

# **ICMR CAMI SYMPOSIUM New Delhi**

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## **NEED FOR MPTs IN INDIA**

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(MEG ) for the prevention of HIV /non-HIV STIs / RTIs /  
and un-intended pregnancies.**

# **Reproductive health programs in India**

- **National Family Planning Program (NFPP) 1952**
- **National Family Welfare Program ( NFWP) 1977**
- **Reproductive & Child Health ( RCH ) Initiative 1997**
- **National Population Policy ( NPP-2000) 2000**
- **National Rural Health Mission (NRHM ) 2005**

# National goals and achievements

( Khan, M.E. & Hazra,A. 2012 )

<b>Indicators</b>	<b>XI FYP (2007-2012)</b>	<b>MDG (2015)</b>	<b>NRHM (2012)</b>	<b>As On Date</b>
<b>Infant Mortality Rate (IMR )</b>	<b>28</b>	<b>28</b>	<b>&lt;30</b>	<b>47 (SRS 2010)</b>
<b>Maternal Mortality Ratio (MMR)</b>	<b>100</b>	<b>100</b>	<b>&lt;100</b>	<b>212 (SRS 2007-09)</b>
<b>Total Fertility Rate (TFR)</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.6 (SRS 2009)</b>

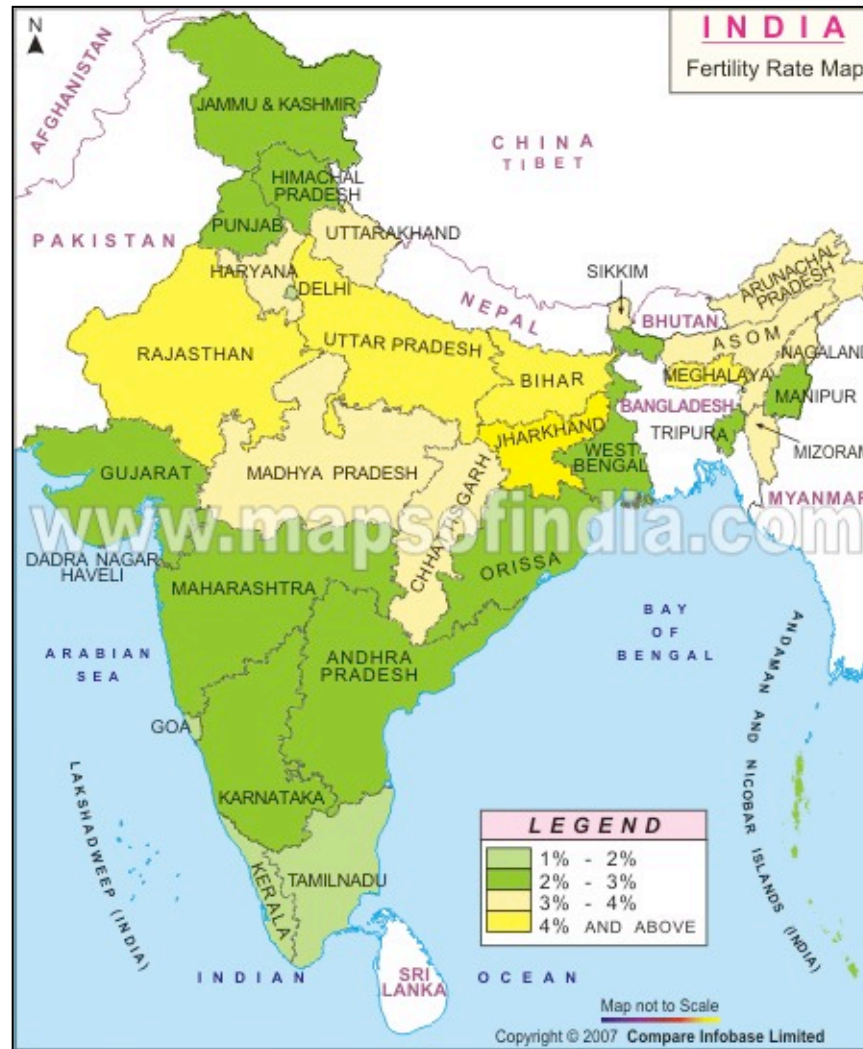
## Trend of types of contraceptive method use in India, 1992-2008 ( Khan, M.E. & Hazra, A. .2012 )

Year	Modern spacing methods				Permanent methods	Any modern methods	Traditional methods		
	OC P	Condom	IUD	Total	Sterilization		Rhythm	Withdrawal	Total
1992-93	1.2	2.4	1.9	5.5	30.9	36.4	2.7	1.5	4.2
1998-99	2.1	3.1	1.6	6.8	36.1	42.9	3.0	2.0	5.0
2002-04	3.5	4.8	1.9	10.2	35.2	45.4	4.1	2.7	7.3
2005-06	3.1	5.2	1.7	10.0	38.3	48.3	4.9	2.5	7.8
2007-08	3.6	5.5	1.8	10.9	36.9	47.8	4.4	2.0	6.4

