

Inequality of Opportunities in Child and Maternal Health in the Arab World: What New Can We Learn?

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Motivation

- Achievement of **equal opportunities** was one of the **main drivers** of the **Arab spring**.
- Inequality in health opportunities could cause or amplify the **inequality in other dimensions** of human development which could lead to intergenerational consequences.
- **Goal number 10** of the **UN SDG** calls for **ensuring equal opportunity** and reducing inequalities of outcomes.
- **Extant literature** on inequality of opportunities in health in Arab world , as compared to other dimensions of human development, is **still emerging**, but rapidly growing. Also, the cross-country studies that examined the inequality of opportunities have been focusing only on **one point of time**.

Importance

- Investigating the trend in the state of the inequality of health opportunity would help in:
 - Assessing the **impact of** macroeconomic and social **policies**
 - Providing a better understanding of the **root drivers** of health inequalities in the Arab region
 - **Guiding policy makers** in designing effective intervention measures that aim at reducing health inequalities

Contribution to Literature

- We **extend** and **complement** the few cross-country studies in the literature that examined the Arab region (e.g. Assaad et al., 2012, Kraftt and El-Kogali, 2014), by examining the **trends** in the opportunity inequalities by utilizing **two survey points**, and using an **up to date data**, and by focusing on a **wider set of health indicators**.

Objective

- 1) Examining the the **trend** of the **inequality of opportunities** (IOP) in **child and maternal health** in twelve Arab countries over the period 2000–2014.
- 2) **Quantifying** the **contributions** of different **circumstances** to the inequality of opportunity in child and maternal health.

Data

- We use data on **Twelve Arab countries** from **three** main survey **sources**:
 - Multiple Indicator Cluster Survey (MICS)
 - Demographic and Health Survey (DHS)
 - Pan-Arab Project for Family Health Survey (PAPFAM).
- To examine the **trend** in the inequality of opportunities in child and maternal health over time, we utilize **two survey points**, one in the **early 2000s** and another **after 2010**

Empirical Methodology

- The empirical analyses is grounded on the theoretical framework of **Roemer's model**
- **Dissimilarity index (D-index)** is used to measure the **extent** of the inequality of opportunity.
- **Shapley decomposition** is used to determine the **contribution** of each **circumstance** to the inequality of opportunity.

Circumstances

- Child's sex
- Household's economic status as measured by the wealth index
- Mother's education level
- Father's education level
- Region of residence

Health outcomes

- **Child's health outcomes include:**

- Nutrition status (stunting, wasting, and under weight)
- Neonatal mortality
- Infant mortality
- Full immunization of a child by the age of 2 years.

- **Maternal health outcomes include:**

- Skilled attendance at birth
- Receiving regular healthcare during pregnancy
- Prenatal care

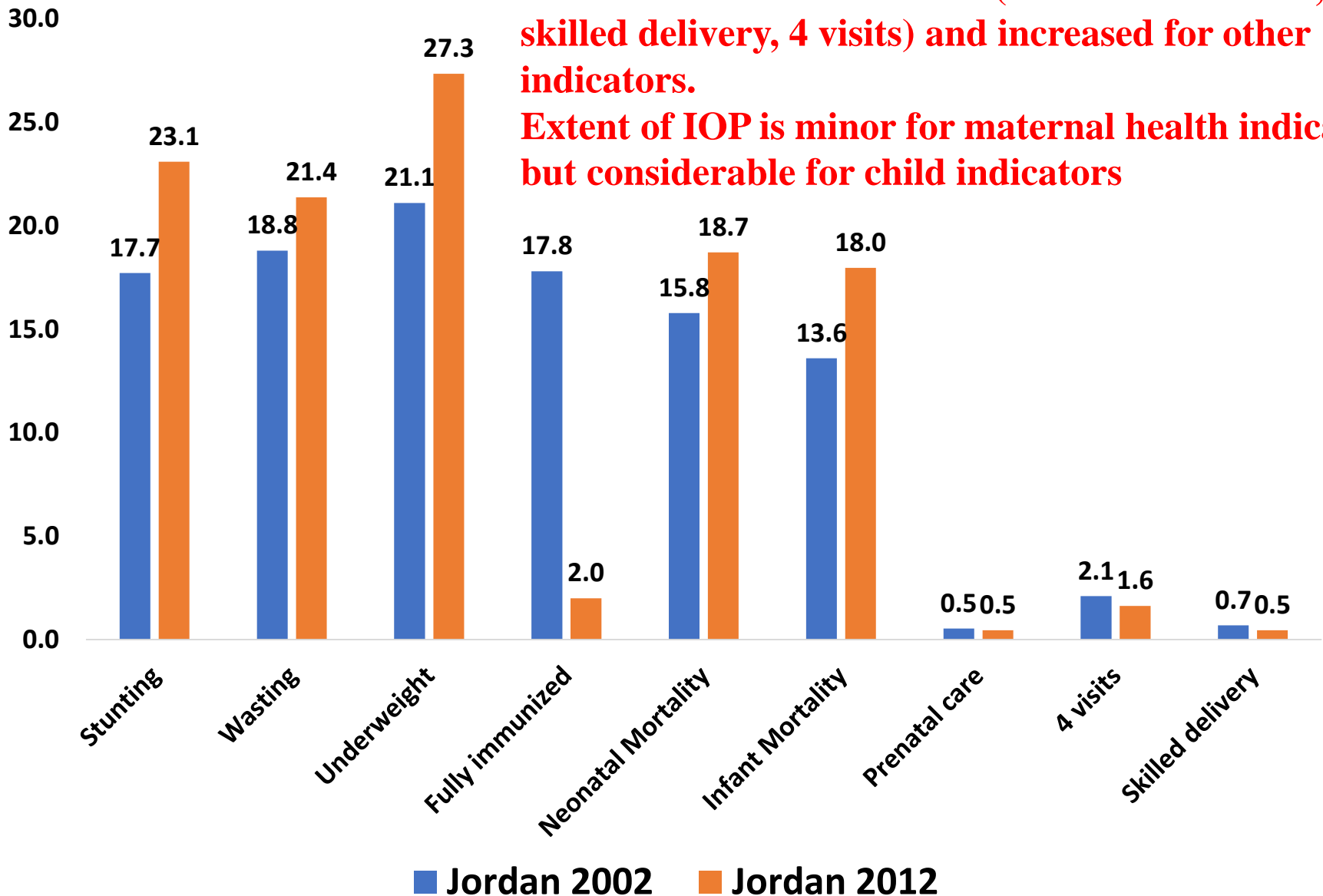
Magnitude of the Inequality of Opportunity in health

Dissimilarity Index (D-index) Results

D-Index for Jordan

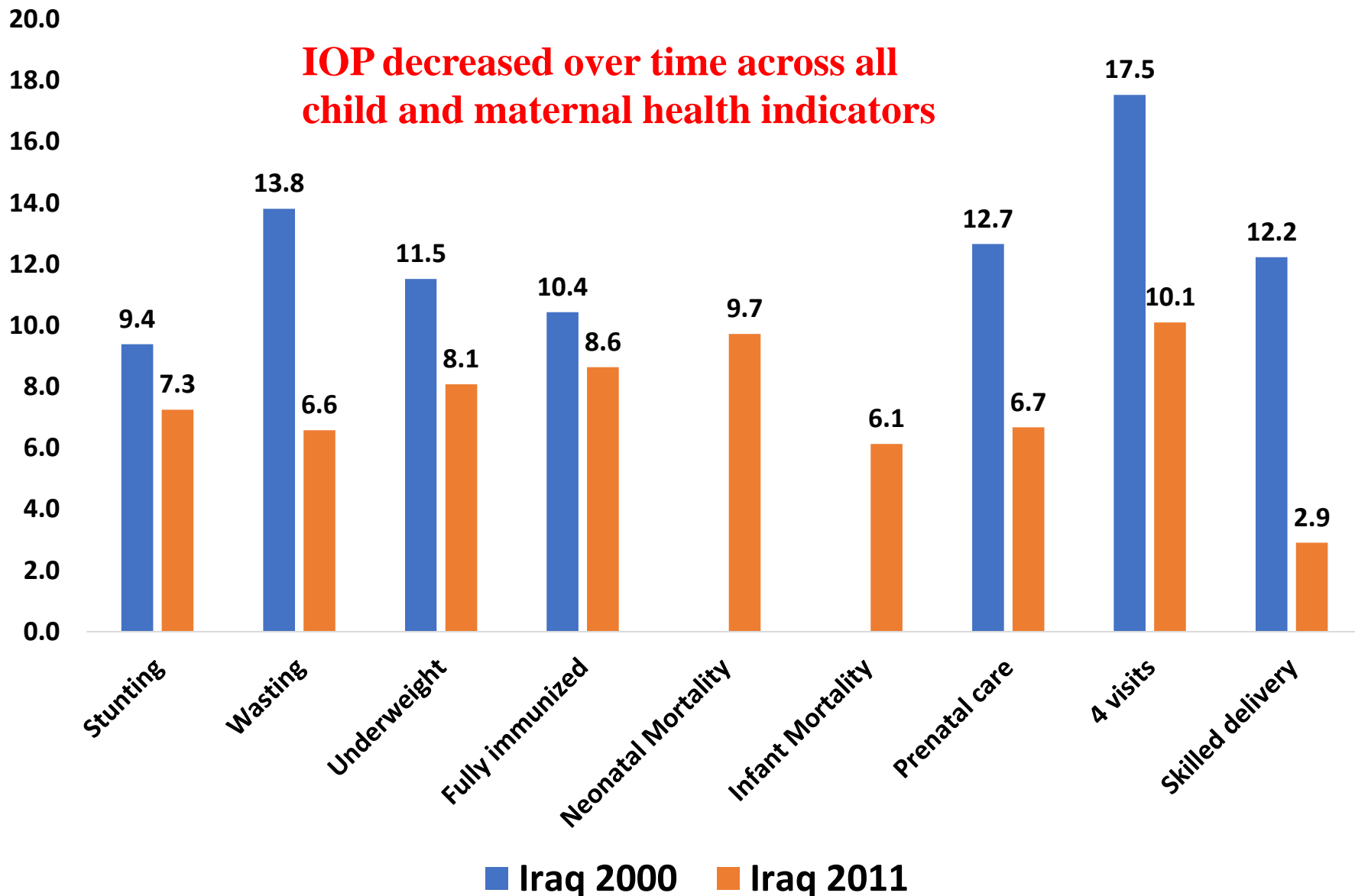
IOP decreased over time for (Full immunization, skilled delivery, 4 visits) and increased for other indicators.

