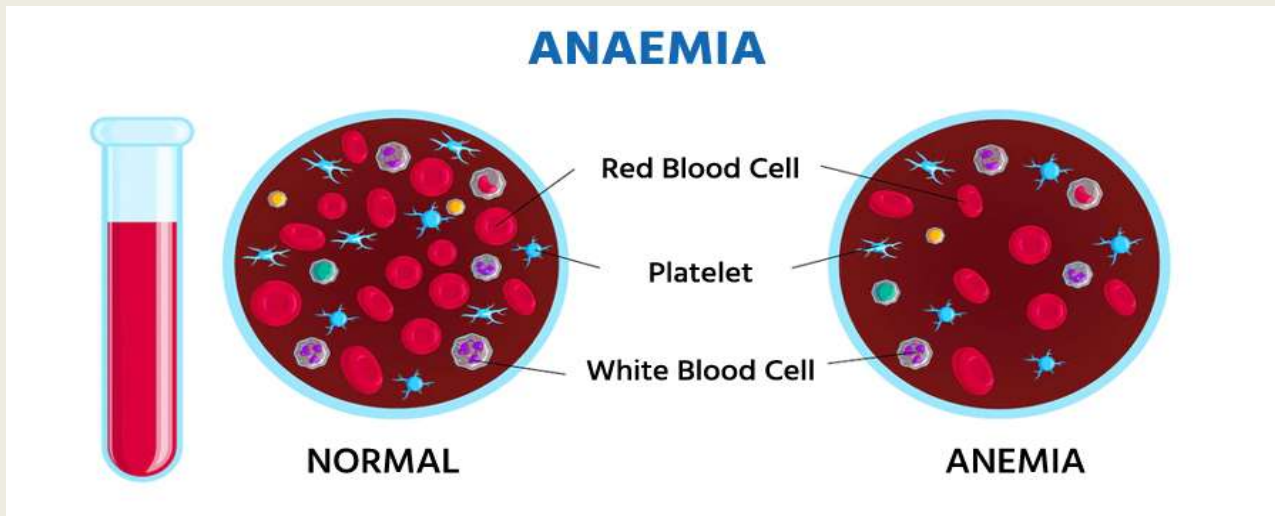


# WELCOME

TOPIC-ANEMIA

# ANEMIA



# Objectives of this presentation

- **To bring in the global evidence on anemia & its implications**
- **To understand the current programming on anemia prevention**
- **To bring in the state initiatives to address anemia through a comprehensive approach**

# Rationale: Evidence

- **Anemia is multi-factoral in etiology**
- **Iron and folate deficiency are common**
- **Iron deficiency is related to nutritional deficiency and intestinal helminthic deficiency and folate deficiency due to poor intake and chronic hemolytic stage**
- **Besides these, Malaria and other chronic diseases like Tuberculosis, HIV and cancers remain as major contributors to anemia.**

# Rationale: Evidence

- **Anaemia in pregnant women reduces women's ability to survive bleeding during and after child birth**
- **Risk of maternal mortality decreases by about 20% for each one g/dl increase in Hb**
- **Reduction in severe anemia is evidenced in pregnant women who receive regular malaria prophylaxis in malaria endemic areas**

# Rationale: Evidence

- **34.5% of the preterm deliveries are in low income severely anaemic women in India..**
- **Dietary Iron consumption in India –expected is 26mgs/day but absorption upto 5% only.**
- **During Pregnancy Hb<10g/L at 13-24 wk gestation had 1.18 to 1.75 fold higher relative risk of preterm birth, LBW and preterm mortality.**
- **Early supplementation reduces the iron depletion in the last trimester of pregnancy**

# Rationale: Evidence

- **Pregnant women who are in mild –moderate anemia are also at risk of dying.**
- **Severe maternal anemia-<8gm/L increases the risk of death due to rapid cardiac decompression even without the additional stress of true post partum haemorrhage.<500ml blood loss during delivery could be fatal.**
- **20% maternal deaths are attributable due to anemia in India**