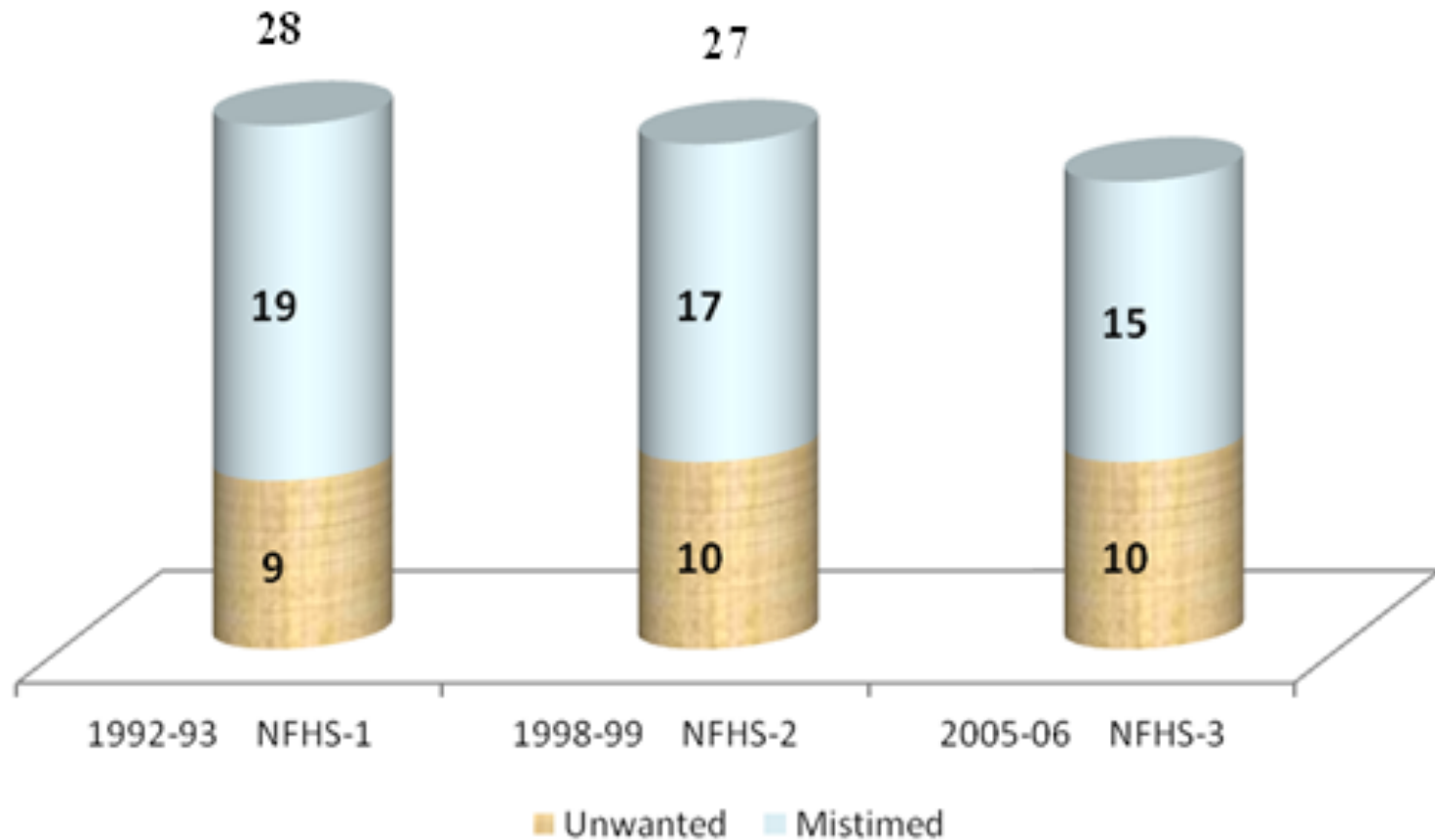
**Source:** Data from NFHS-1, NFHS-2, NFHS-3, DLHS-2 and DLHS-3.



