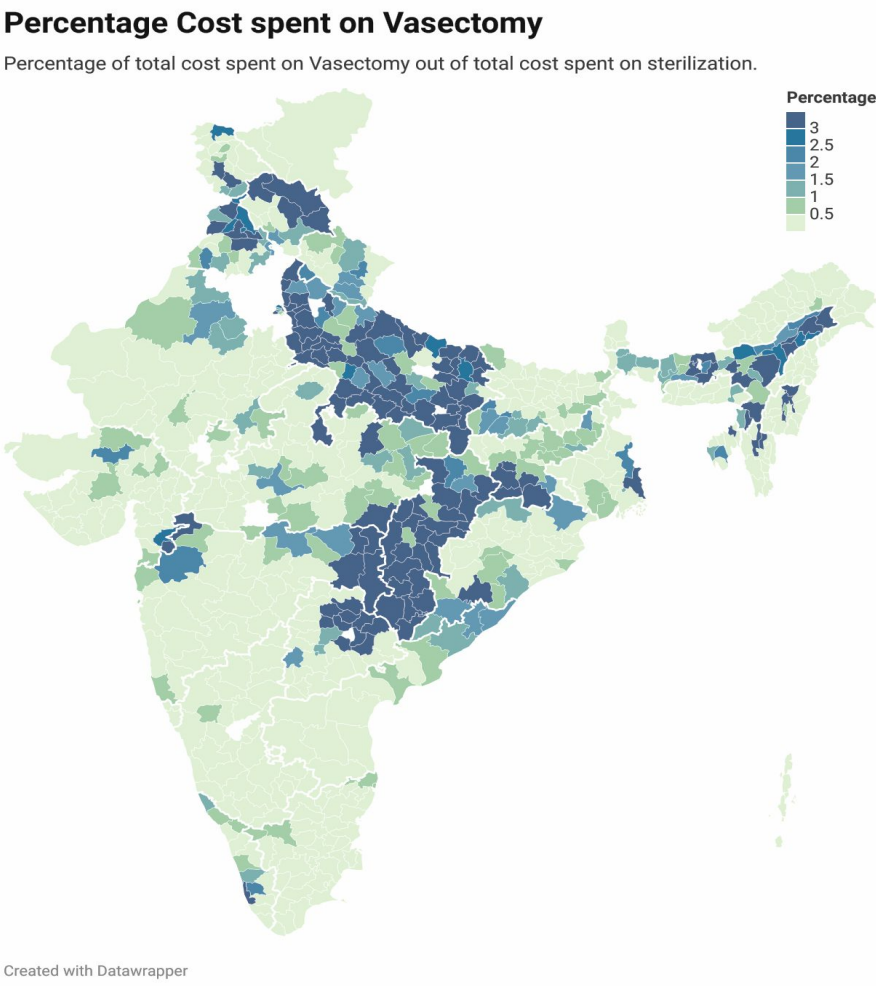
## References

1.Ewerling F, McDougal L, Raj A, Ferreira LZ, Blumenberg C, Parmar D, et al. Modern contraceptive use among women in need of family planning in India: an analysis of the inequalities related to the mix of methods used. Reprod Health. 2021;18(1):173.2. National Data and Analytics Platform [Internet]. [cited 2024 Jun 20]. Available from: <https://ndap.niti.gov.in/>. 3. HBP 2022.pdf. 4. Seamans Y, Harner-Jay CM. Modelling cost-effectiveness of different vasectomy methods in India, Kenya, and Mexico. Cost Eff Resour Alloc. 2007 Jul 13;5:8.5. FPIS Manual.pdf. 6. Enhanced Compansation Scheme.pdf.

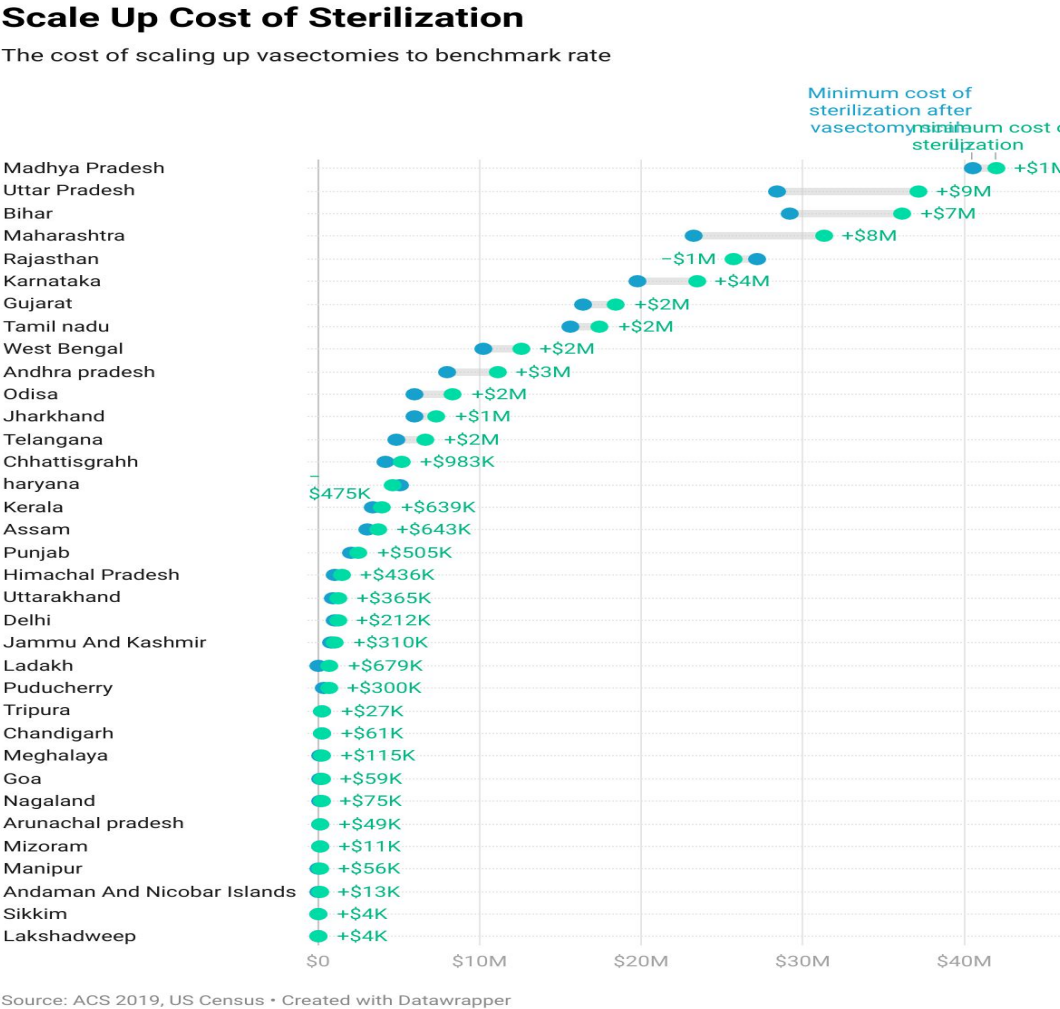
## Results



- The national female and male sterilization rates are **9.0** and **1.3** per 10000 Women and Men of Reproductive Age group respectively.
- The resulting rate ratio is **6.92**



- National cost spent on surgical sterilization ranged from **\$304 to \$313 Million**
- 99.2–99.4% of total cost was spent on tubectomies.



- 33 out of 35 states will have a financial benefit.
- A minimum of \$48,081,550 will be saved if we scale up the vasectomies to 50% of the total sterilizations, keeping the total sterilization rate constant