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Improving women and Adolescents' health and Nutrition in Tanzania

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Tanzania profile

Area = 945 000 km^2

Population = 60 million

Adolescents = 23%

TFR = 5.2

ANC attendance = 94%

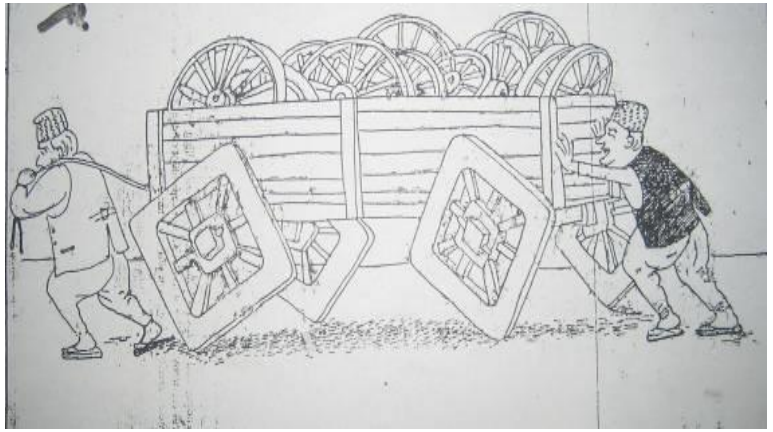
Facility delivery = 62% (85%)

Adolescents health needs

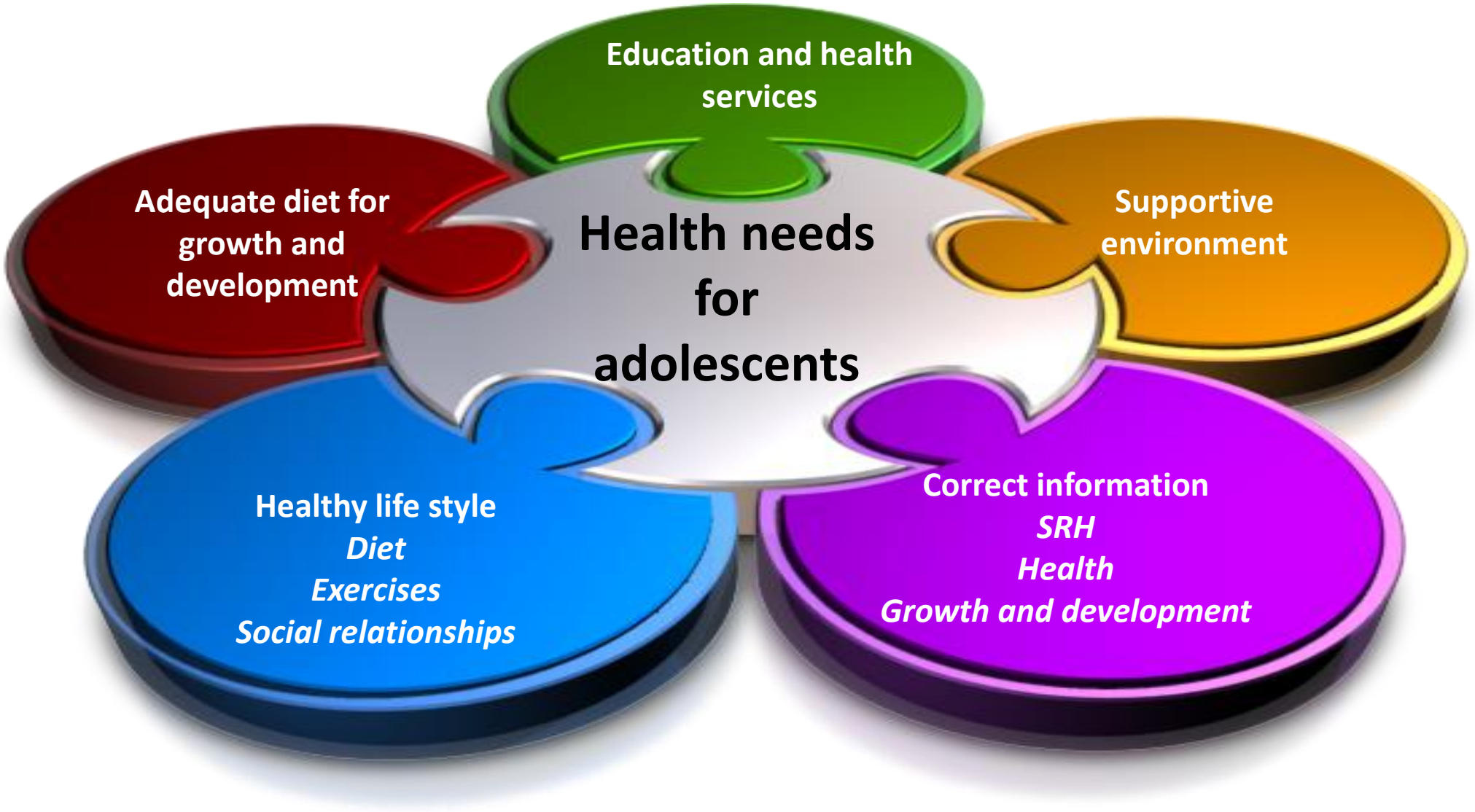
- Adolescent age: 10 - 19 years (WHO, 2011)

  Phase of life during which individuals reach sexual maturity (Puberty to maturity)

- Changes in adolescent age
  - There is rapid physical growth and development
  - Onset of sexual activity and experimentation
  - Transition from total socio-economical dependence
  - Development of adult mental processes and identity



Adolescents health needs



Adolescents health

- Poor sexual and reproductive health may lead to:
  - Teenage pregnancies
  - Sexually transmitted infections
  - Malnutrition and anaemia
  - Substance abuse
  - Mental health concerns
  - Violence including gender-based violence

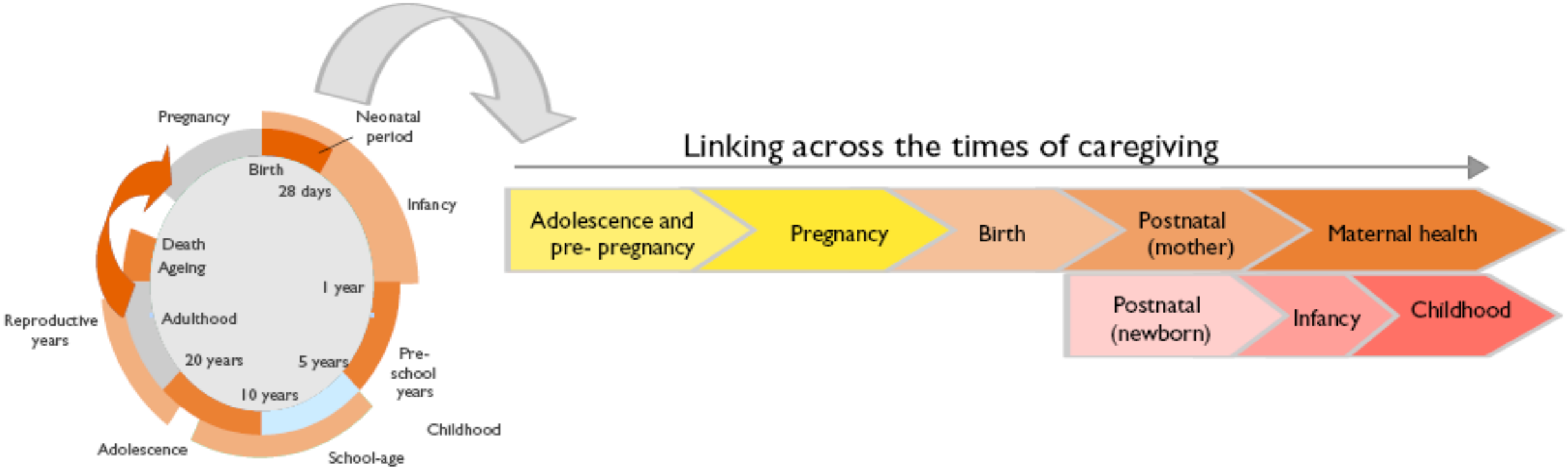
These all contribute to increased morbidity and mortality not only during adolescence but also later in their lives

Adolescents health risks

- Adolescent Fertility Rate is 128 pregnancies per 1,000 women
- Sexually Transmitted Infections (STIs), including HIV/AIDS is high 40% of new infections occur
- Condom use outside marriage is as low as 37% in adolescent girls and 35% in adolescent boys ages 15-19.3%
- Prevalence of stunting is very high, reaching about 70% stunting rate at 13 years.
- 50% of boys and girls aged 13-19 reported experiencing physical violence at the hands of teachers