# Fertility Rate

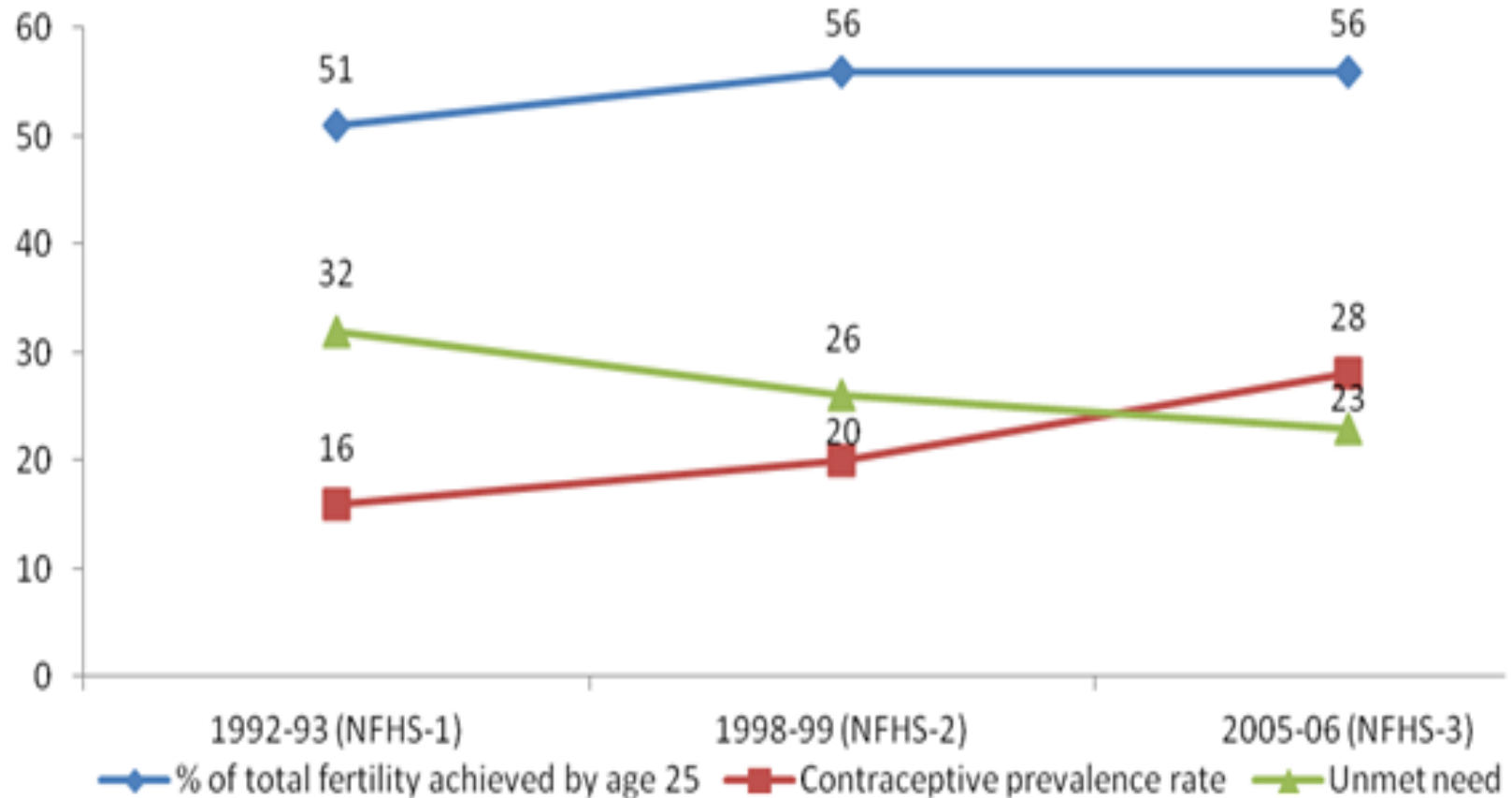


# Unintended pregnancies in India, 1992-2006 ( Khan, M.E. & Hazra, A. 2012 )



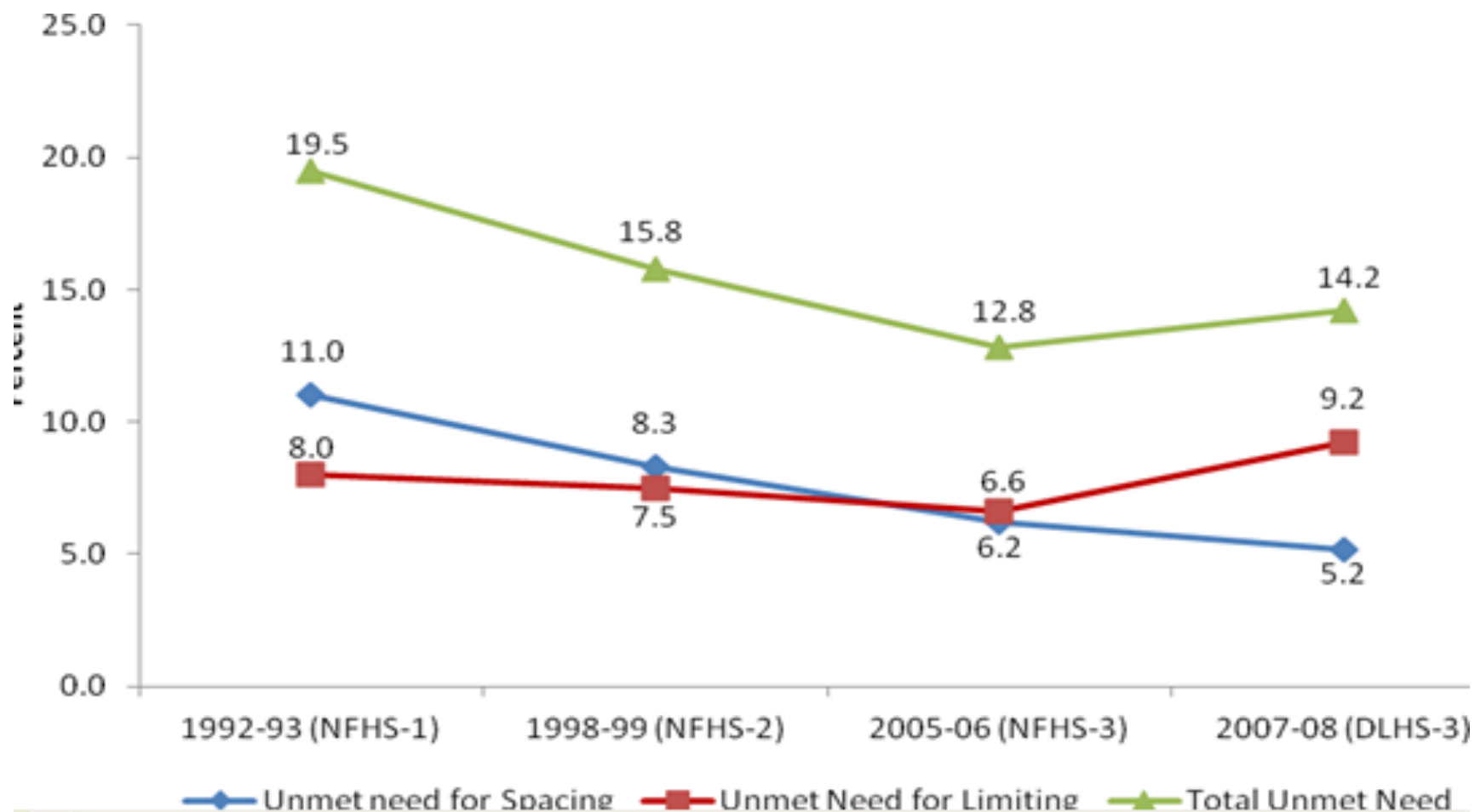
Source NFHS-1, NFHS-2 & 3