Extent of IOP is minor for maternal health indicators but considerable for child indicators



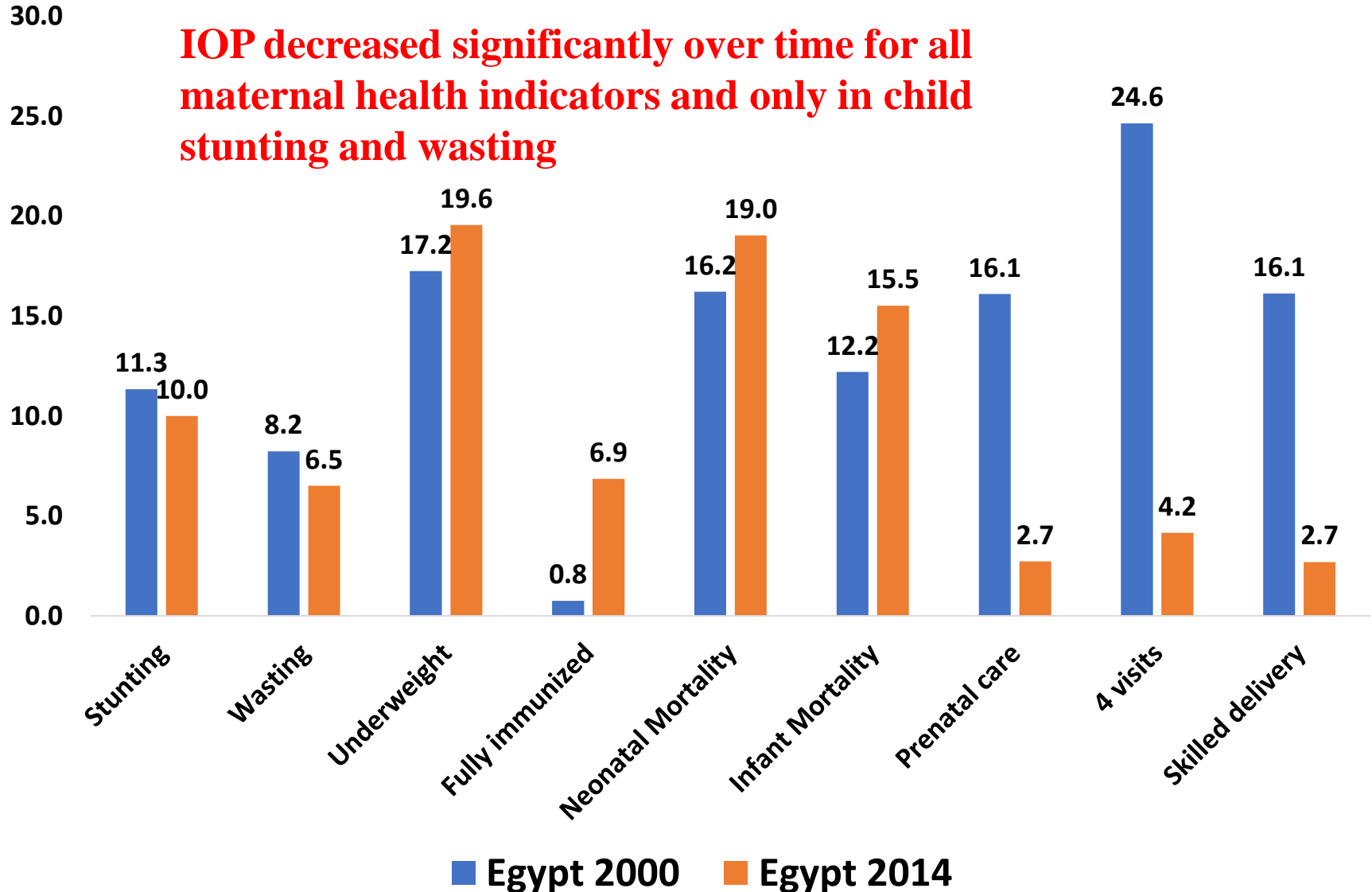
D-Index for Iraq

IOP decreased over time across all child and maternal health indicators

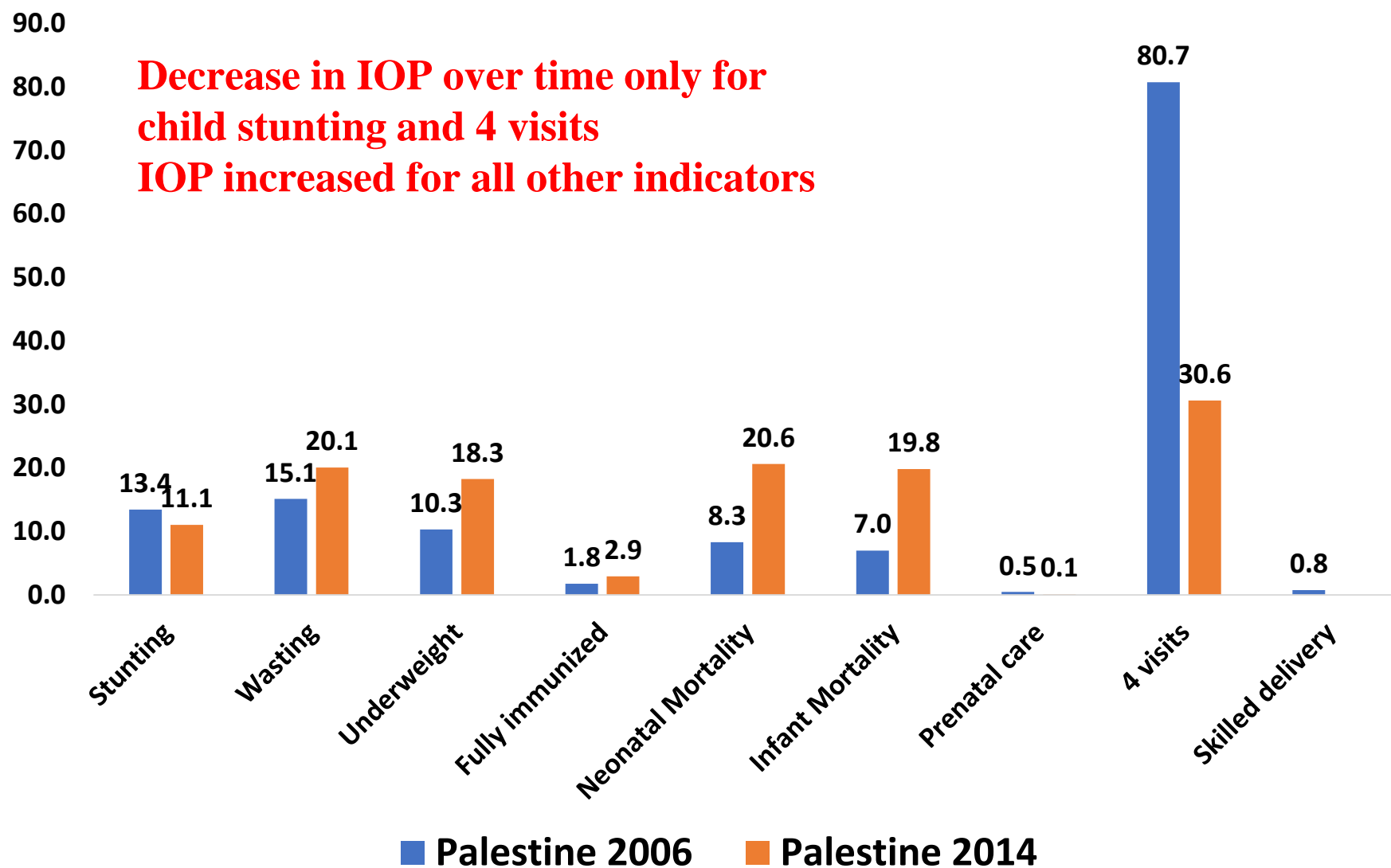


D-Index for Egypt

IOP decreased significantly over time for all maternal health indicators and only in child stunting and wasting