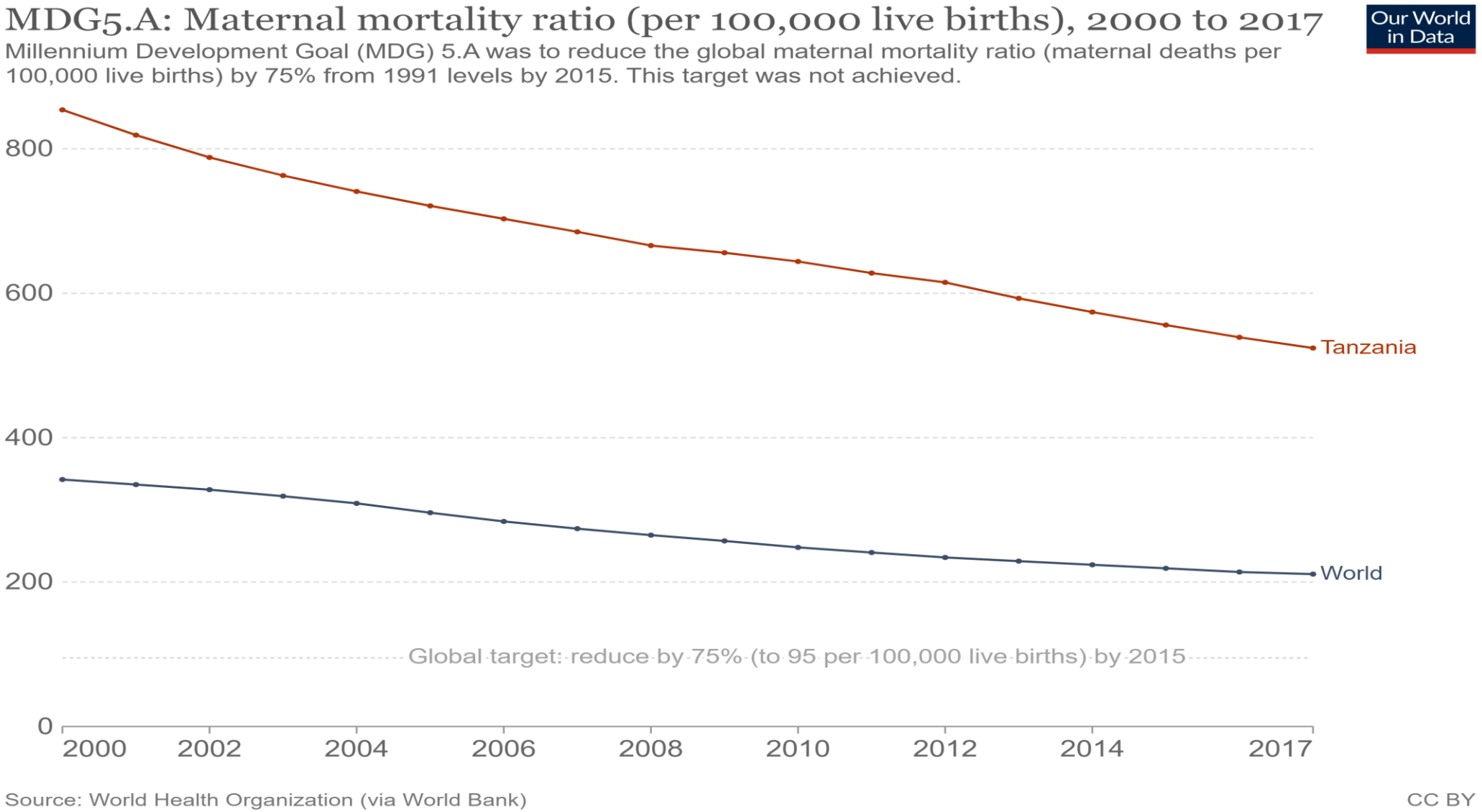
(National Adolescent Health and Development (ADHD) Strategy, 2018)