## Percent of total fertility achieved by age 25, contraceptive use and unmet need of youth, women's response



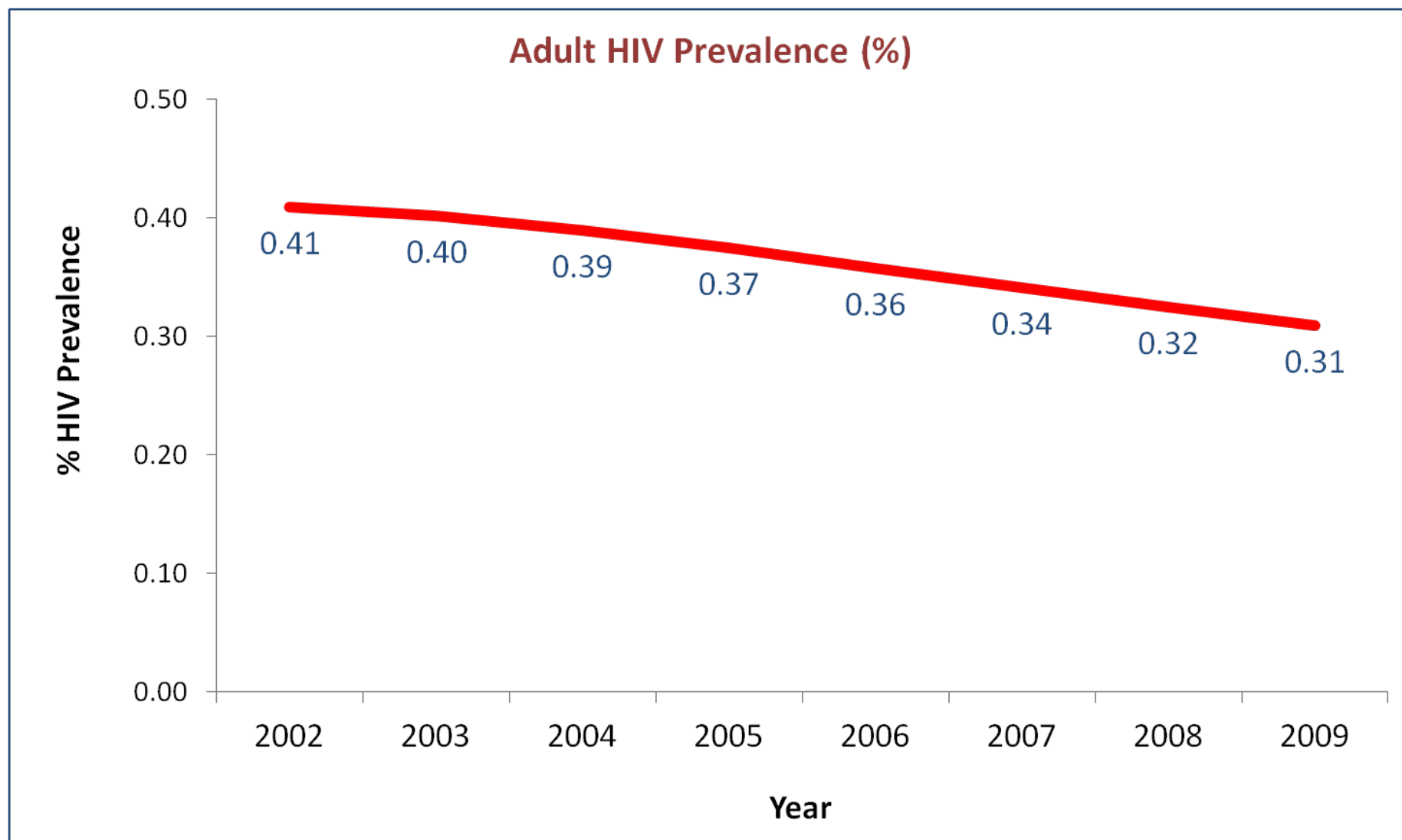
Source: Parasuraman et al. 2009.