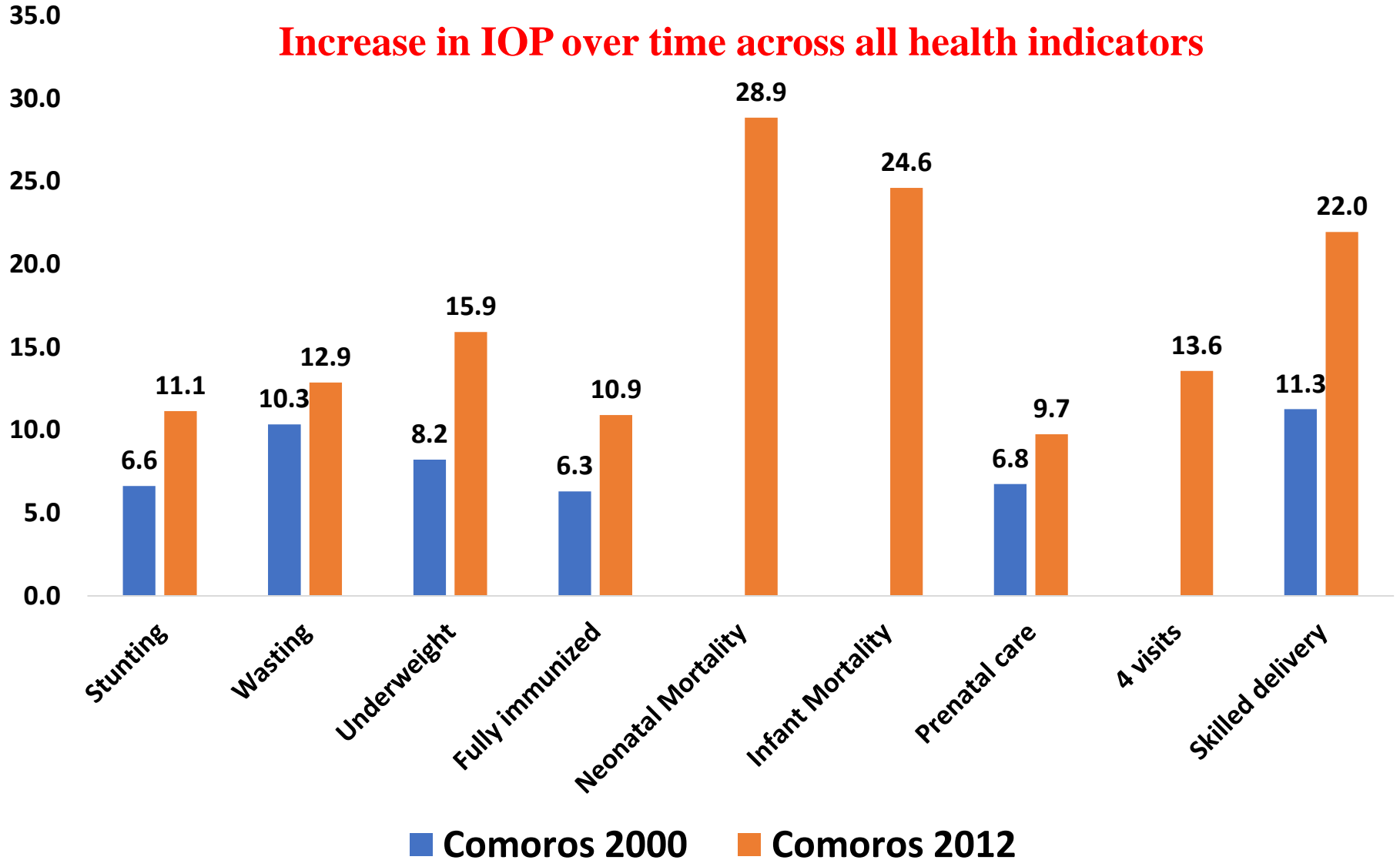


D-Index for Palestine



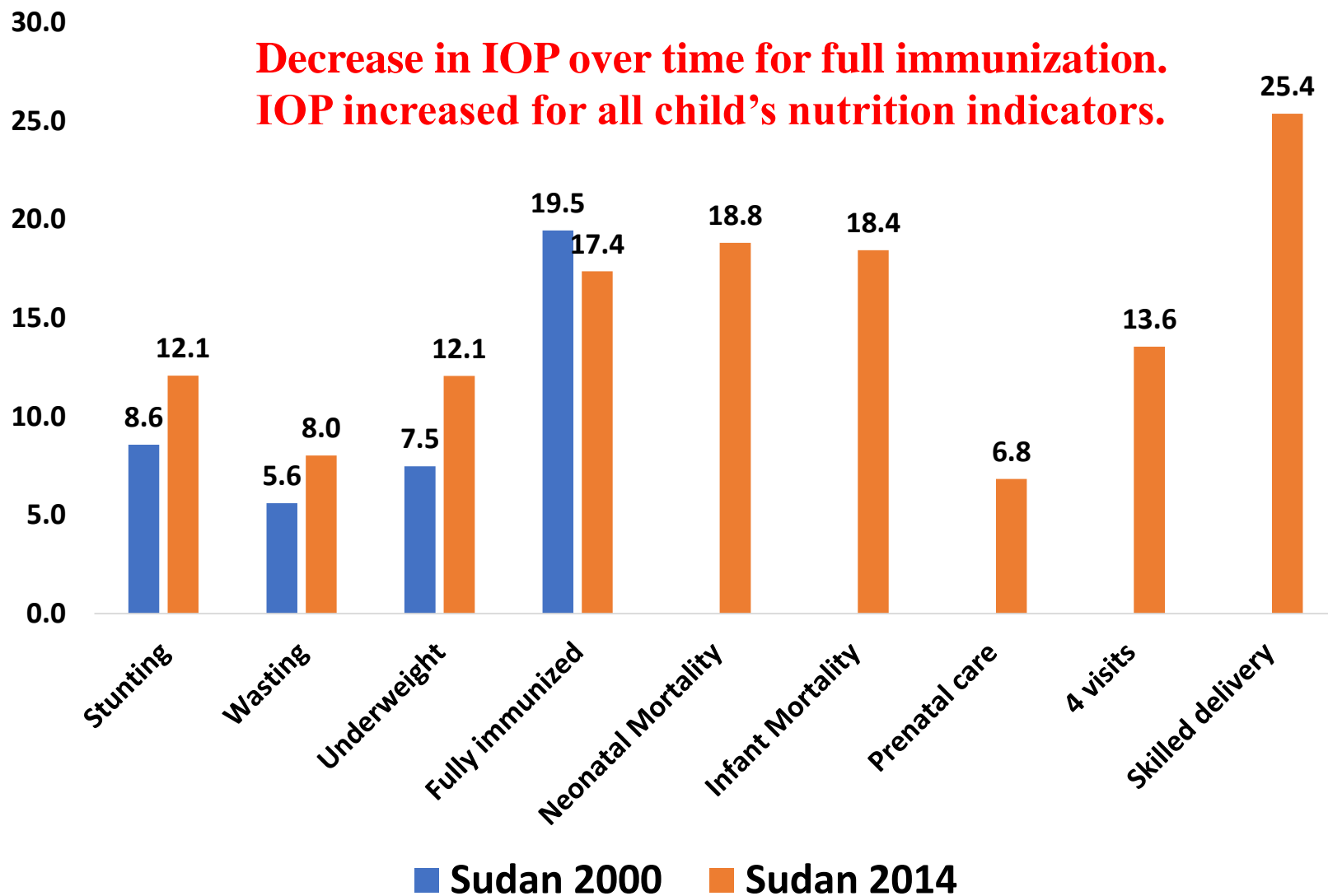
D-Index for Comoros

Increase in IOP over time across all health indicators

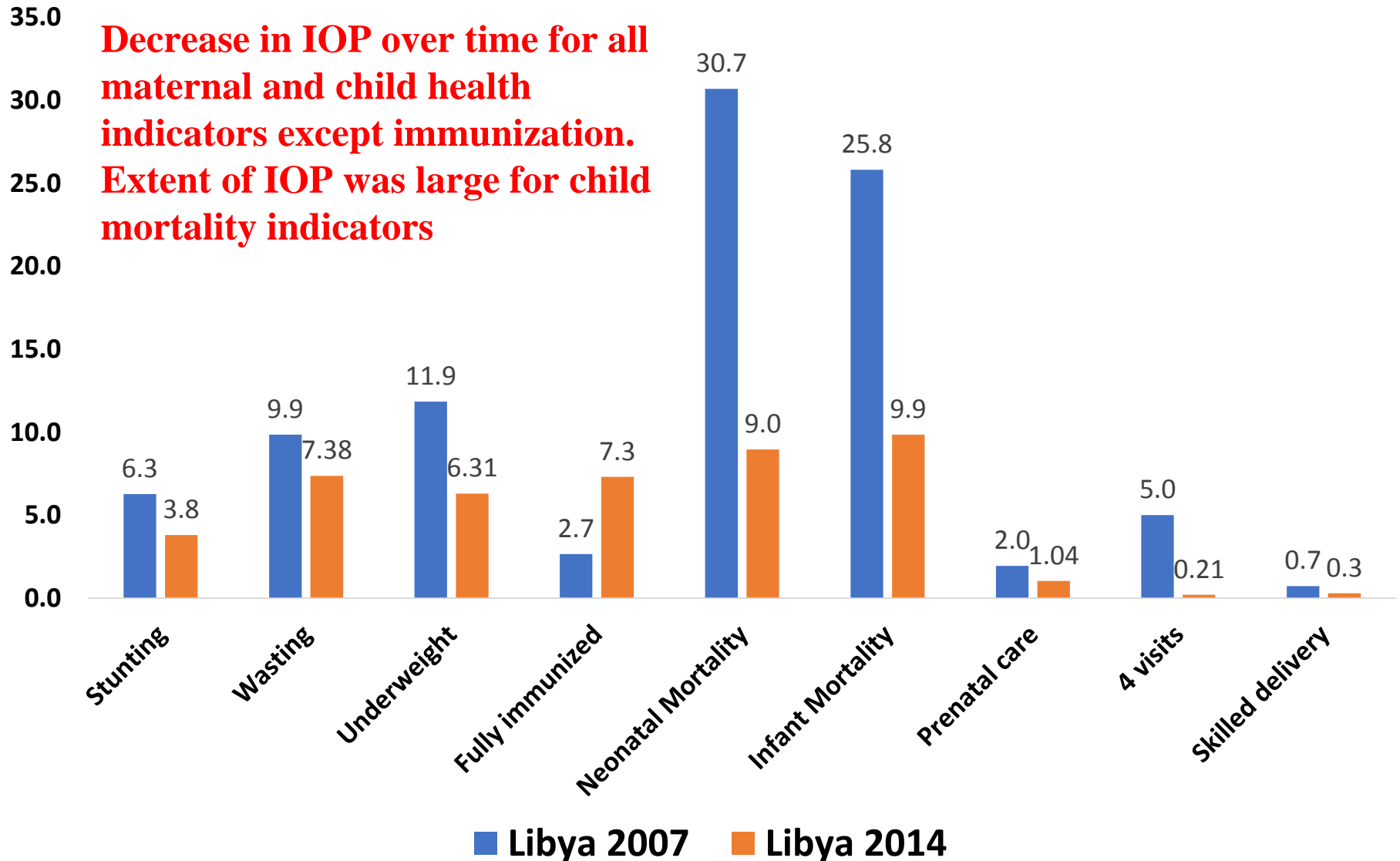


D-Index for Sudan