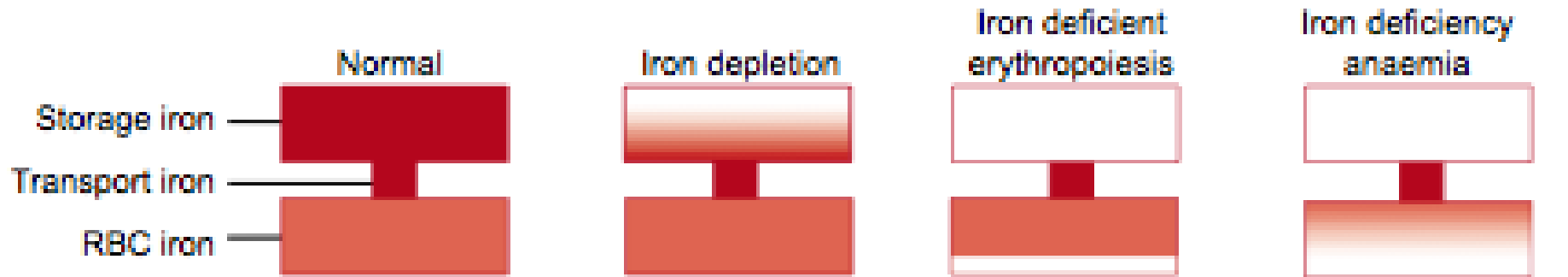
# Anemia



- Anemia is manifestation of under nutrition and poor dietary intake of Iron affecting not only a section but entire population
- It is a condition in which the body does not have enough healthy red blood cells to bring oxygen to body tissues.

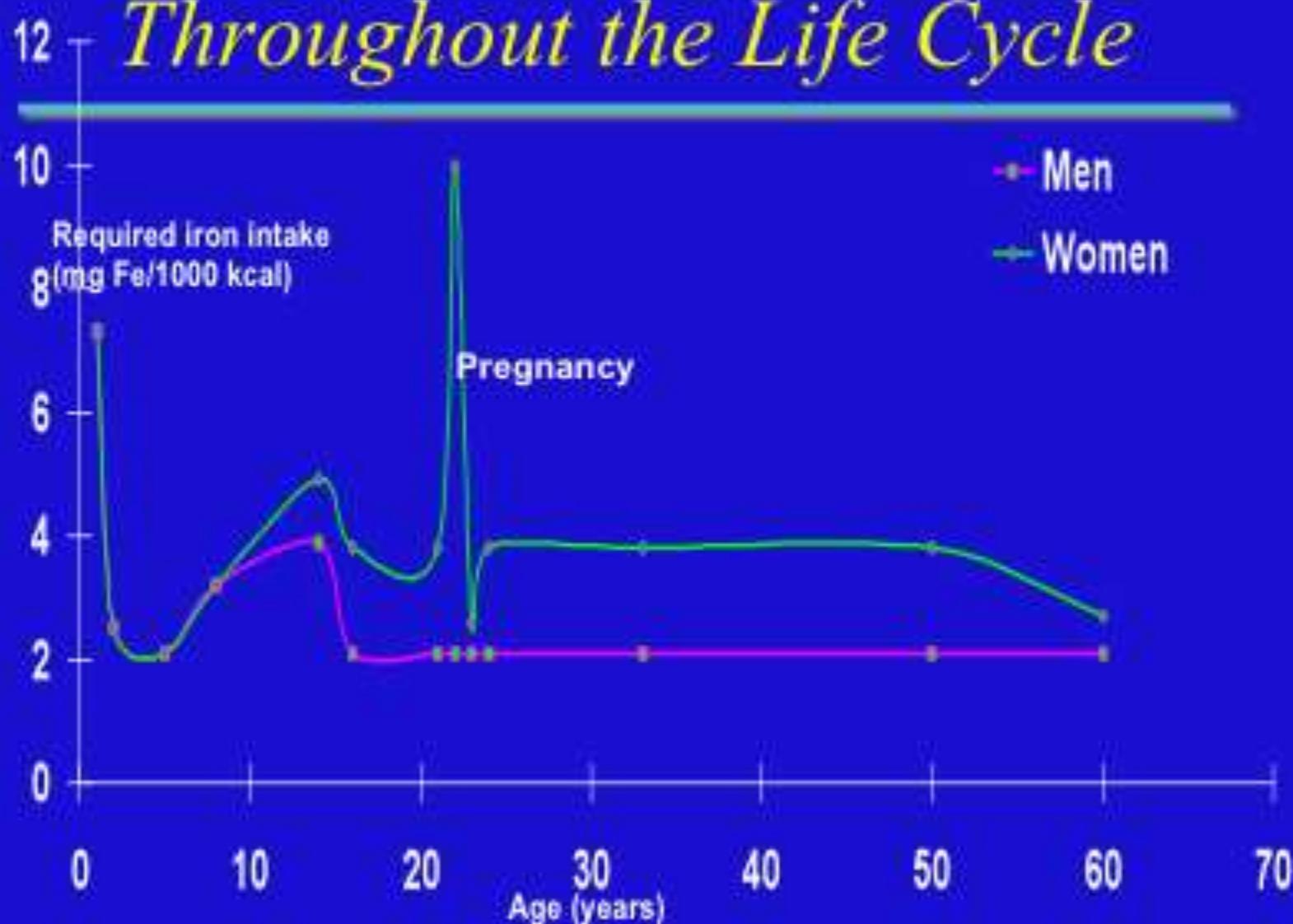


# Iron Deficiency Anemia



- **By the time a person is diagnosed with anemia, the body stores are nil and the RBC Iron is to the minimal level**