# Trend in unmet need for contraceptive methods, India, 1992-2008 (Khan, M.E. & Hazra, A. 2012)





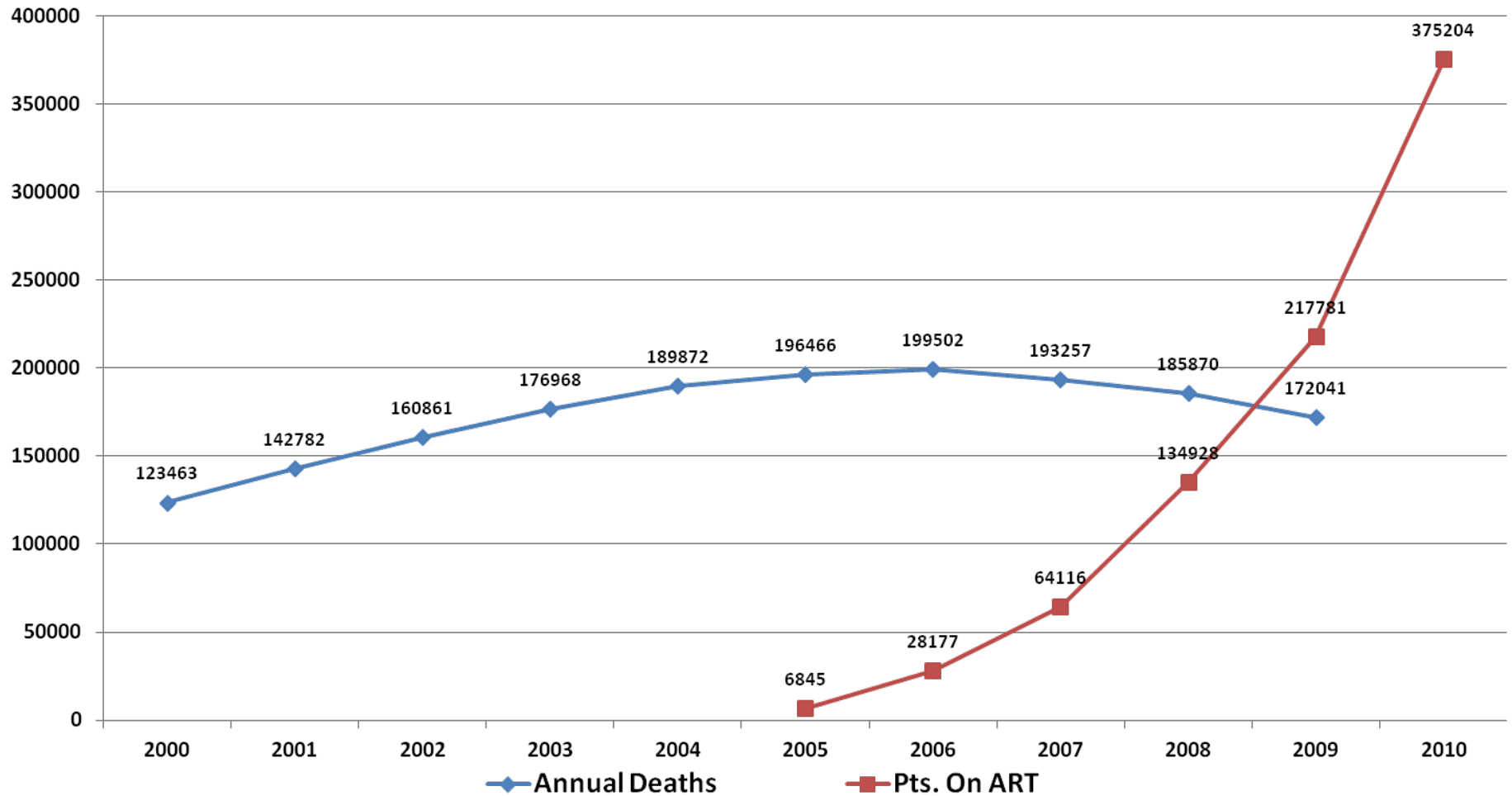
# Impact of National AIDS Control Programme



Source: HIV Estimations, 2010; Impact Assessment Study of Targeted Interventions, NACO