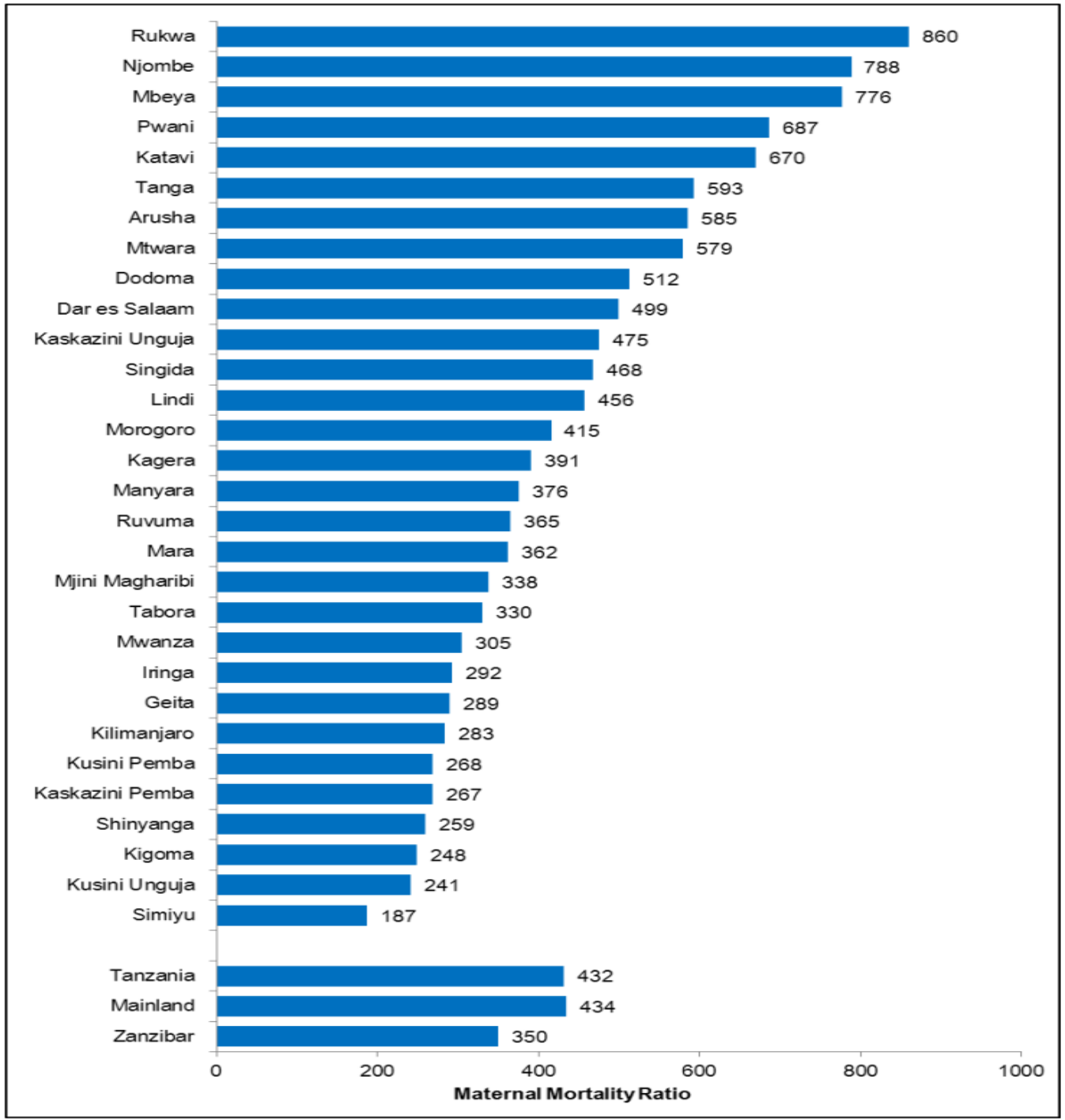
Connecting care through the lifecycle



Graft-Johnson – Continuum of care. Opportunities for African Newborn

Maternal and newborn health





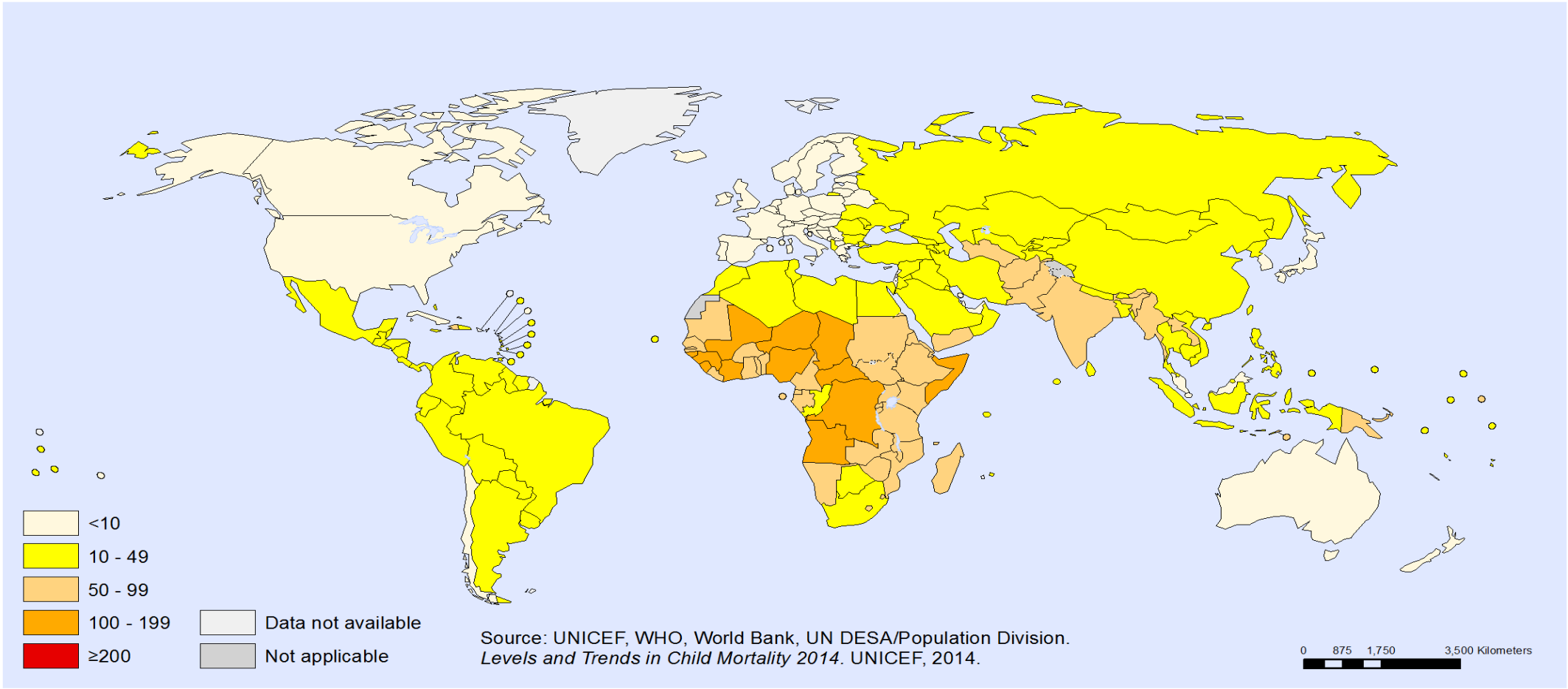
Estimated Maternal mortality ratio for Tanzania by regions, 2012 census

Huge variations across the country.

- 13 regions above National average
- Highest in Rukwa, Njombe and Mbeya and Lowest in Kusini Unguja, Simiyu and Kigoma.

Maternal and newborn health

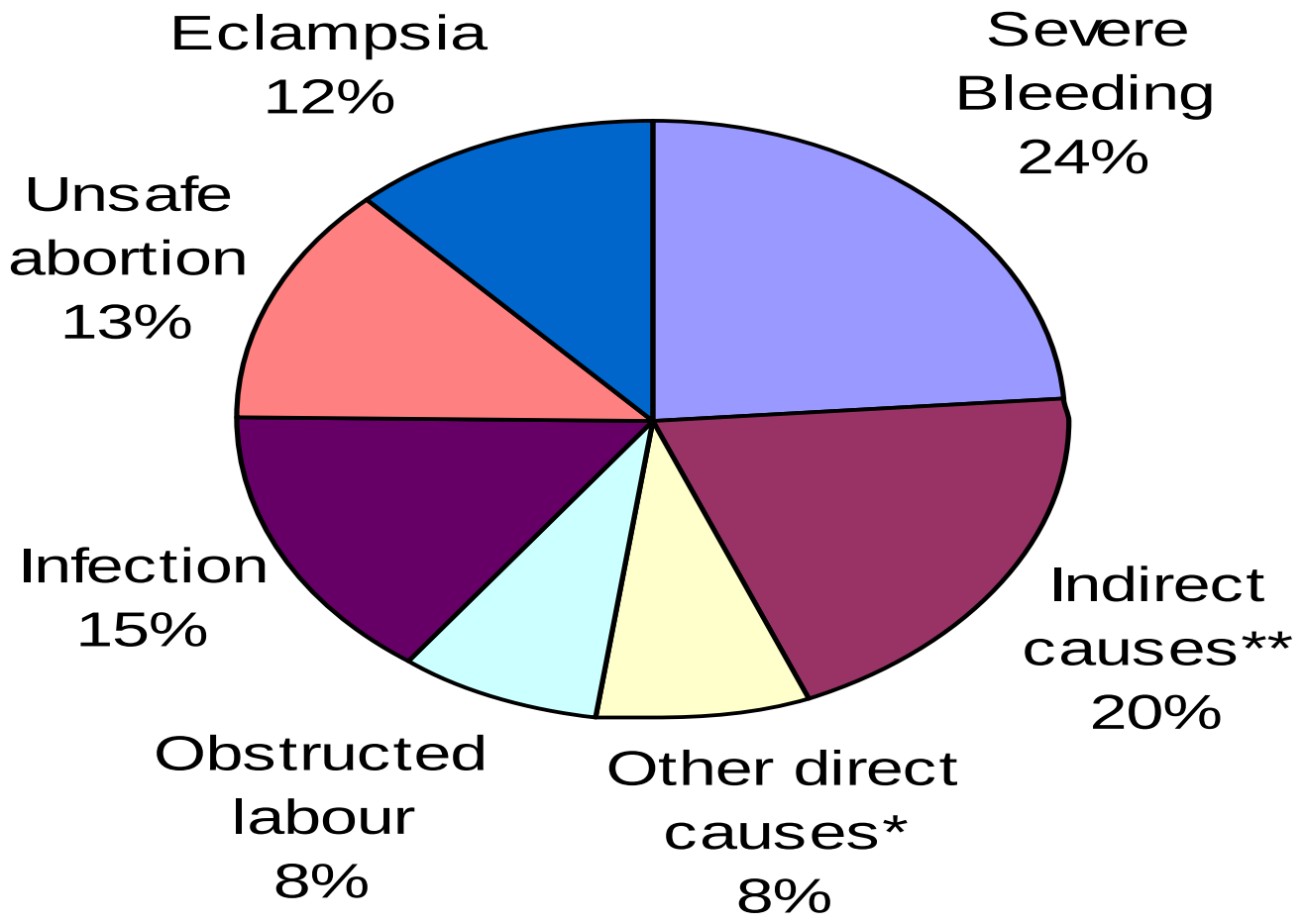
Under-five mortality rate (probability of dying by age 5 per 1000 live births), 2013



Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

World Health Organization

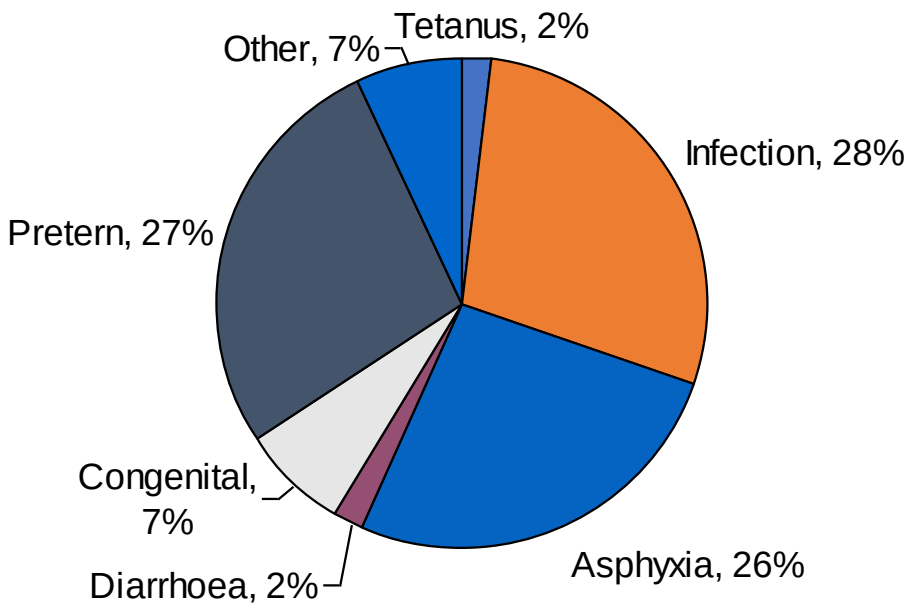
Medical causes of maternal mortality



** include anaemia, malaria, heart diseases

*include ectopic pregnancy, embolism, anaethesia related

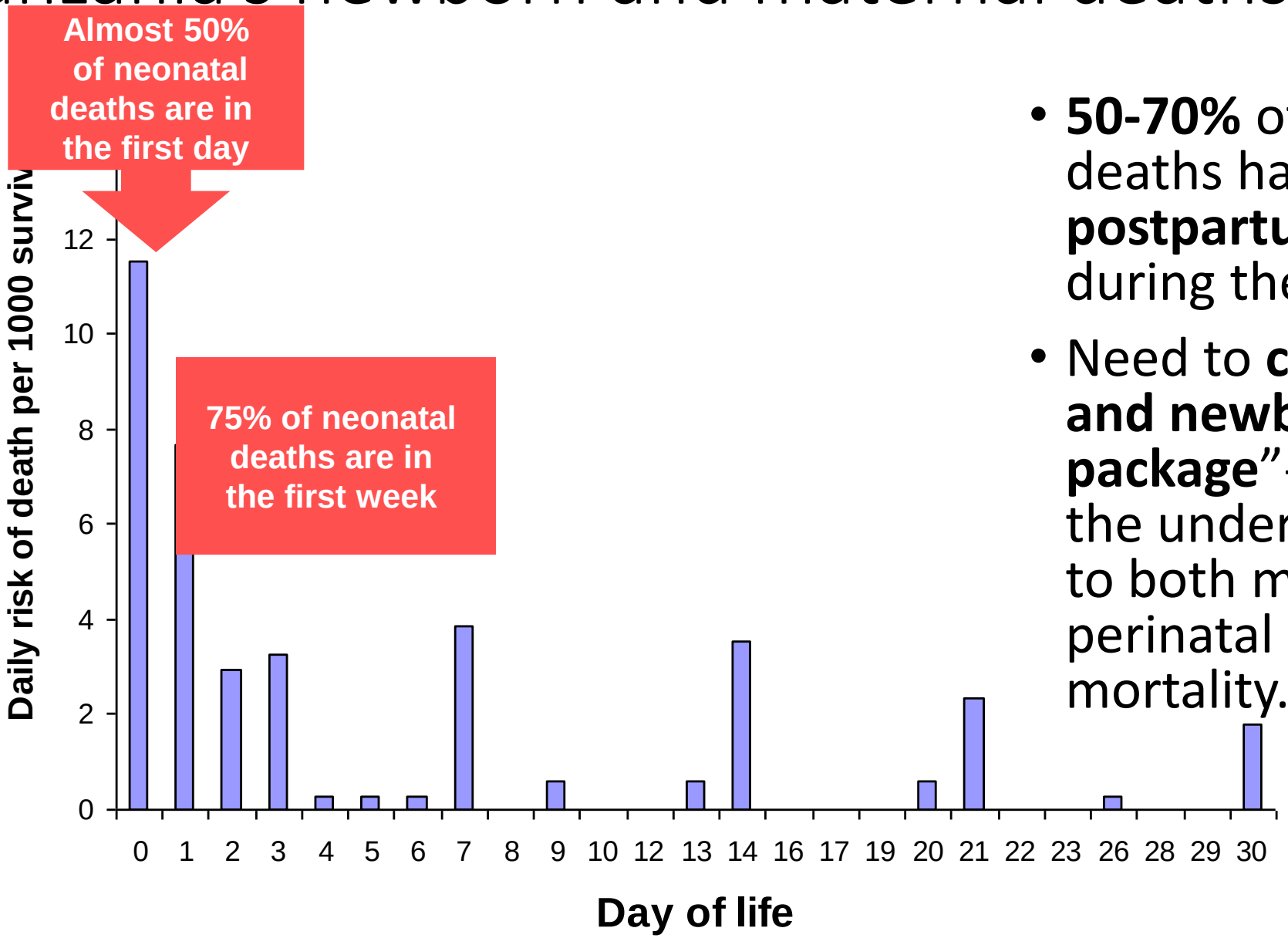
Causes of newborn deaths



Infections and tetanus account for 30% of neonatal deaths in Tanzania

Low birthweight rate: 13%

Tanzania's newborn and maternal deaths - When?



Source: DHS 47 countries.

- **50-70%** of the maternal deaths happen during the **postpartum period** (45% during the first 24 hrs).
- Need to **consider maternal and newborn as "a package"**- because many of the underlying factors lead to both maternal and perinatal morbidity and mortality.

Undernutrition

- Despite efforts and investments:
  - Children in particularly underfive continue to suffer from the burden of undernutrition
  - The chief burden includes:
    - Stunting
    - Underweight
    - Wasting
  - Causes and determinants are preventable, but intertwined with social demographic disadvantages
- Burden varies with regions, demographic divide, gender, and others

Stunting: Improved Indicators with Remaining Challenges

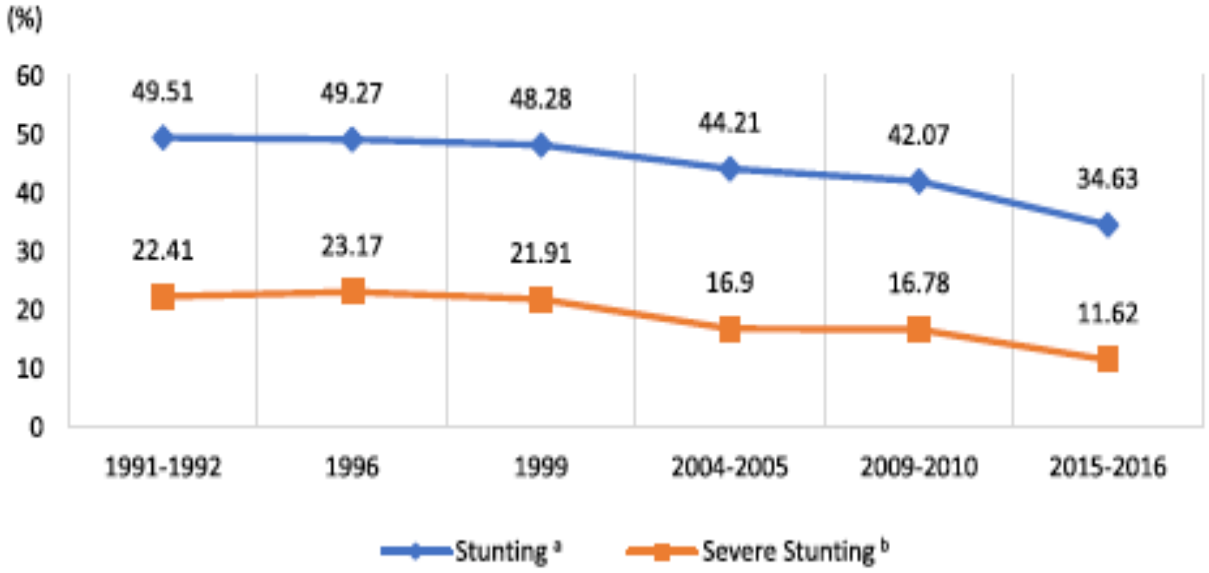
Sunguya et al. Nutrition Journal (2019) 18:85
https://doi.org/10.1186/s12937-019-0505-8

Nutrition Journal

RESEARCH Open Access

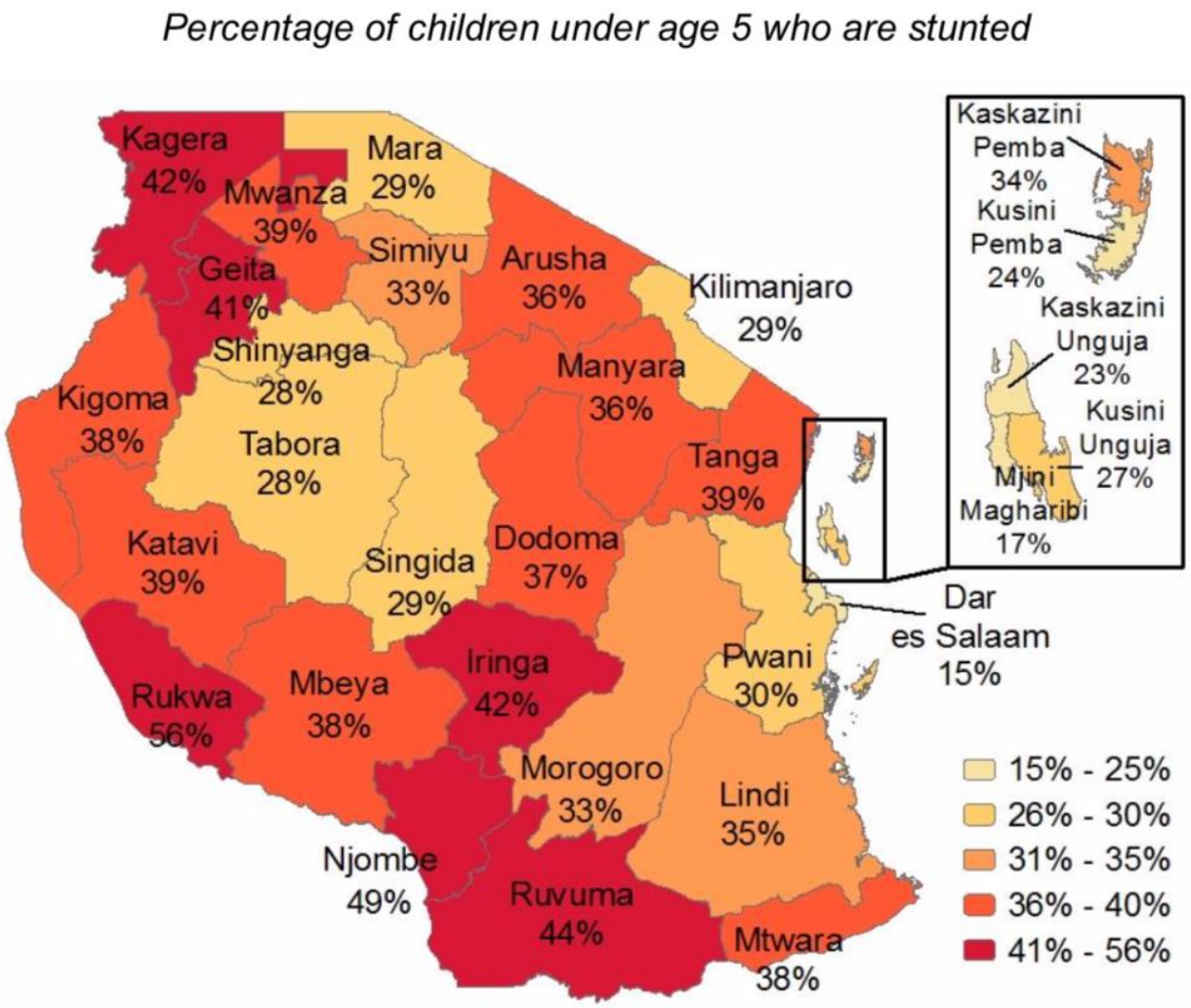
Trends in prevalence and determinants of stunting in Tanzania: an analysis of Tanzania demographic health surveys (1991–2016)