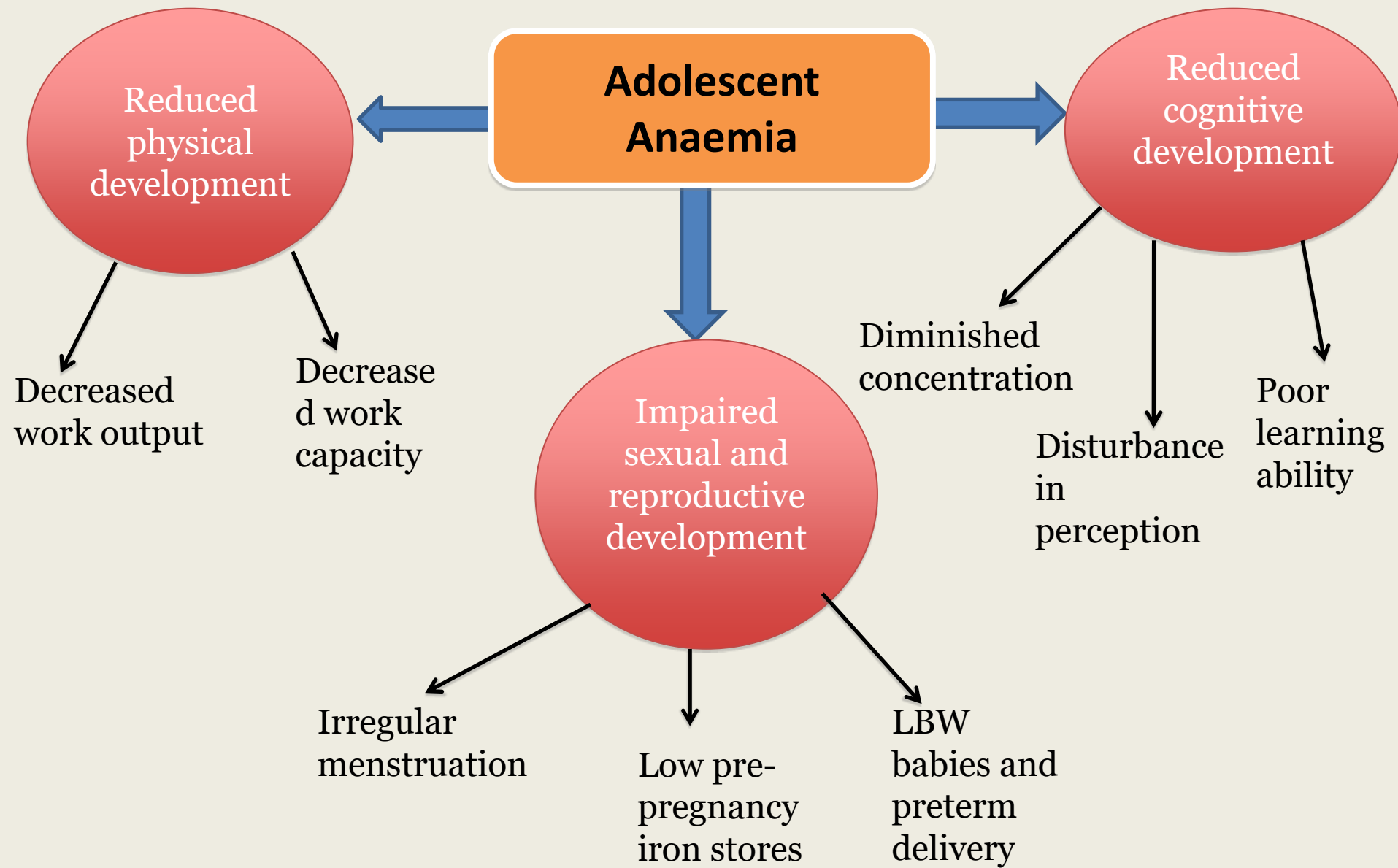
# *Dietary Iron Requirements Throughout the Life Cycle*



# Health Economics of Micronutrient deficiencies in children

- Anemia and other key micronutrient deficiencies can directly attribute to
  - Depressed Cognition
  - Inferior school performance
  - Reduced future earnings & productivity
  - Depressed immunity
  - Repeated infections