# Evidence of Programme Impact - I

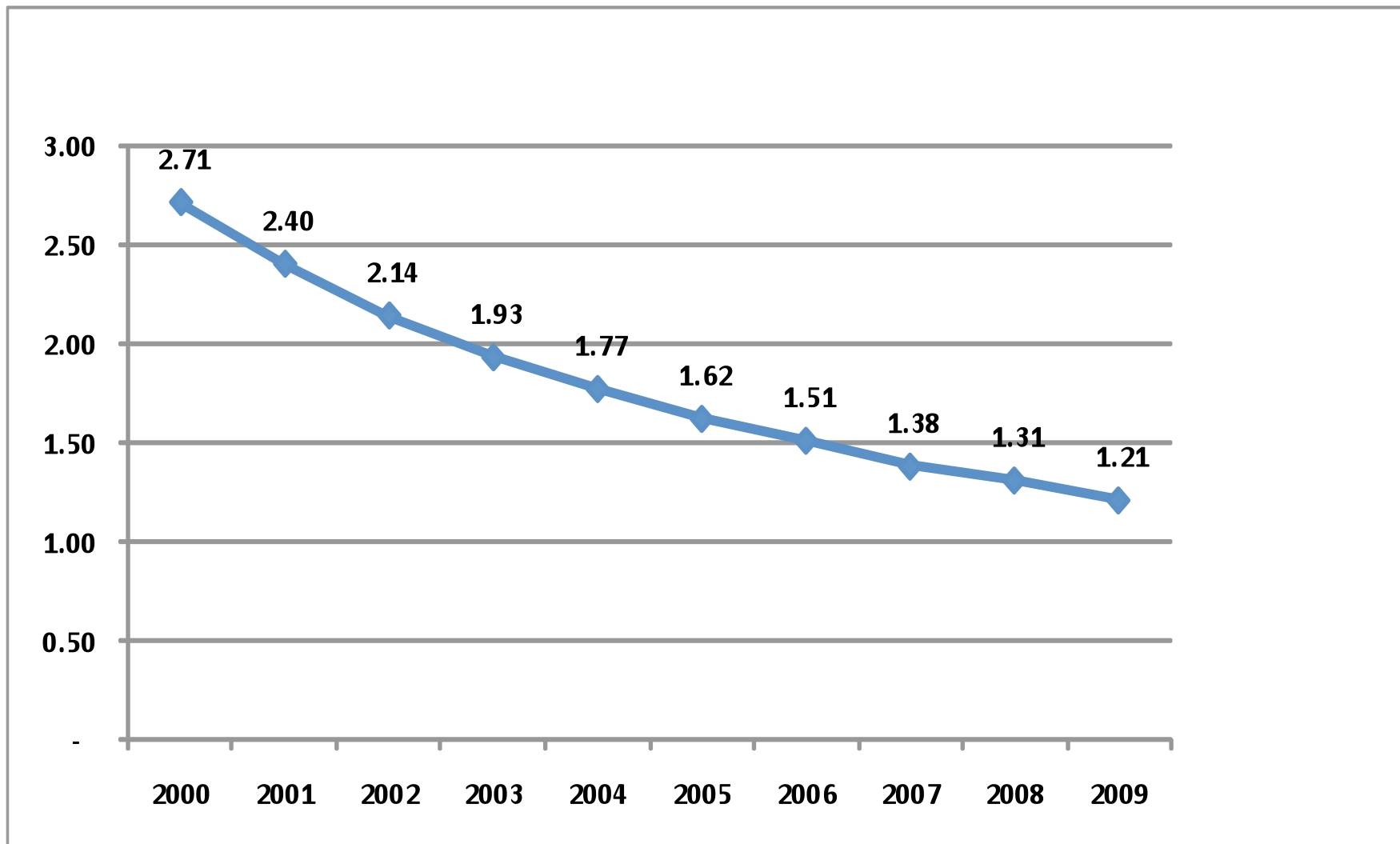
Decline in Estimated Annual Deaths with Scale-up of Anti-Retroviral Treatment



Source: HIV Estimations, 2010

# Evidence of Programme Impact – II

56% Reduction in New Infections in the Last Decade due to Scaled-up Prevention



Source: HIV Estimations, 2010

# STI / RTI Prevalence in India

(2009): Heterogeneity in country . Mostly hospital based. Different methodologies and syndromic as well as lab based data .

About 5-6 % prevalence in adult population. About 30 millions episodes annually

## A. General Population

### STIs

Syphilis

Male

< 2 %

Female

< 1.2 %

Neisseria Gonorrhoea

< 1.9 %

3.9 %

Chlamydia trachomatis

< 1.1 %

< 1.3 %

### RTIs

Candidiadsis

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7.2 % to 23.9 %

Bacterial Vaginosis

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17.8 % to 63.8 %

HSV2 seropositivity (IgG) higher in females as compared to males

## B. High Risk Groups :

- Syphilis and HIV seropositivity higher in transgenders as compared to MSMs
- Oral and rectal gonorrhoea higher in MSMs , though Chlamydia lower
- HSV2 higher in FSWs and MSMs.