Bruno F. Sunguya[1†], Si Zhu[2,3†], Rose Mpembeni[1*] and Jiayan Huang[2,3*]

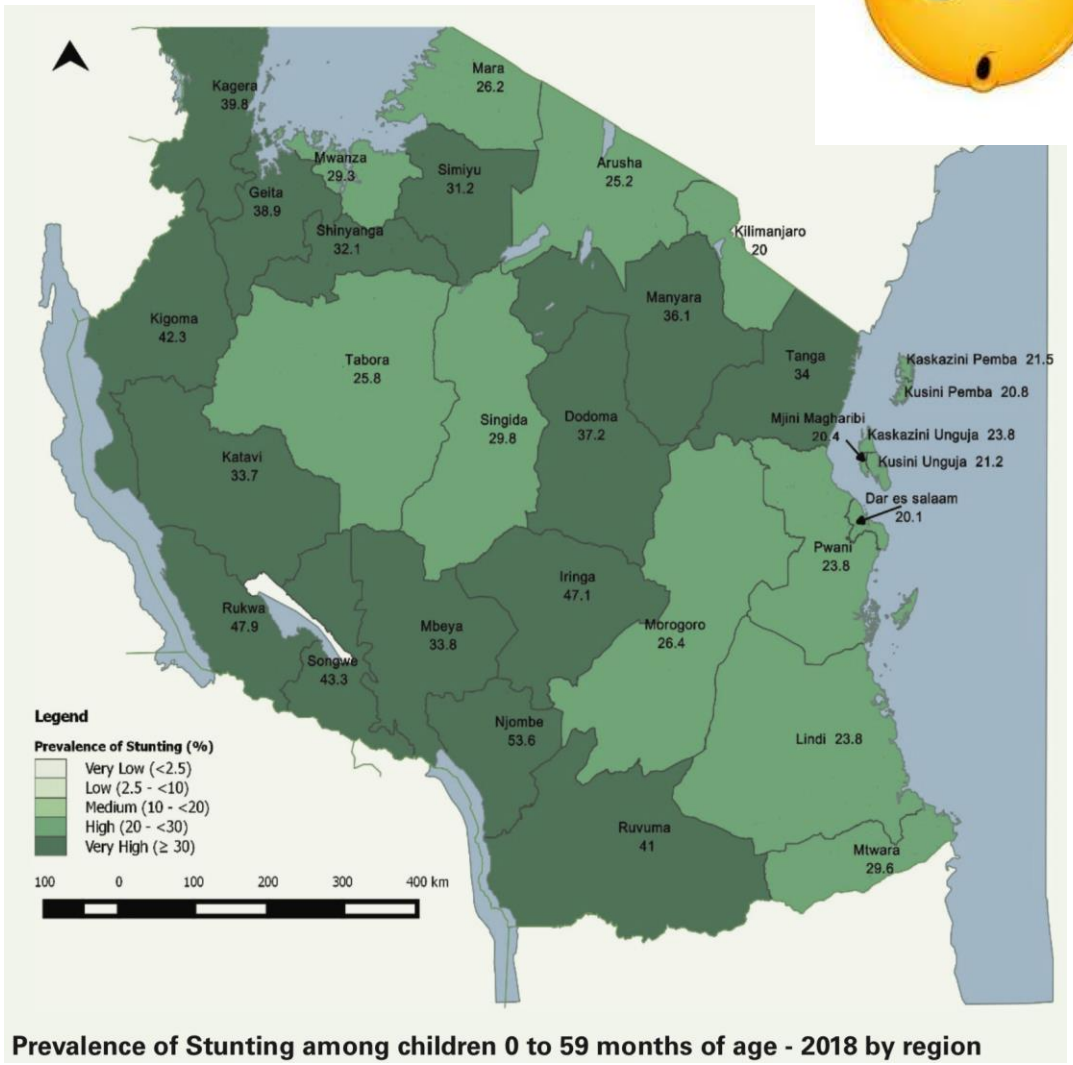


- The pace is slow – ONE IN THREE IS STILL STUNTED
- More efforts are needed to address the remaining challenges
  - Low birth weights
  - Poor nutritional status of mothers
  - Short duration of breastfeeding
  - Poverty.

Significant Regional Disparity--Stunting



TDHS 2015



Prevalence of Stunting among children 0 to 59 months of age - 2018 by region

TNNS 2018

Urban and rural disparity

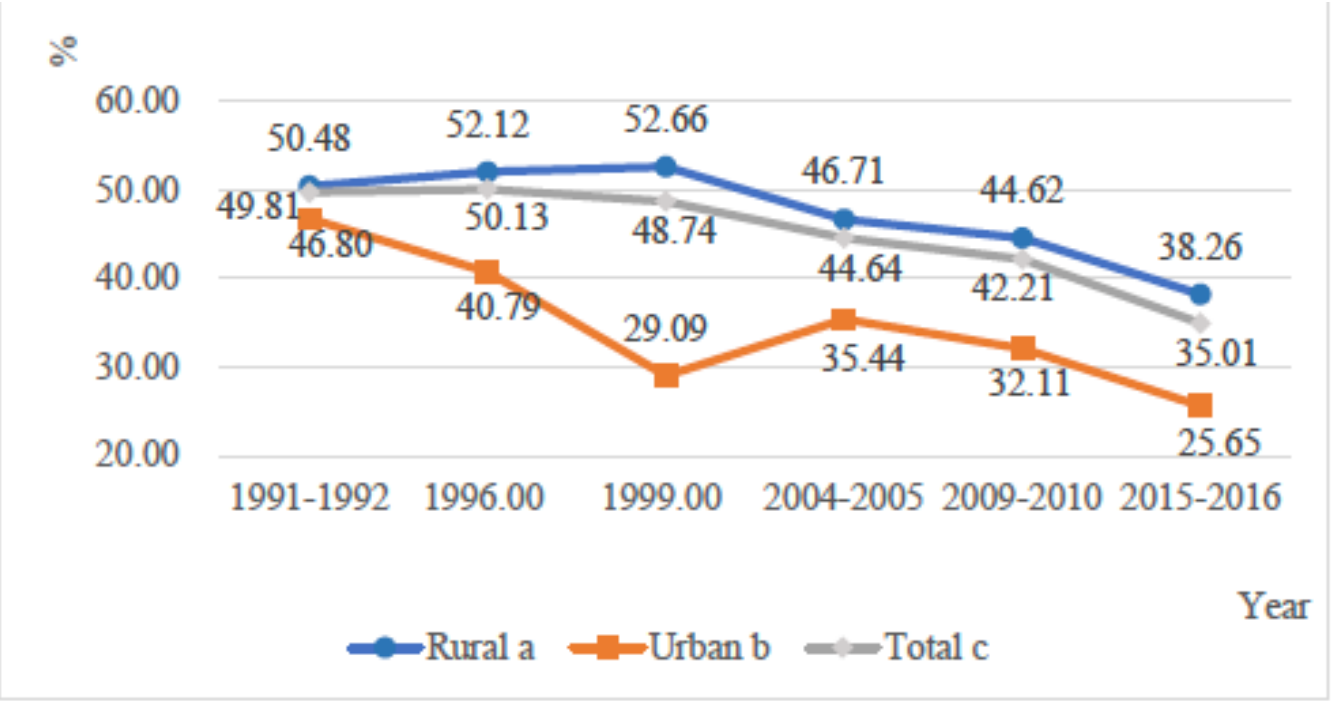
International Journal of *Environmental Research and Public Health*