# Health Economics of Anemia... cont

- In an anemic individual, the aerobic capacity, endurance and energy efficiency are compromised 10-50%
- Anemic children score 0.5 to 1.5 SD lower on Intelligence tests where as iron interventions have similar magnitude of positive impact on cognitive scores.
- Anemia hits hard on productivity with an estimate of 5% deficit among all “blue collar” jobs to additional 12% loss for Heavy manual labor such as agriculture and construction
- Global evidences conclude that a 0.25 SD increase in IQ level would lead to 5-10% increase in wages



# Maternal Anemia: A Preventable Killer



## Causes

- ❖ Low dietary intake of iron
- ❖ Poor absorption of iron
- ❖ Malaria
- ❖ Hookworm
- ❖ High fertility
- ❖ Other micronutrient deficiencies
- ❖ Diarrhoea, HIV/AIDS & other infectious diseases

Iron Deficiency

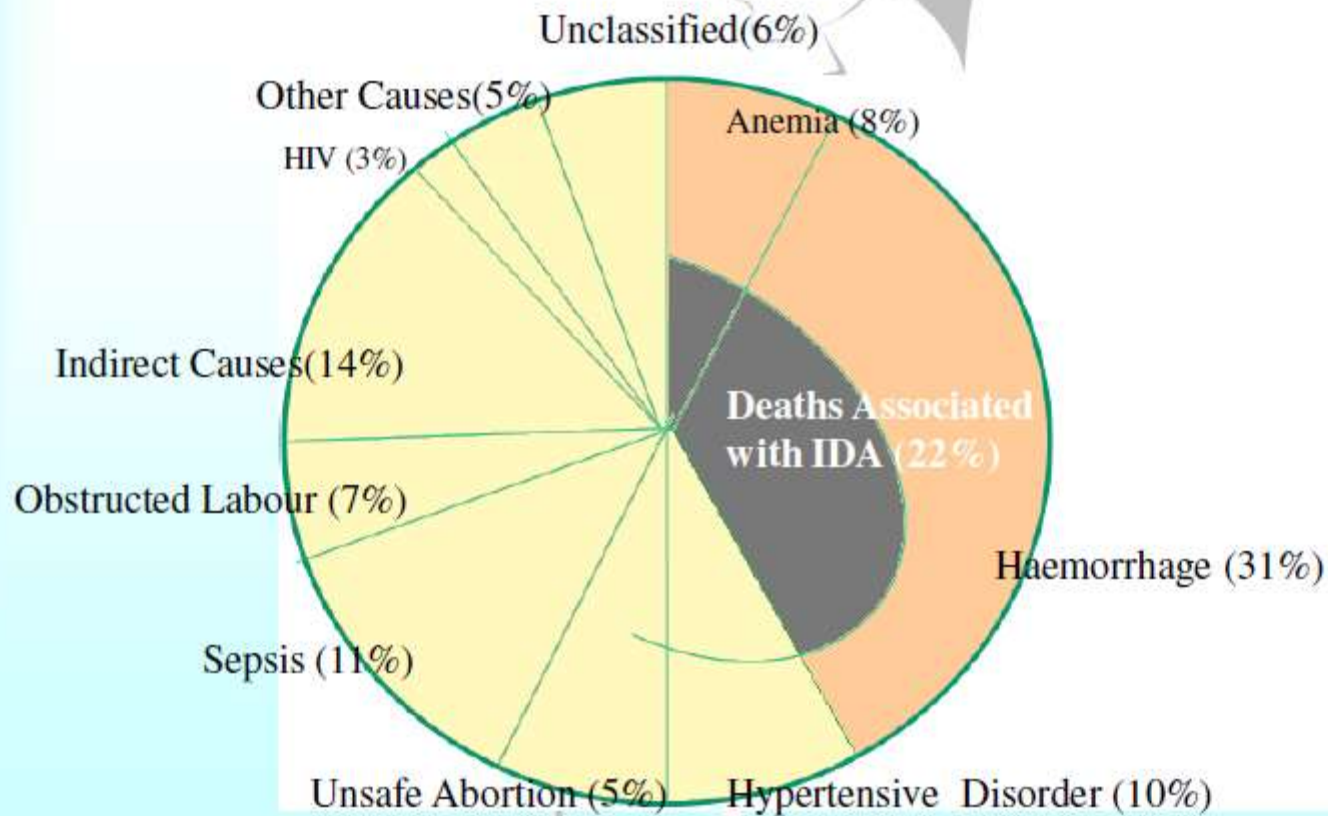
Iron Deficiency  
Anemia

Anemia

## Consequences

- ❖ Increased maternal & perinatal mortality
- ❖ Increased nos. of preterm birth &/or LBW
- ❖ Impaired cognitive development
- ❖ Reduced work productivity