# Human Papilloma Virus (HPV) Infections in India

## Burden of cervical HPV infection

- **Population Women at risk for cervical cancer (Female population aged  $\geq 15$  yrs) 366.58 millions**
- **Annual number of cervical cancer cases 134420**
- **Annual number of cervical cancer deaths 72825**
  
- **HPV prevalence (%) in the general population (among women with normal cytology) 7.9**
- **Prevalence (%) of HPV 16 and/or HPV 18 among women with –**
  - **Normal cytology 6.0**
  - **Low-grade cervical lesions 29.4**
  - **High-grade cervical lesions 56.0**
  - **Cervical cancer 82.5**
  
- **Less than 5 % of women (18-69 years age) are screened at every 3rd year intervals**

# Herpes Simplex Virus ( HSV )-2 Infection in India

- **Most common sexually transmitted infection (STI), and the primary cause of genital ulcer disease worldwide, increasing the risk of HIV**
- **HSV 2 seroprevalence among sexually transmitted diseases clinic attendees ranging from 43% to 83%, and lower prevalence in population- based cross-sectional studies, from 7.9% to 14.6%.**
- **33.3% of individuals are seropositive for HSV-1 and 16.6% are seropositive for HSV-2. Those with both HSV-1 and HSV-2 antibodies are estimated at 13.3% of the population. Indian men are more likely to be infected with HSV-2 than women, and increasing seroprevalence of this virus is associated with an increasing age**

# REPRODUCTIVE HEALTH DISEASE BURDEN IN INDIA

- **Current population : 1.2 billions. Mostly sterilization methods about 36 % as compared to use of spacing 11 %. Non-use of spacing method 64 %. Unmet needs are stagnating around 15 to 20 % from last one decade.**
- **People living with HIV / AIDS has come down to 2.08 millions. Declining trend of HIV prevalence from 0.41 % to 0.27 % in India. Rising trends in earlier low prevalence 9 states is a cause of concern.**
- **STIs : 30 million episodes annually. Hosp based studies. Adult prevalence about 5 – 6 %. STIs – N Gonorrhoe about 4 % in females. RTIs- Bact Vag 18 to 64 % and Chlamydia 7 to 24 %**
- **Cervical cancer : 300 millions women at risk of developing cervical cancer. HPV prev about 8 % in women with normal cytology.**
- **Herpes Simplex ( HSV – 2 ) prevalence in population based cross sectional studies – about 8 to 15 %, but 43 to 83 % in STD clinic attendees.**

# WHAT PREVENTIVE TECHNOLOGIES ARE AVAILABLE IN INDIA

## PREGNANCY PREVENTION ( Spacing methods)

Public sector - Male condoms, IUDs & Oral Pills

Private sector – 3 monthly injectable, ? Monthly, ? Implants

## HIV PREVENTION

Public Sector : Male condoms

Female condoms ( experimental )

Private sector : Male condoms, ? Female condoms

## NON-HIV STI s

Public Sector : Male condoms, ? Female condoms

Private Sector : Male condoms, ? Female condoms,  
vaginal creams



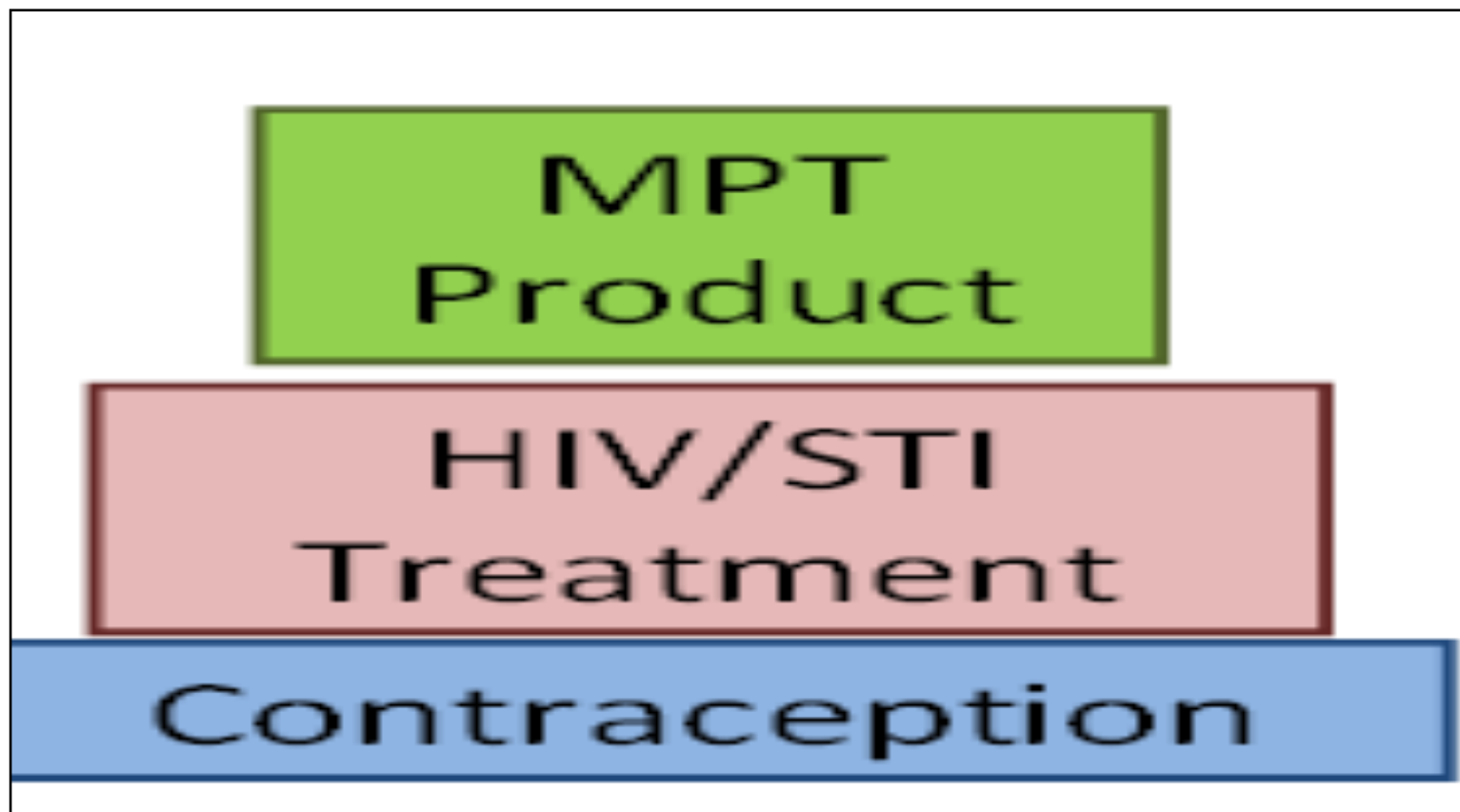
# Why multipurpose prevention technologies (MPTs)?