MDPI

Article

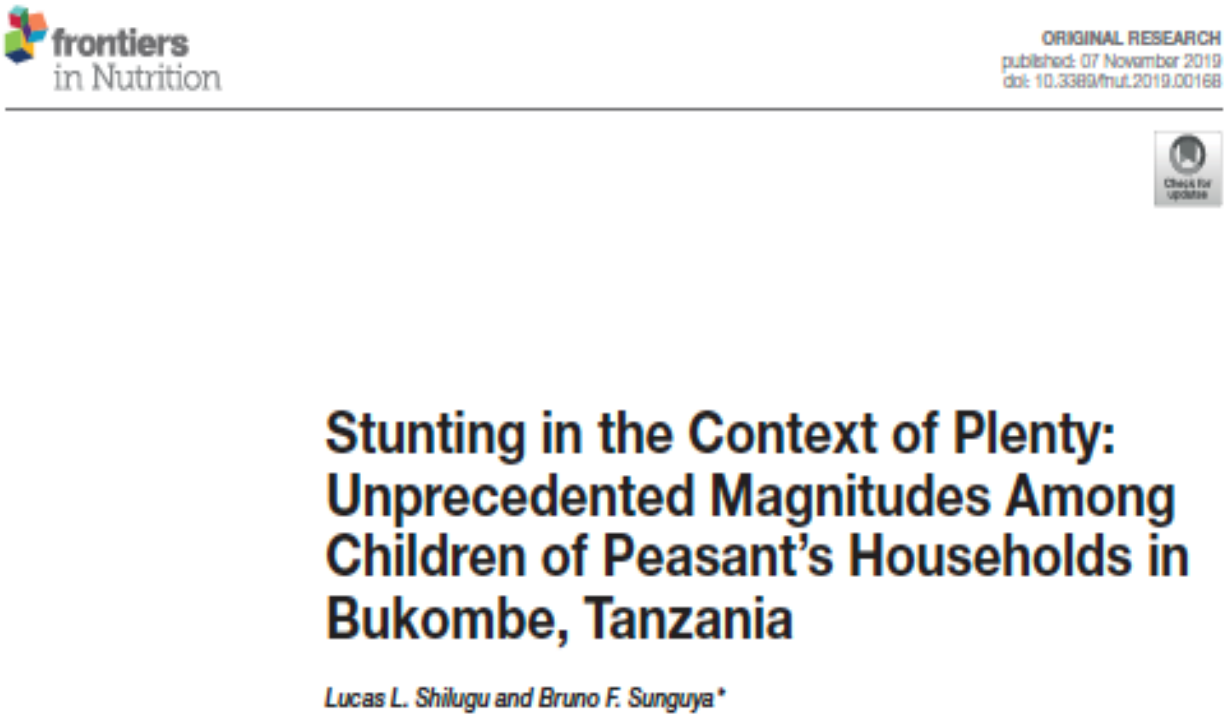
Urban–Rural Disparities in the Magnitude and Determinants of Stunting among Children under Five in Tanzania: Based on Tanzania Demographic and Health Surveys 1991–2016

Wenjun Zhu [1,2,3,†], Si Zhu [1,2,3,†], Bruno F. Sunguya [4] and Jiayan Huang [1,2,3,*]



- The nutritional disparity between urban and rural children has widened, and **stunting is still an overwhelming phenomenon in the rural area**.
- the nutritional disparity was mainly attributed to the socioeconomic imbalance between rural and urban households.

High burden of stunting in food secure regions



- Magnitude of undernutrition was high in Bukombe district.
- Chronic form of undernutrition was prevalent in among 52.8% of all under-5 children
- Stunting was more prevalent among children in peasant population due to poor feeding practices.
- Majority of children were fed at a low feeding frequency and dietary diversity.
- Stunting was also significantly associated with
  - age, household food insecurity, and low birth weight.

Child anemia still high though declining

International Journal of *Environmental Research and Public Health*

MDPI

Article

Regional Disparities in the Decline of Anemia and Remaining Challenges among Children in Tanzania: Analyses of the Tanzania Demographic and Health Survey 2004–2015

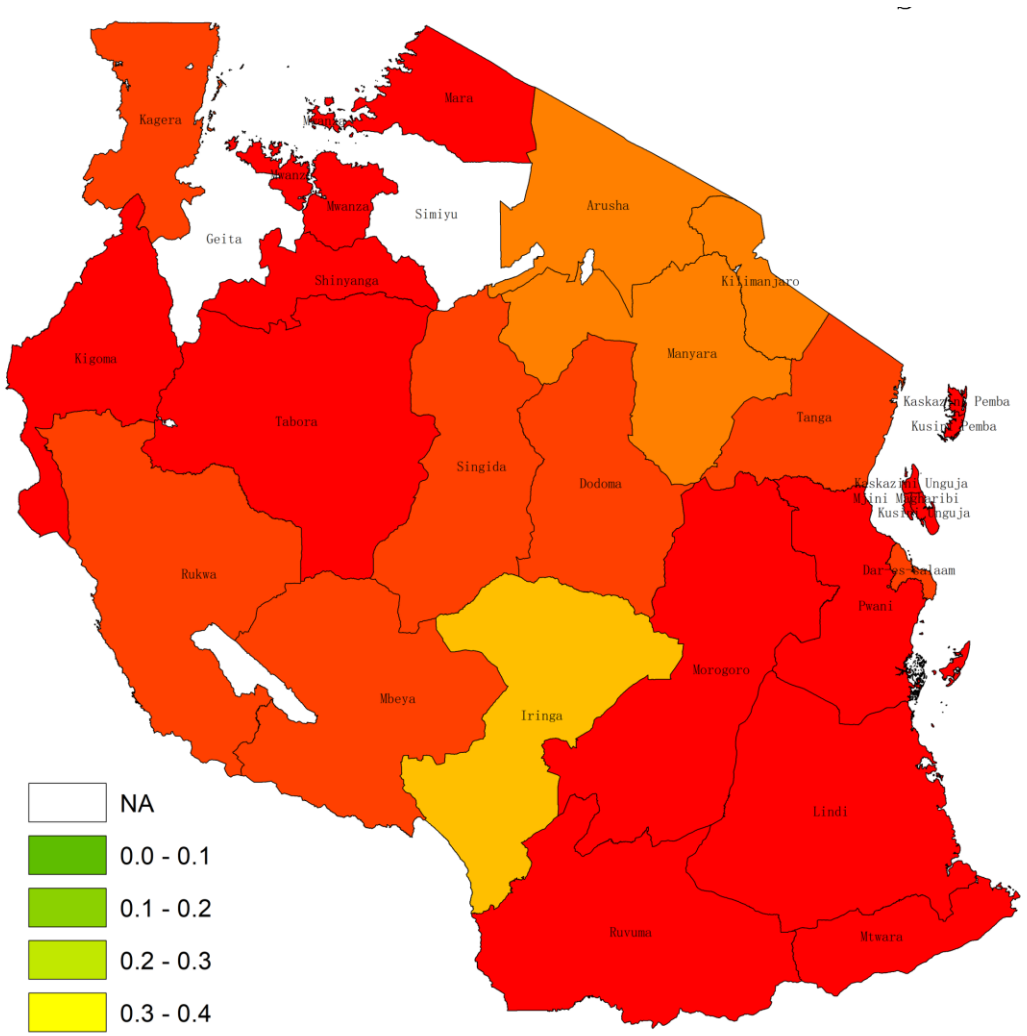
Bruno F. Sunguya [1,†], Si Zhu [2,3,4,†], Linda Simon Paulo [1], Bupe Ntoga [5], Fatma Abdallah [5], Vincent Assey [5], Rose Mpembeni [1] and Jiayan Huang [2,3,4,*]

Anemia Status	2004/2005		2015/2016		*p*-Value
	N	%	n	%	
Normal	2141	29.1	3232	41.3	
Anemia status	5220	70.9	4596	58.7	<0.001
Mild anemia	1762	23.9	2091	26.7	0.834
Moderate anemia	3153	42.8	2369	30.3	<0.001
Severe anemia	305	4.1	136	1.7	<0.001
Total	7361		7828		