# Causes of Maternal Death & Contribution of Iron Deficiency Anemia



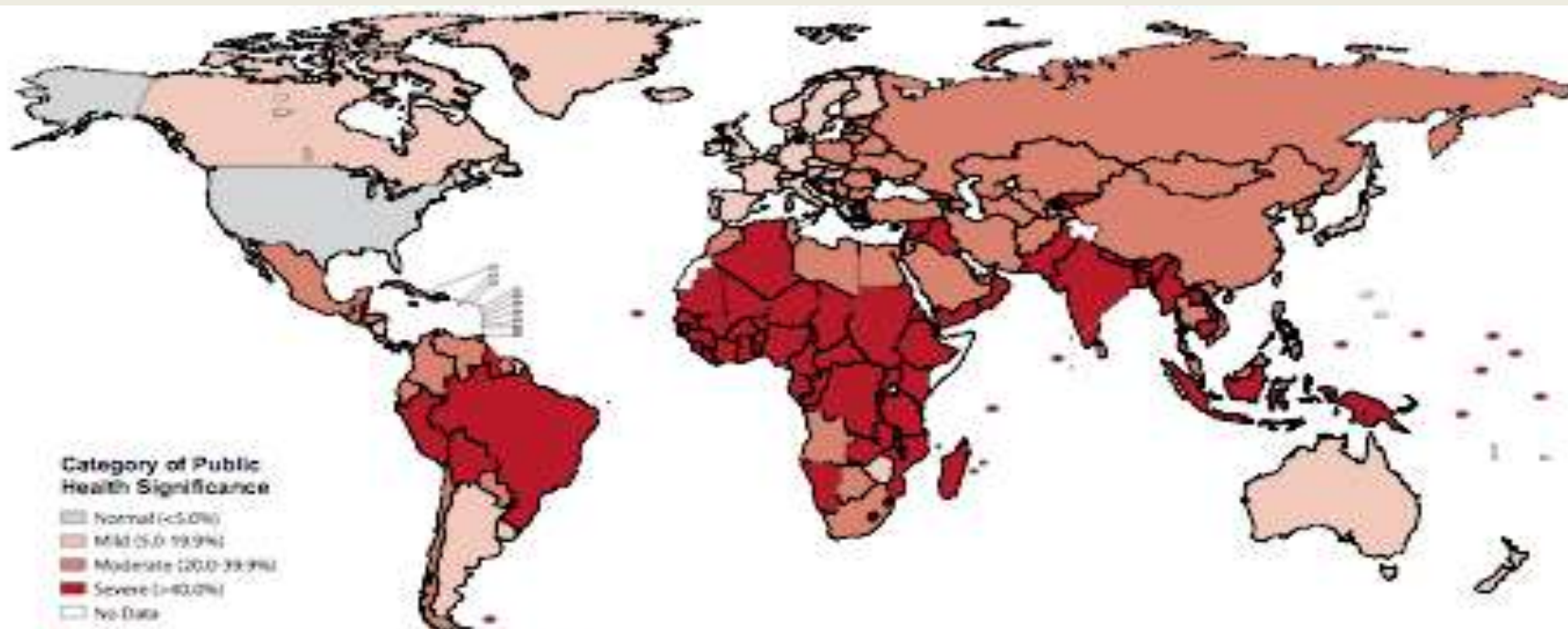
# Health Economics of Micronutrient deficiencies during pregnancy

- Micronutrient deficiencies during pregnancy results in spontaneous abortions, Pre term labour, IUGR, LBW babies and maternal deaths.
- The cost implications include:
  - Increased length of hospital stay
  - Expenses related to referral, transport of cases to hospitals with pediatric care facilities
  - Cost of incubators and Intensive care
  - Cost of post maternity care