- *Enough published data to indicate that contraceptive prevalence rate goes up when a variety of choices of spacing contraceptive methods are made available to the users – specially the younger age couples.*
- Program delivery would be easier as well as the user acceptabilities would be greater, if a variety of “ dual purpose “ or “ triple purpose “ preventive technologies for reproductive health to meet the diverse needs of people ( males / females / transgenders ) are made available for the prevention of un-intended pregnancies along with any combinations of preventions of HIV or non HIV STIs or STDs or RTIs. .

**SINE QUA NON – Promote the use of existing preventive technologies for reproductive health , through the primary health care delivery system .**

**What is required is MPT Bicycle which can go thru' deeper in roads to the rural and remote areas for the countries in the sub-saharan African region as well as in the Asian regions like China and India, rather than a Mercedes Benz which would remain on the highways / wider roads of the urban areas / metropolitan cities**

**(J. Romano- Personal Communication 2012 )**



# What are Multipurpose Prevention Products for Reproductive Health (MPRH)?

**Multipurpose Prevention Technologies:** *meeting the needs of women and men as their reproductive health risks change over time*

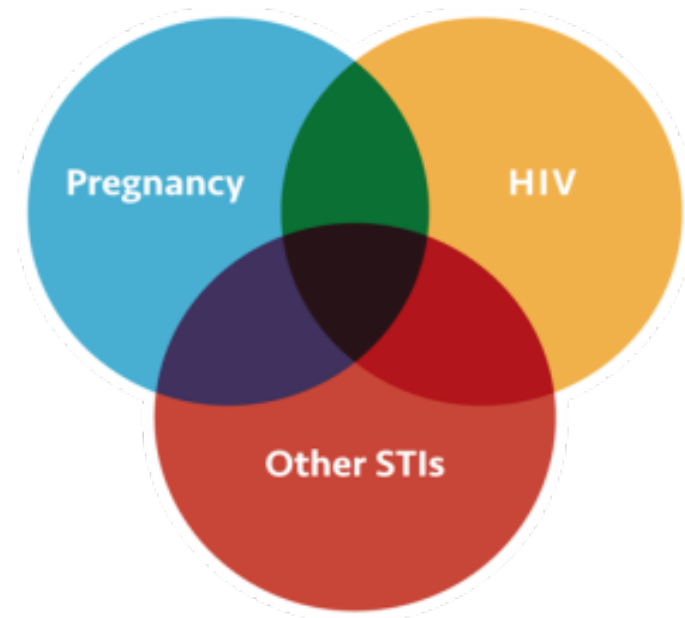
*Pregnancy + HIV*

*Pregnancy + other STIs*

*HIV + other STIs*

*STI + STI*

*Pregnancy + HIV + other STIs*



Source: [www.cami-health.org](http://www.cami-health.org)

# Available and Emerging MPTs

- **Available MPTs:**
  - Male and female condoms
- **Emerging MPTs:**
  - Drug combinations
  - Drug & device combinations
  - Bacterial therapeutics
  - Multivalent vaccines
  - Nanoparticals
- **Challenges:**
  - Regulatory
  - Pharmaceutical



**SOURCE : CAMI / J. ROMANO 2012**

**“ Life is and would always remain a struggle.  
Only perception of its keep changing. To  
meet it successfully, one would need faith,  
vision, courage and confidence”**

**Late Mrs Indira Gandhi, World Health  
Assembly, WHO Geneva 1981**

**TEAM WORK:**

**National and international multidisciplinary co-  
operation and collaboration**