**Decrease in IOP over time for full immunization.
IOP increased for all child's nutrition indicators.**

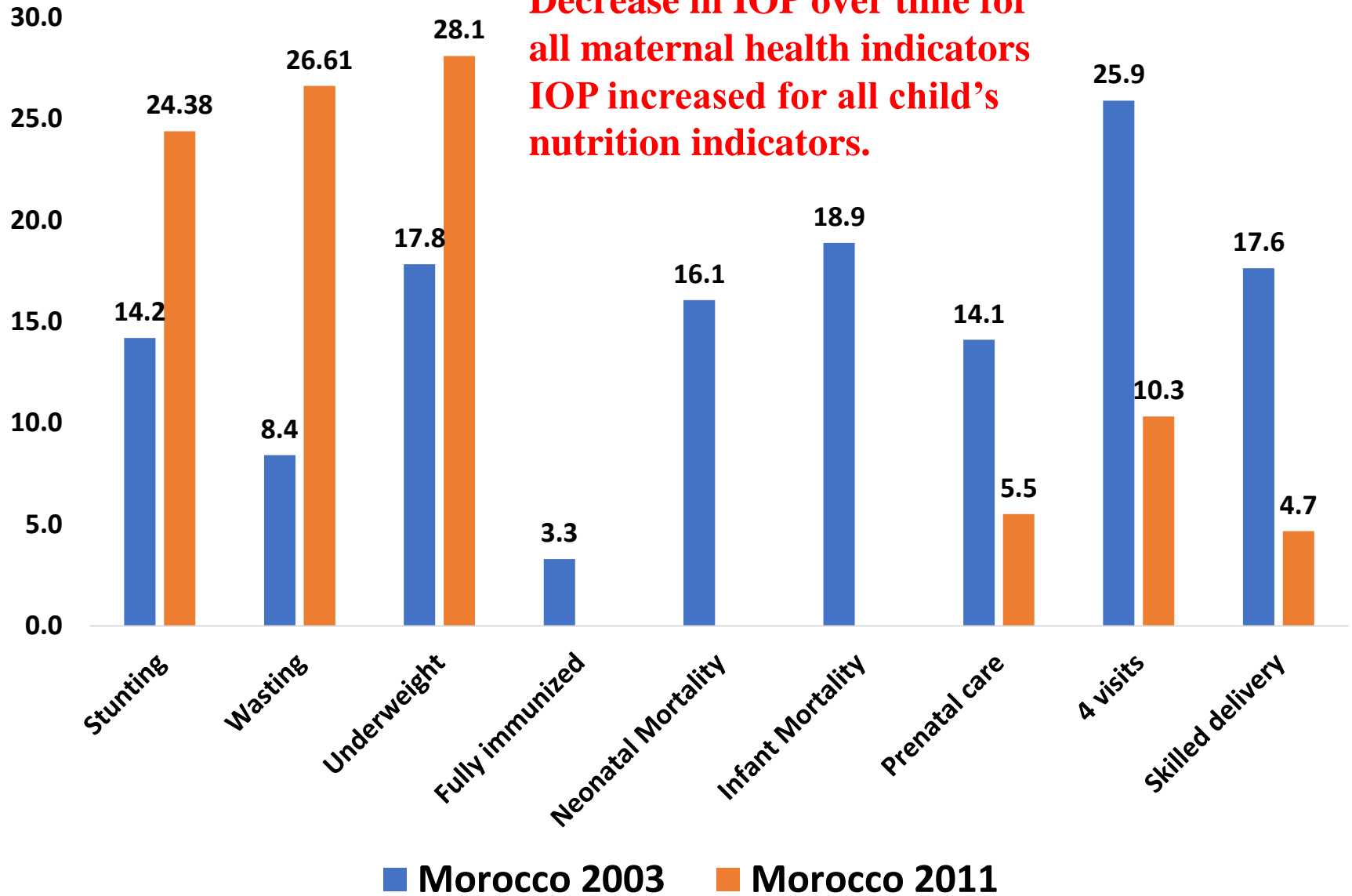


D-Index for Libya

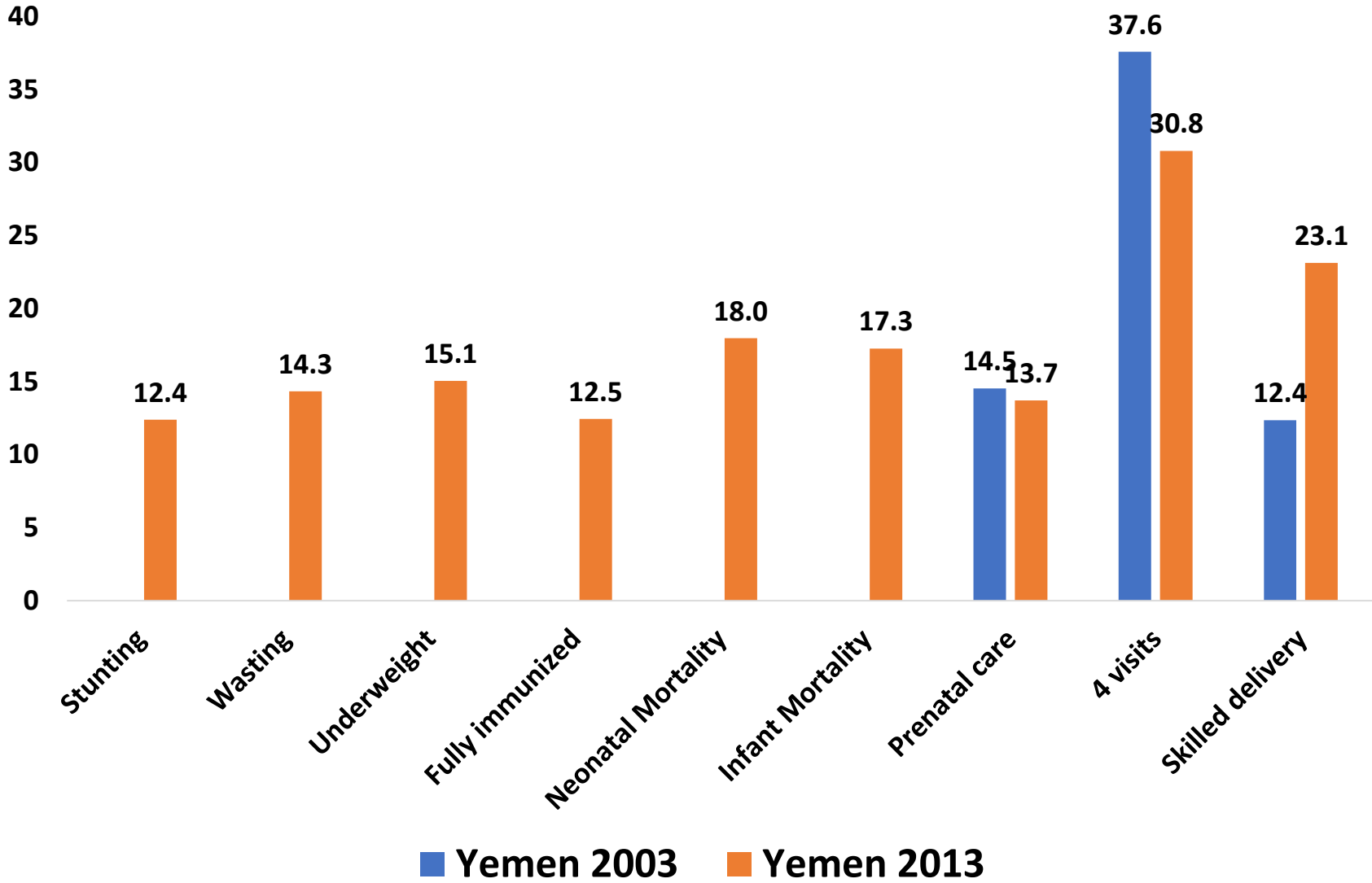


D-Index for Morocco

**Decrease in IOP over time for all maternal health indicators