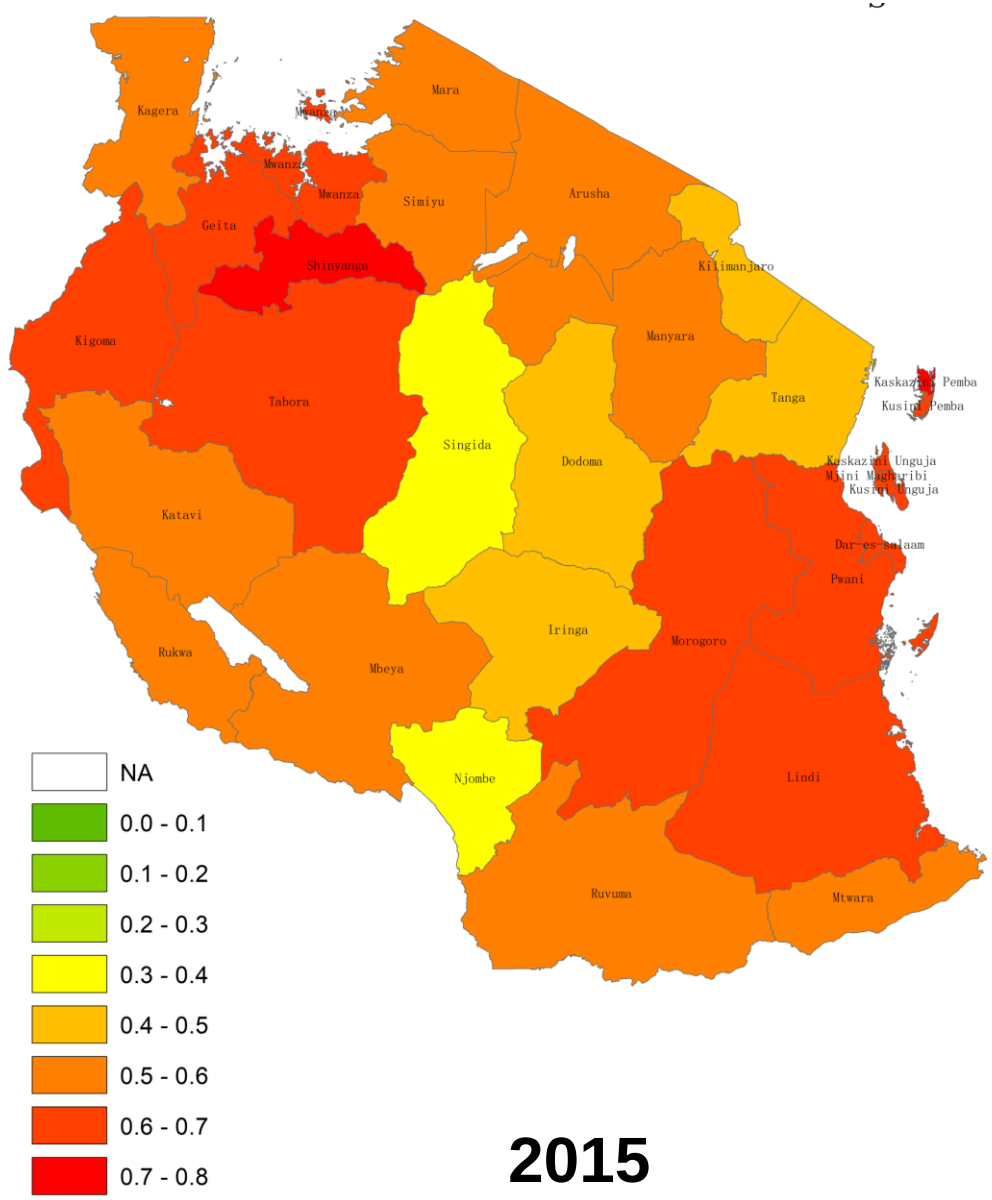
Figure 1. Geographic information system (GIS) mapping of the magnitude change of the burden of child anemia.

Tanzania has observed a 42% decline in child anemia over the past decade after adjusting for other changes in the same period. However, the rate of decline is not adequate for the pace required to reach the national and global targets and varies widely between the regions..

Trends of Child Anemia



2005

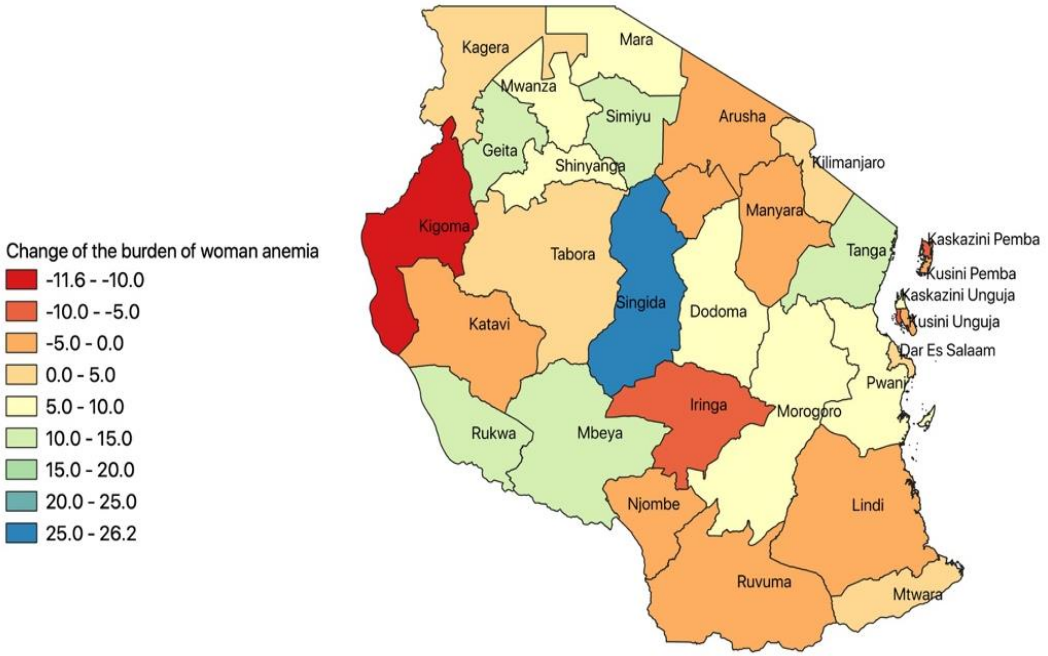


2015

Reanalysis of the TDHS—Sunguya 2020

Anemia among Women of Reproductive age

Anemia status	2004-2005		2015-2016		P-Value
	N	%	N	%	
Normal	5,236	51.6	7,207	55.2	0.007
Anemic	4,903	48.4	5,857	44.8	
Mild	3,309	67.5	4,287	73.2	0.851
Moderate	1,474	30.1	1,446	24.7	<0.001
Severe	120	2.4	124	2.1	0.145



- 15% decline of anemia among WRA over 10 years (2005 to 2015).
- Regions with high food productivity still succumb to a mild decline or increase of the burden of anemia.

In peer review

No decline among pregnant women

Sunguya et al. Nutr J (2021) 20:65
https://doi.org/10.1186/s12937-021-00726-0

Nutrition Journal

RESEARCH Open Access

High burden of anemia among pregnant women in Tanzania: a call to address its determinants

Bruno F. Sunguya[1†], Yue Ge[2,3†], Linda Mlunde[1,4], Rose Mpembeni[1], Germana Leyna[5] and Jiayan Huang[2,3*]

Table 1 The burden of anemia among women of reproductive age stratified by pregnancy status

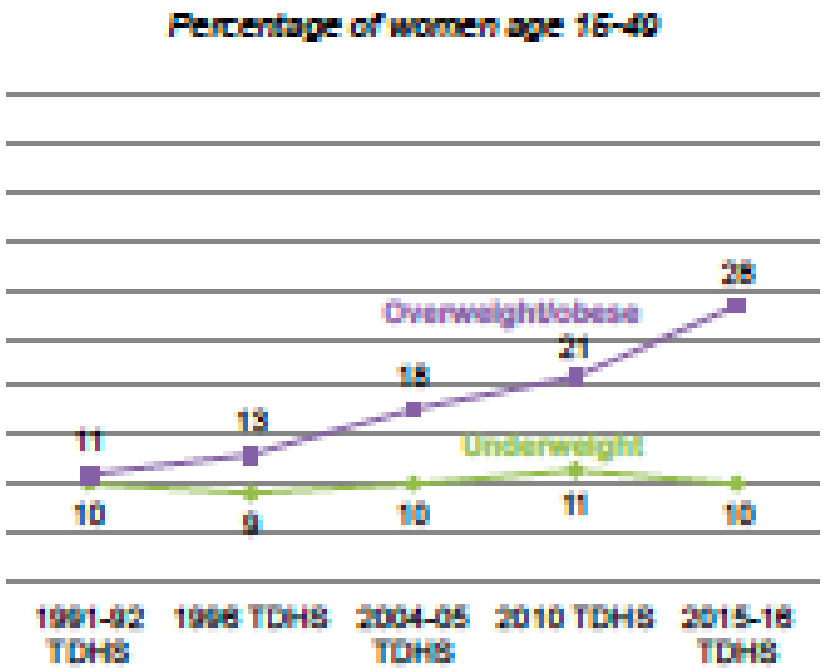
Variable	2004–2005		2015–2016		*P*-value
	N	%	N	%	
Non-pregnant	4278	47.2	5218	43.7	0.009
Pregnant	625	58.2	639	57.1	0.680
Mild	244	22.7	283	25.3	0.230
Moderate	353	32.8	342	30.6	0.383
Severe	29	2.7	13	1.2	0.017

The *P*-values were taken from Pearson's Chi-square test

Significant decrease among non-pregnant women

However, no significant decrease among pregnant women … Why? Iron Stores?