These all result in burden on State Health Budget



# Global picture

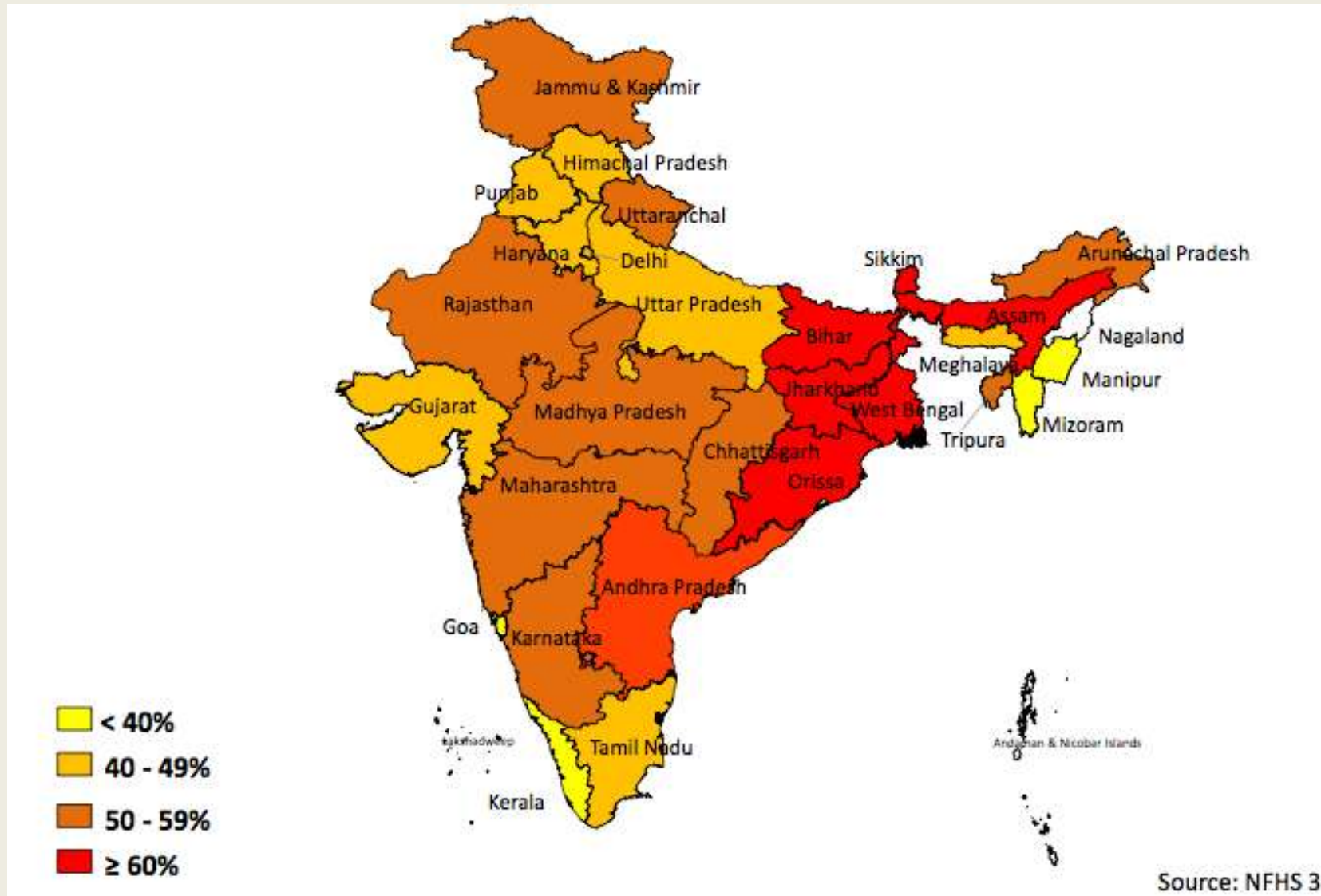


Source: WHO Global Database on Anaemia

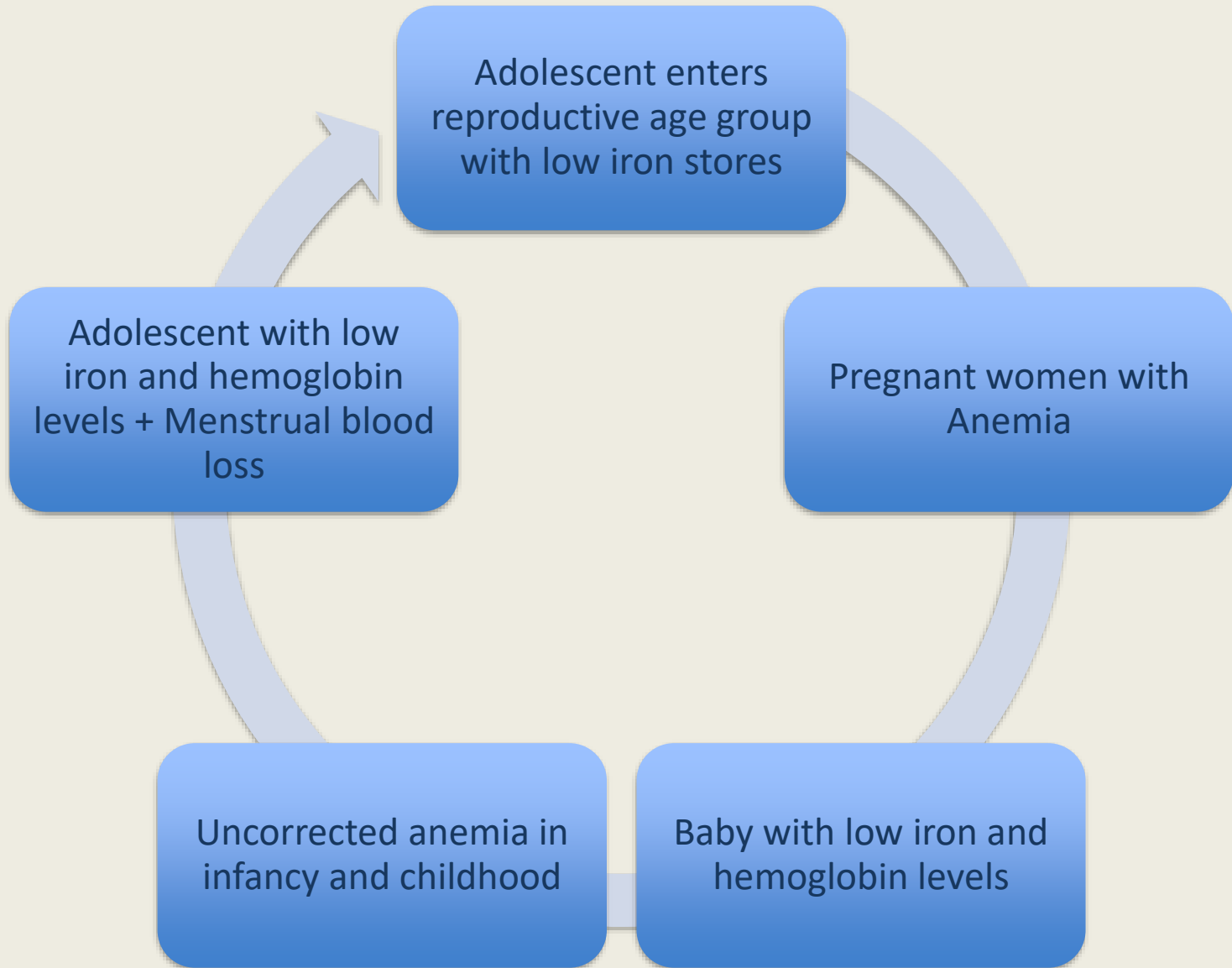
Country	Proportion of population with anaemia (Hb <11 g/dl)	Public health problem
Bangladesh	47.0	Severe
Bhutan	60.6	Severe
India	74.3	Severe
Nepal	78.0	Severe
Pakistan	50.9	Severe
Sri Lanka	29.9	Moderate