IOP increased for all child's nutrition indicators.**

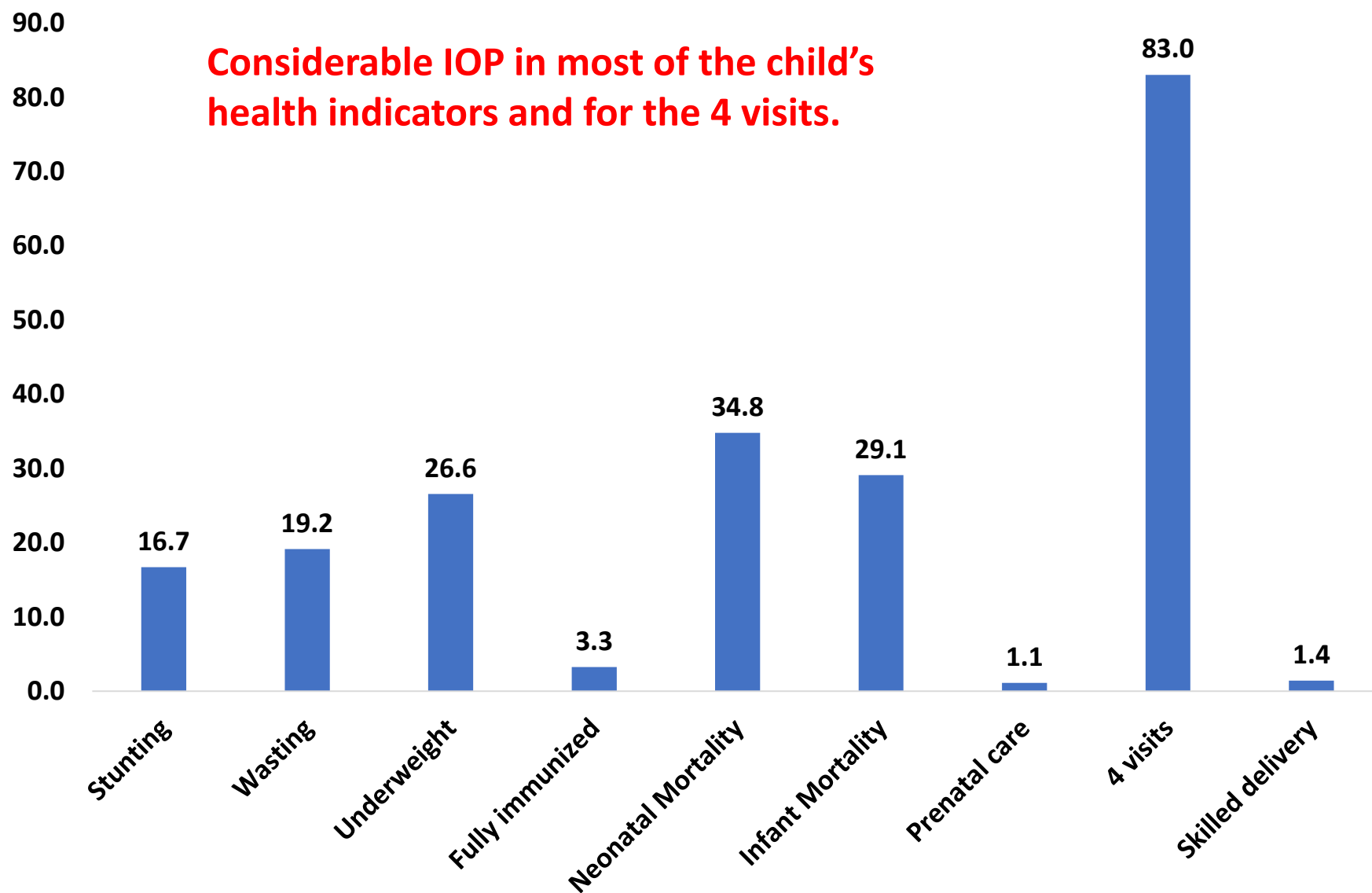


D-Index for Yemen

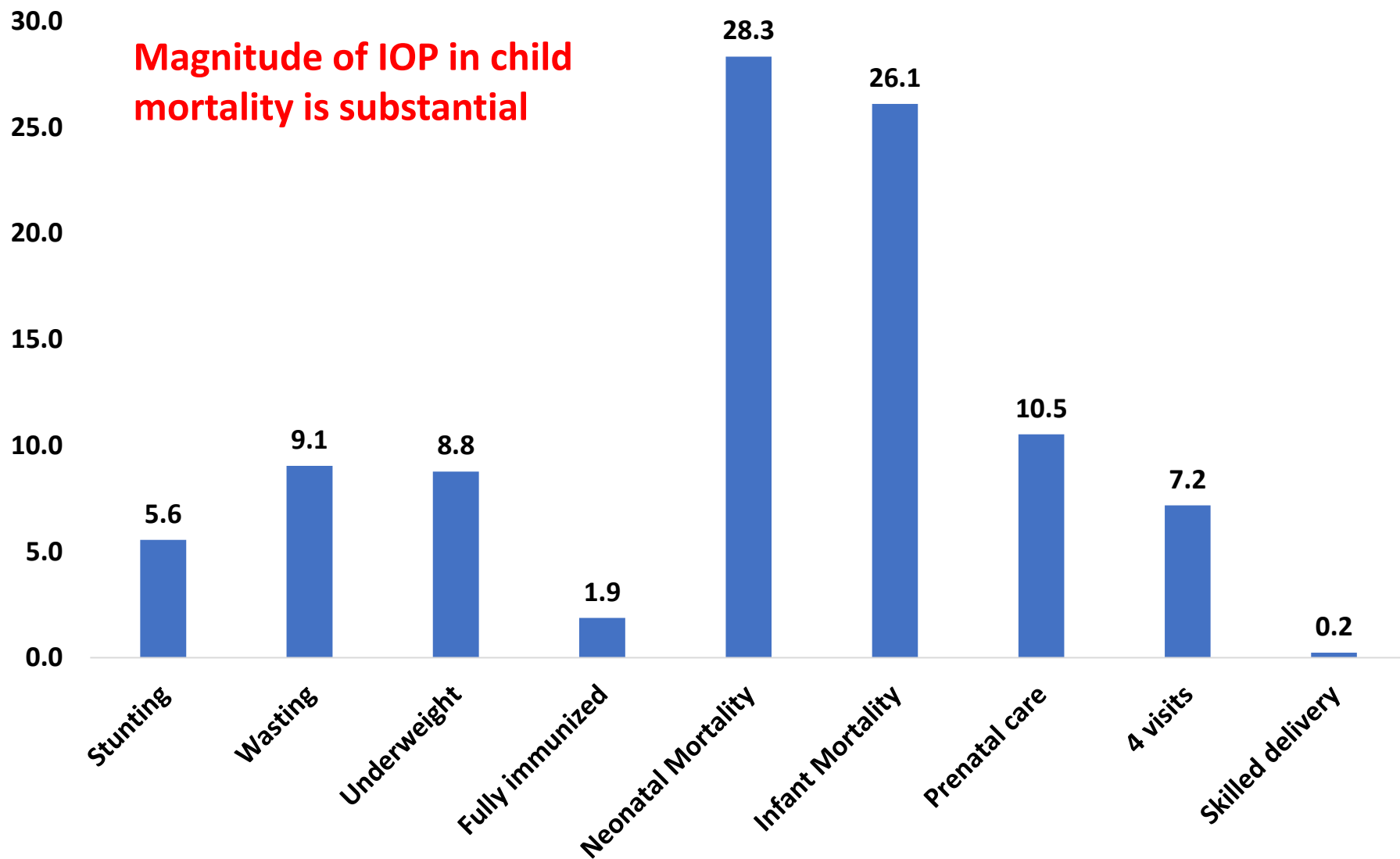


D-Index for Tunisia

Considerable IOP in most of the child's health indicators and for the 4 visits.