Overweight and obesity – Women of Repr age



TDHS 2016

- Overweight increases with:
  - Age, peaking at 42% among women age 40-49
  - Urban women have twice a risk of overweight (42% vs 21% for rural)
  - Secondary education: More than no education (34% vs 21%)
  - Wealthier are riskier (47% vs 12%) poorest

Consequently – Triple burden of malnutrition

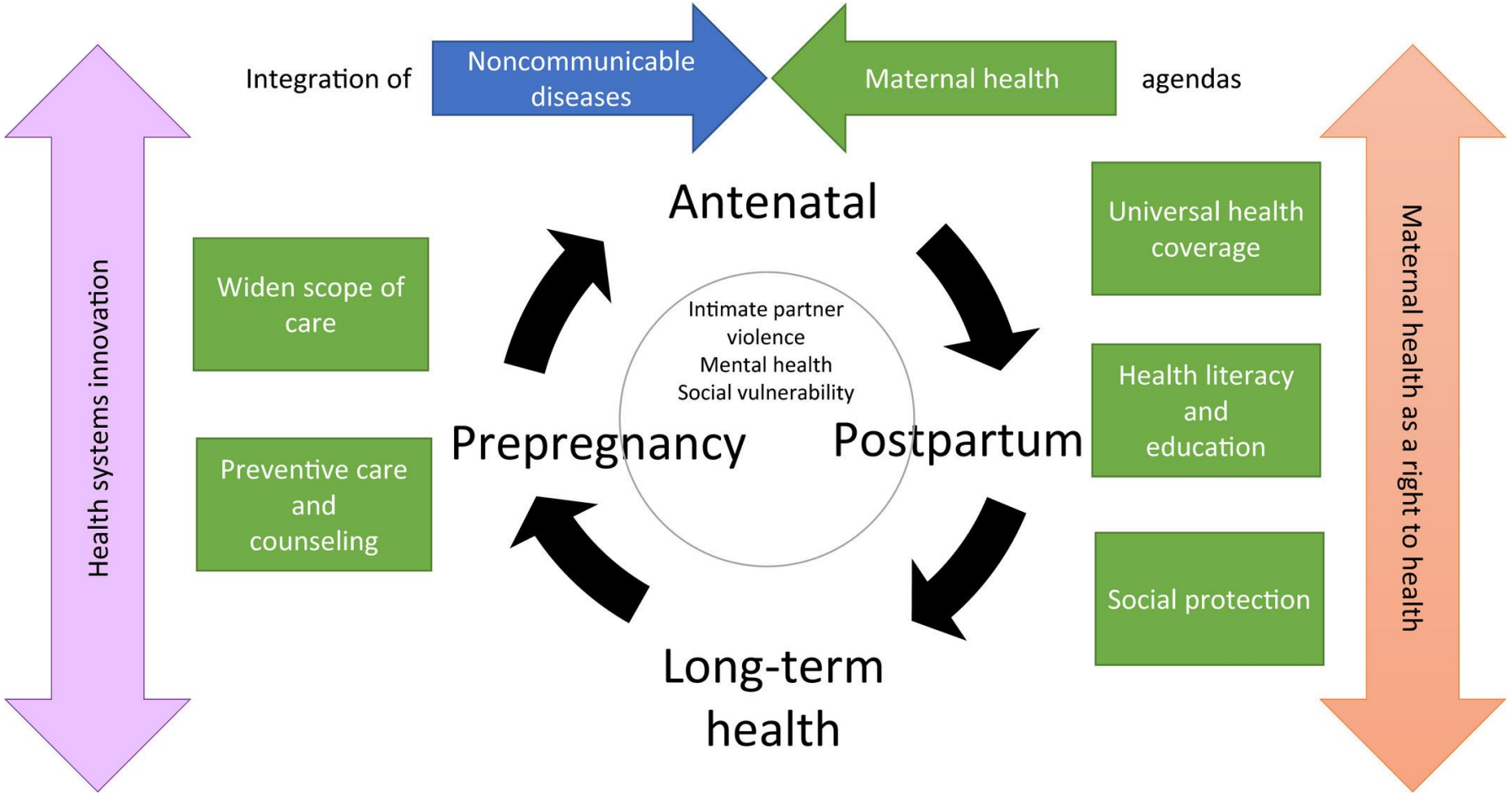
- Women of Reproductive age suffers from

1. Undernutrition – More than 10% are underweight (highest burden among younger women, adolescents)
2. Overweight and obesity – More than 30% - One in three
3. Anemia (chiefly nutritional anemia)

Burdens are NOT significantly declining

Obesity and overweight rapidly increasing

Maternal and child interventions



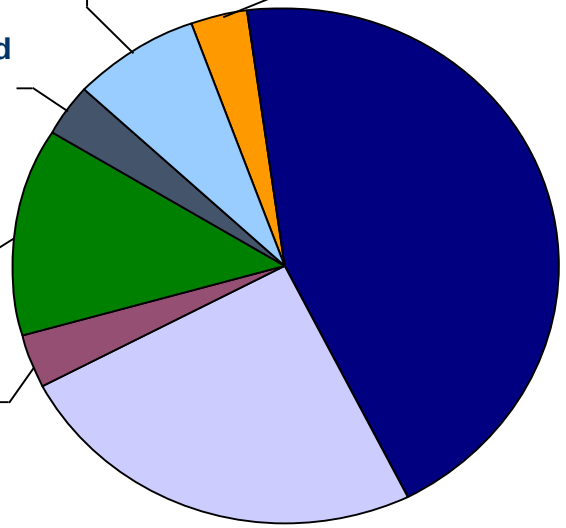
Firoz et al. – A framework for health care interventions to address maternal morbidity

Interventions that works to reduce MDs

- Magnesium Sulfate
- Calcium

- Partogram
- Cesarean Section

- Nutrition Counseling
- Iron Folate
- IPTp, Malaria Control



- Clean Delivery
- Antibiotics
- Tetanus Toxoid

- Family Planning
- Postabortion Care

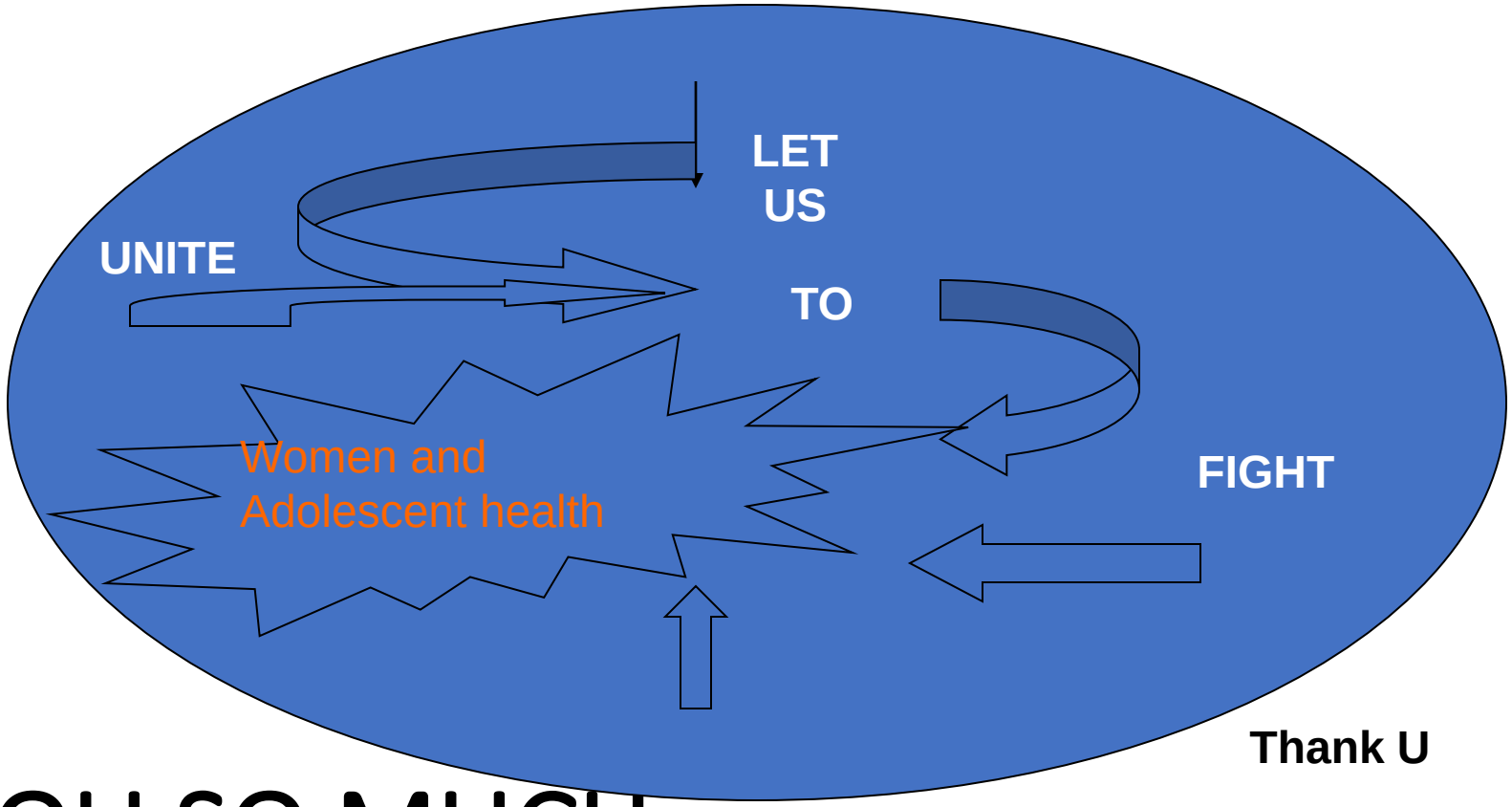
- Active Management of the Third Stage of Labor
- Misoprostol

Source: WHO Analysis of causes of maternal deaths: A systematic review." *The Lancet*, Vol 367, April 1, 2006.

Interventions for adolescents health

- Maternal and community interventions
- School health education
- Adolescents reproductive health programmes for out of school
- Adolescents reproductive friendly services
  - STI including HIV
  - Family planning
  - Abortion services
  - Counseling

MULTISECTORIAL



THANK YOU SO MUCH