Source: WHO Global Database on Anaemia

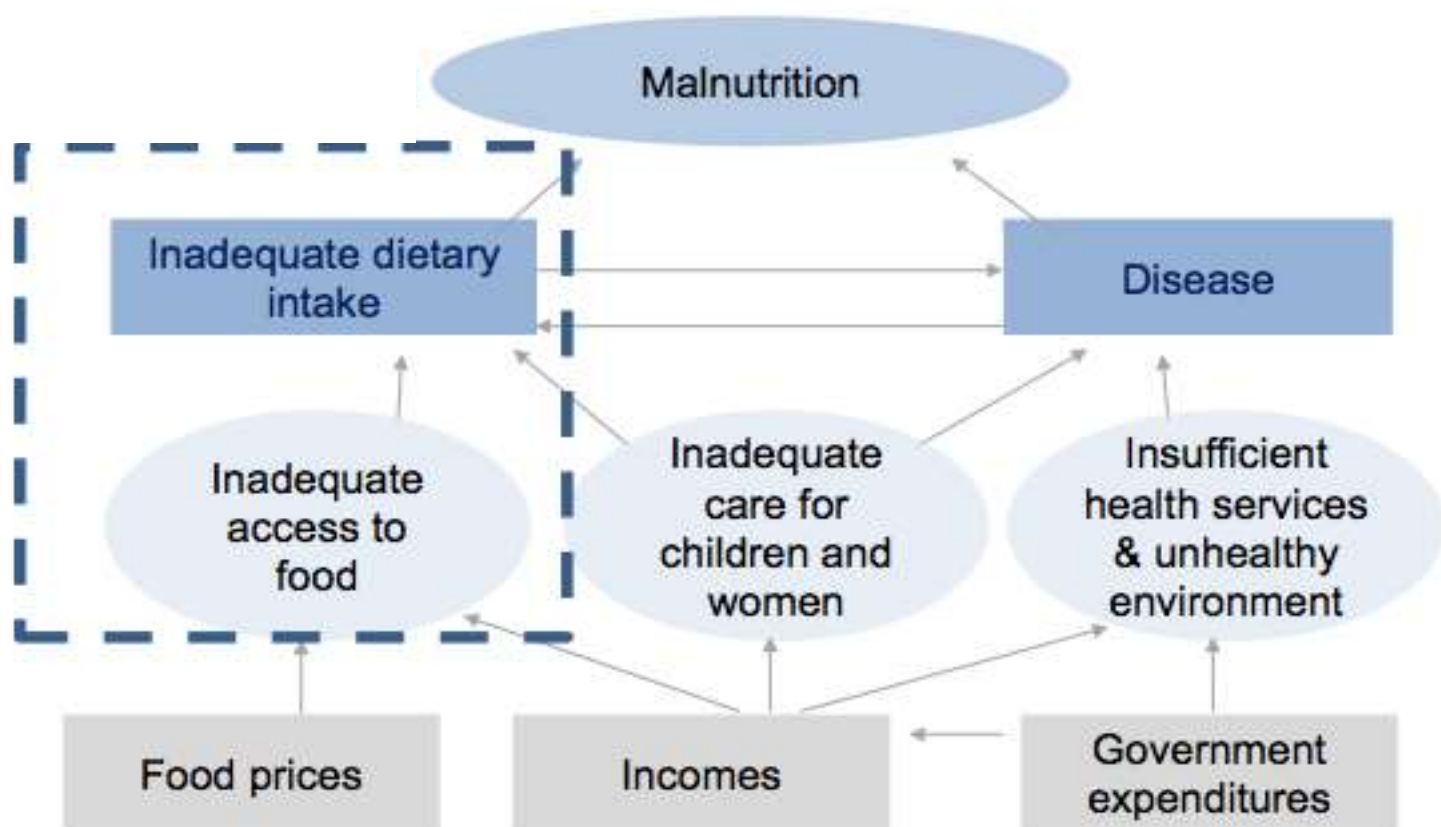
# Adolescent Anemia: problem scale by States



# Intergenerational cycle of Anemia



# Anemia & Malnutrition have same Actors



**Framework brings together several actors addressing complementary issues with defined roles**





Provide  
Improved Health  
Services

Dietary  
Diversification



# Strategies for prevention of IDA & Malnutrition

Food  
Fortification

IFA  
Supplementation  
with Biannual  
deworming



# Dietary approach

- Improved Breast feeding practices
- Ensuring Dietary Diversification
- Supplementation of IFA, Vitamin A and other essential micronutrients
- Control of other factors affecting Iron, Vitamin A Deficiency by biannual deworming and Vitamin A supplementation.

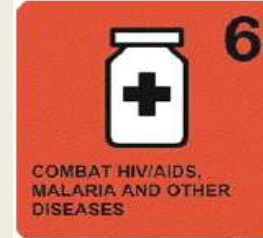


# Initiatives through ICDS

- Supplementary Nutrition Provided under ICDS bridges the gap between the Recommended Dietary Allowance (RDA) and Avg. Daily Intake (ADI)
- THR provided is energy dense & micronutrient fortified which provides 500 calories and 12-15 gms proteins to children between 6 mo – 3yrs and 600 cal and 18-20 gms proteins to Pregnant & Lactating women
- Food supplement with 800 gms of calories and 20-25 gms of proteins is provided to every SUW child per day in form of HCM and fortified THR.
- Besides these ICDS Maharashtra supplies Multi Micronutrient powder for home food fortification to prevent anemia in children

# Anemia prevention is a lead to achieving the MDG goals

Improving human capacity and productivity



Halt and begin to Reverse the incidence of malaria and other major diseases



Increase school attendance & learning capacity



Elimination of gender disparity in secondary education



Adequate infant iron & Vit A store – improved infant survival and health



Reduce anemia related maternal deaths



# Way Forward

- All line departments to come together for Micronutrient policy and guidelines (Roles & Responsibilities, monitoring & reporting)
- Multi micronutrient powders for 6mo to 1yr children to be added to complementary food
- Prepositioning of medicines
- Establishing a reporting system
- Joint monitoring and action planning
- IEC for the program which should be planned as per target group and area (Need separate IEC strategy for Urban, Tribal and Rural areas)

**THANK YOU**