D-Index for Algeria



Drivers of the inequality of opportunity in health

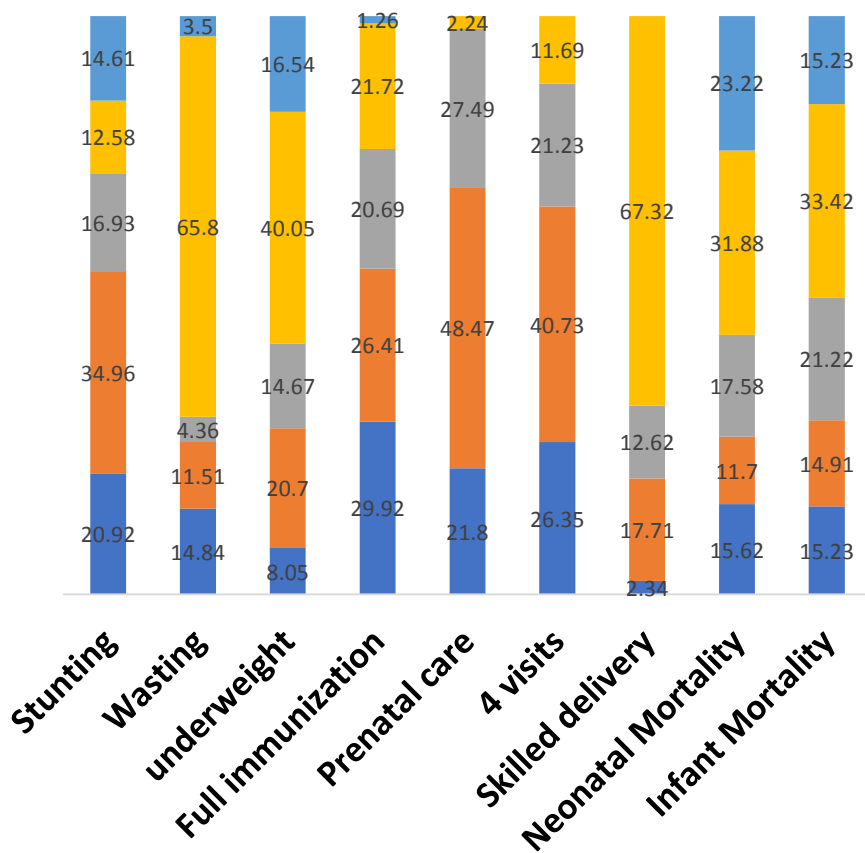
Shapley Decomposition Results

Libya (2007)

Main drivers:

Region of residence (wasting, underweight, child mortality, skilled delivery)

Mother's education (stunting, prenatal care, 4 visits)

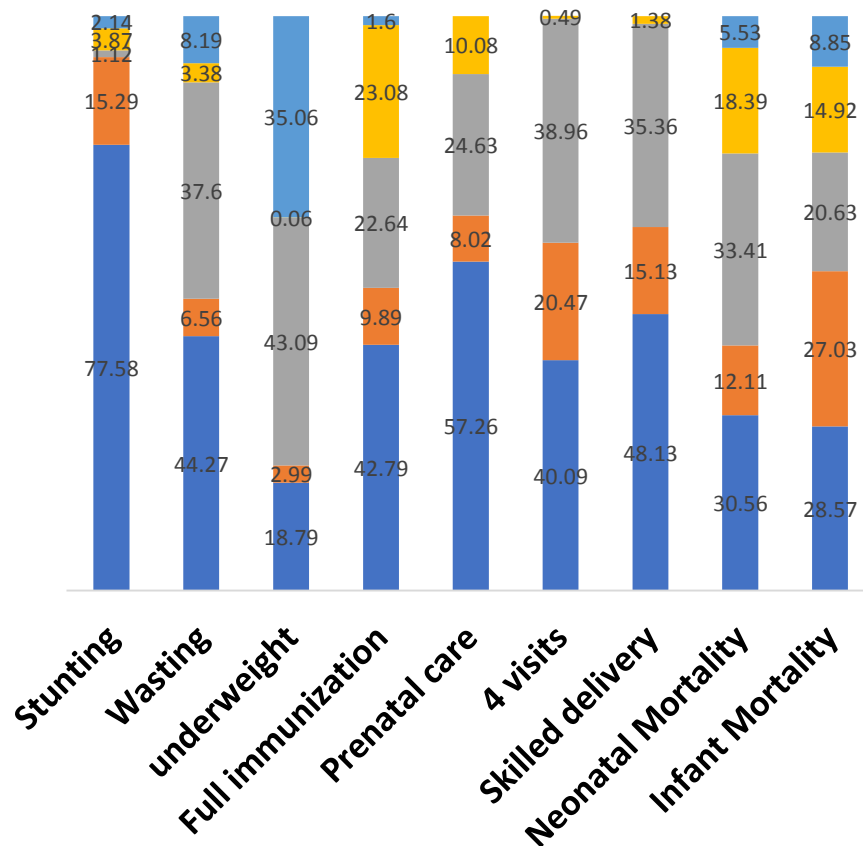


Libya (2014)

Main drivers:

Father's education (wasting, underweight, neonatal mortality)

Wealth (all other indicators)

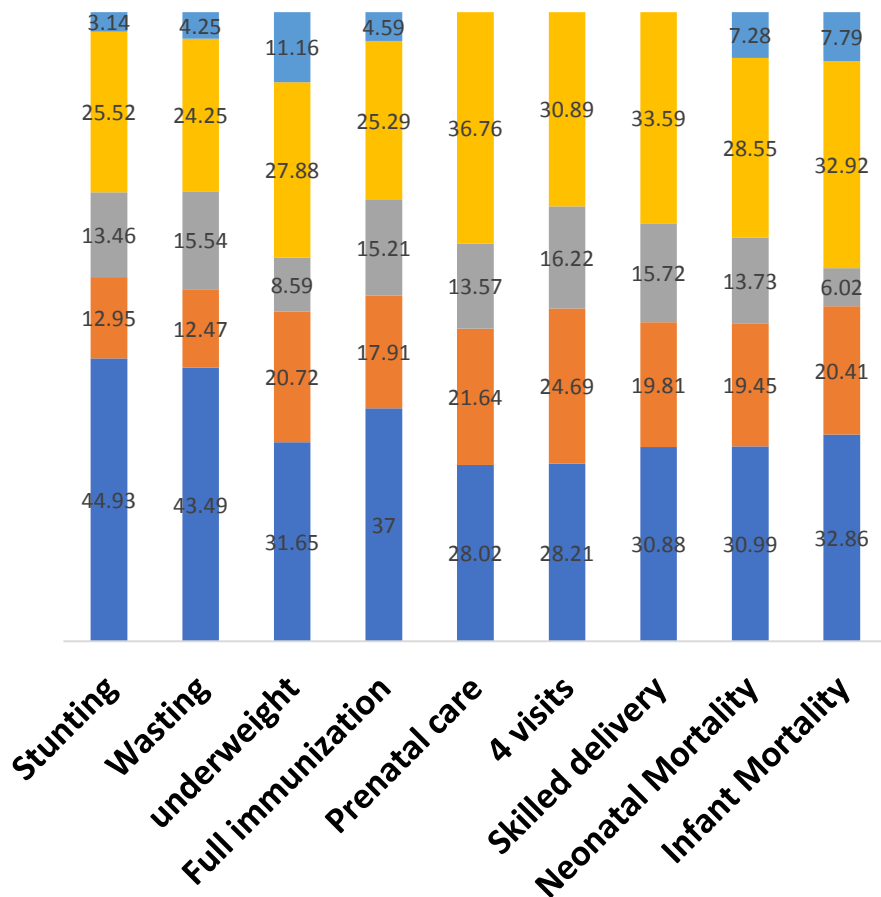


Morocco (2003)

Main drivers:

Wealth (child health)

Region of residence (maternal health)

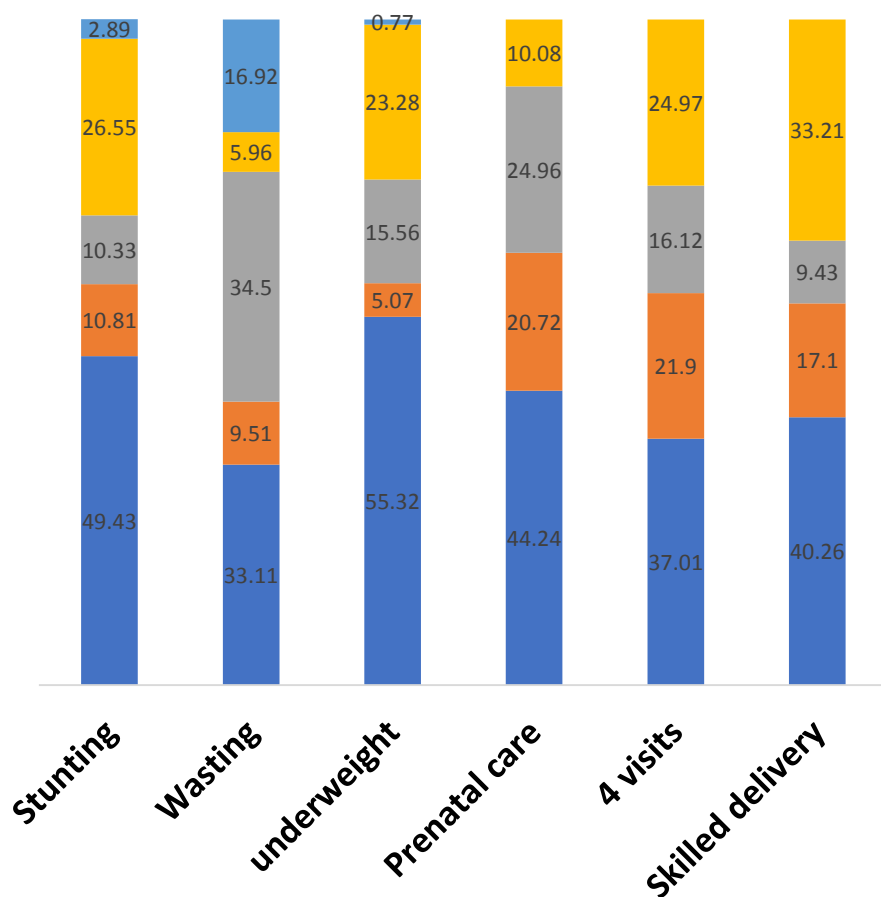


Morocco (2011)

Main drivers:

Father's education (wasting)

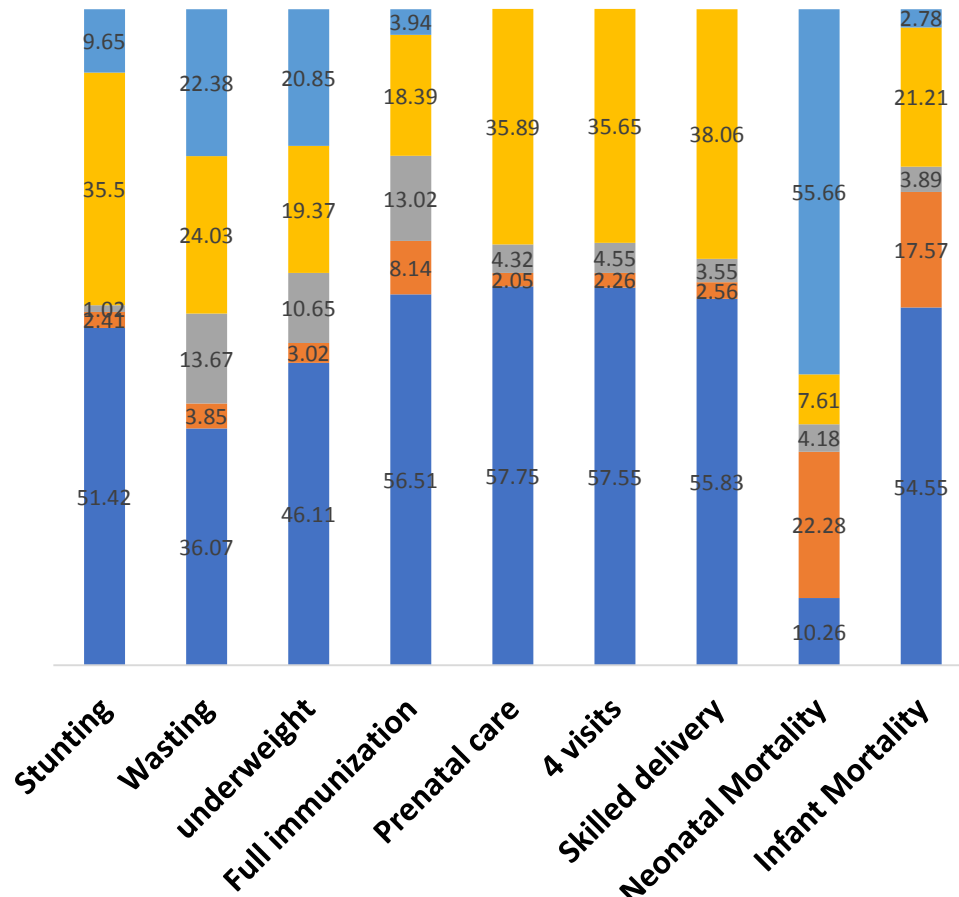
Wealth (all other indicators)



Egypt (2000)

Main drivers:

Child's sex (neonatal mortality)
Wealth (all other indicators)



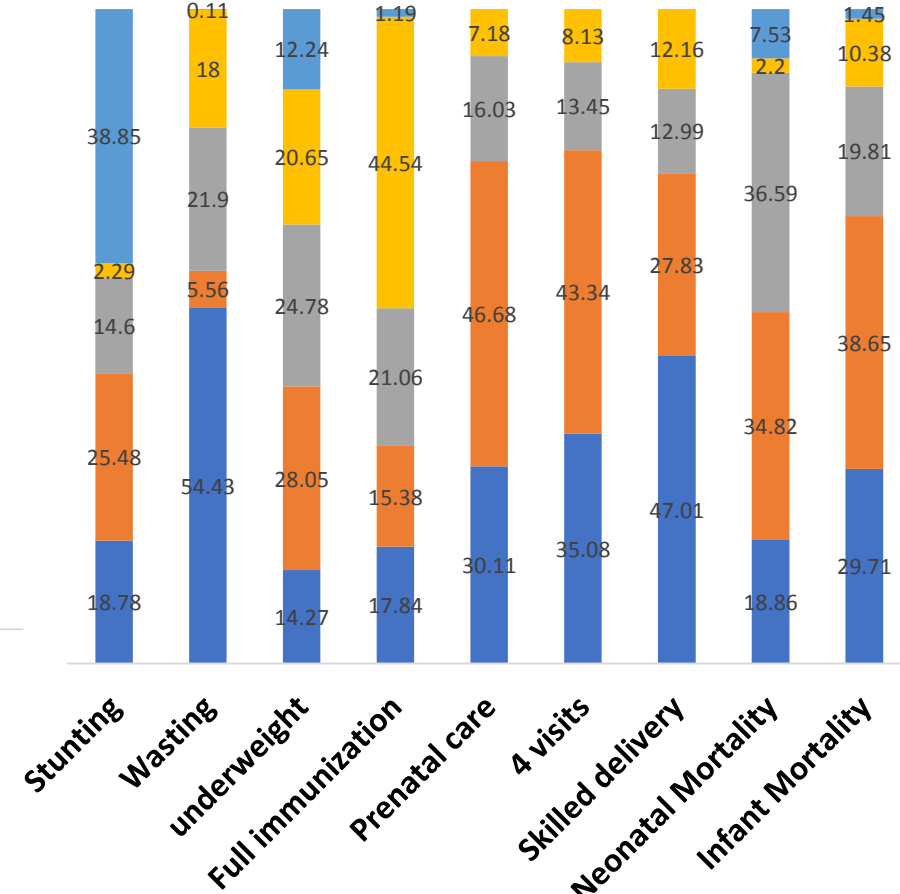
■ Wealth
 ■ Father's Education
 ■ Child's Sex

■ Mother's education
 ■ Region of residence

Egypt (2014)

Main drivers:

mother's education (underweight, prenatal care, 4 visits, child mortality)
Wealth (wasting, skilled delivery)
Child's sex (stunting)



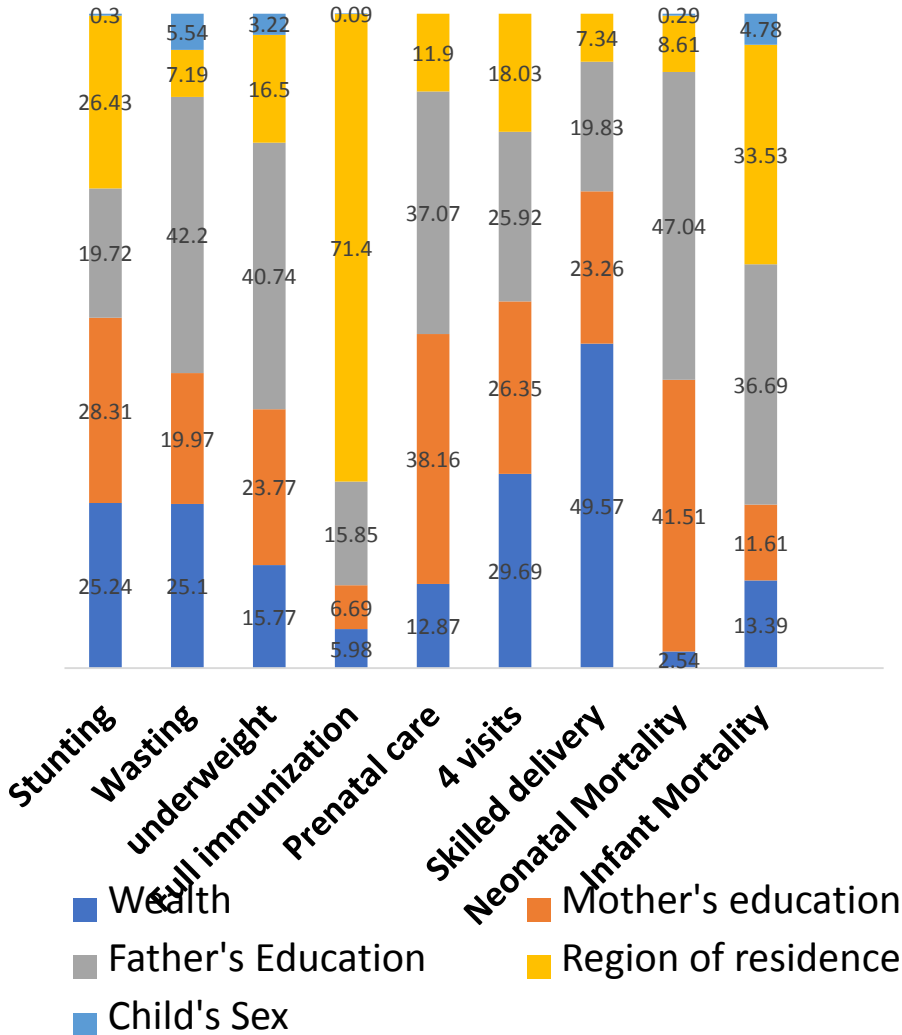
■ Child's Sex
 ■ Father's Education
 ■ Wealth

■ Region of residence
 ■ Mother's education

Jordan (2002)

Main drivers:

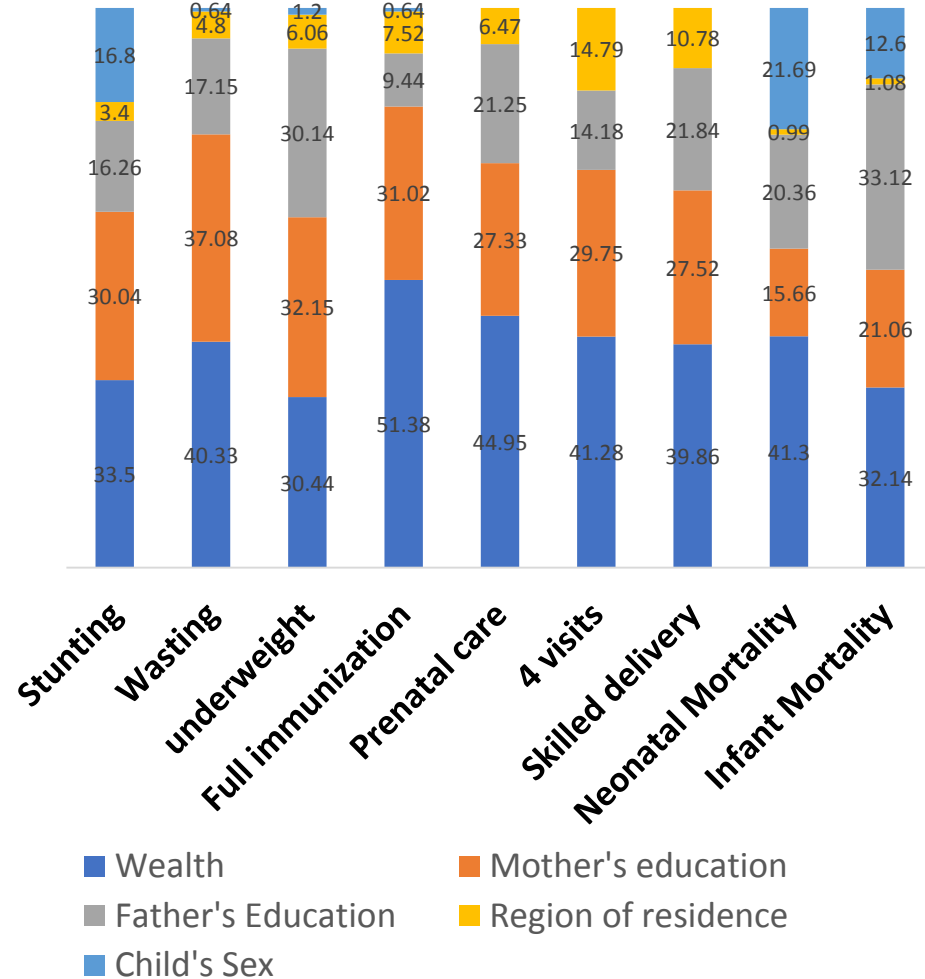
- Father's education (child mortality, underweight, wasting)
- Mother's education (prenatal care, stunting)
- Region of residence (immunization)
- Wealth (skilled delivery, 4 visits)



Jordan (2012)

Main drivers:

- Father's education (infant mortality)
- Mother's education (underweight)
- Wealth (all other indicators)



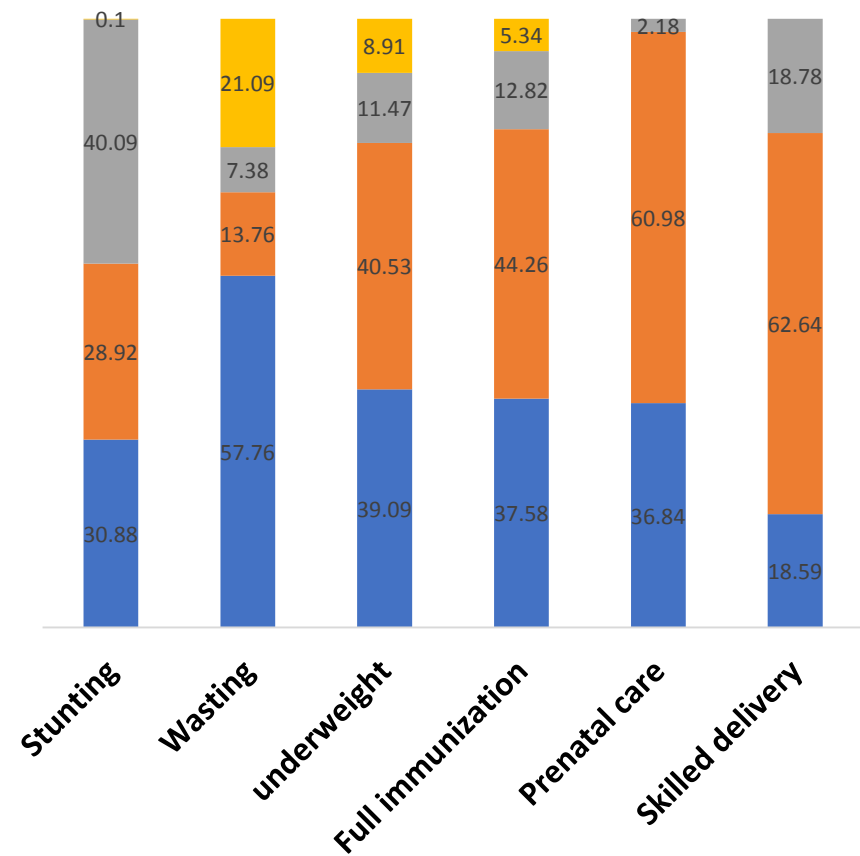
Comoros (2000)

Main drivers:

wealth (wasting)

Region of residence (stunting)

household head education (all other indicators)



- Child's Sex
- Region of residence
- household head's Education
- Wealth

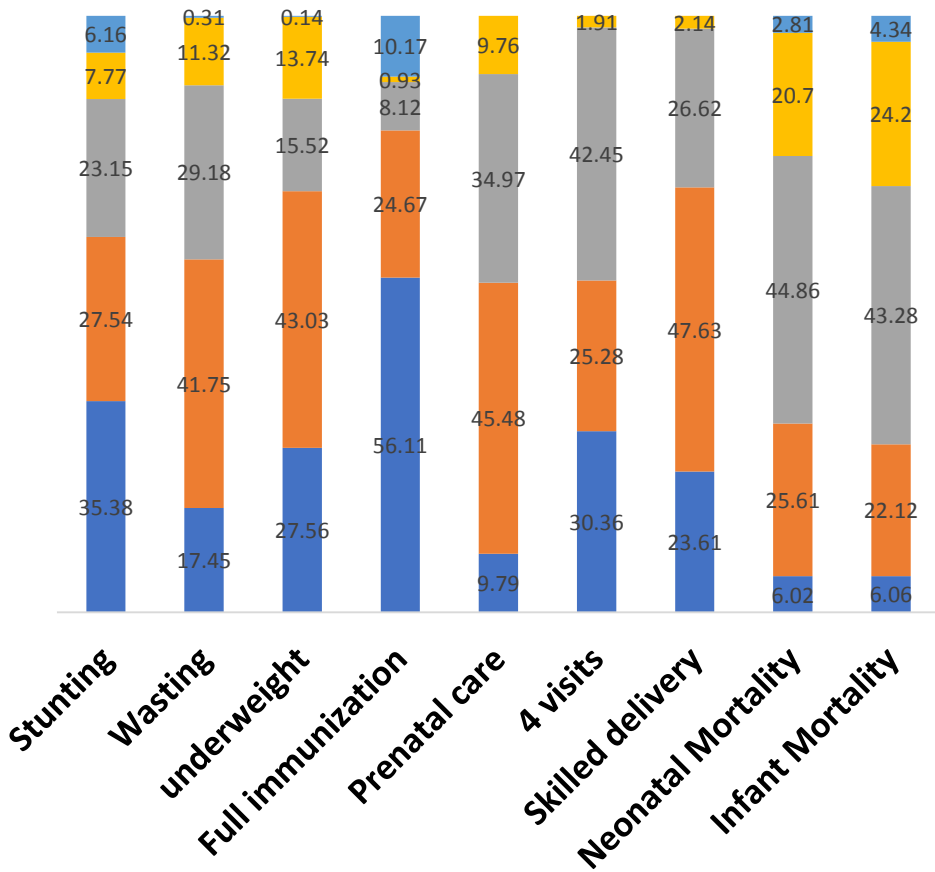
Comoros (2012)

Main drivers:

Mother's education (wasting, underweight, prenatal care, skilled delivery)

Father's education (child mortality, 4 visits)

Wealth (stunting, immunization)

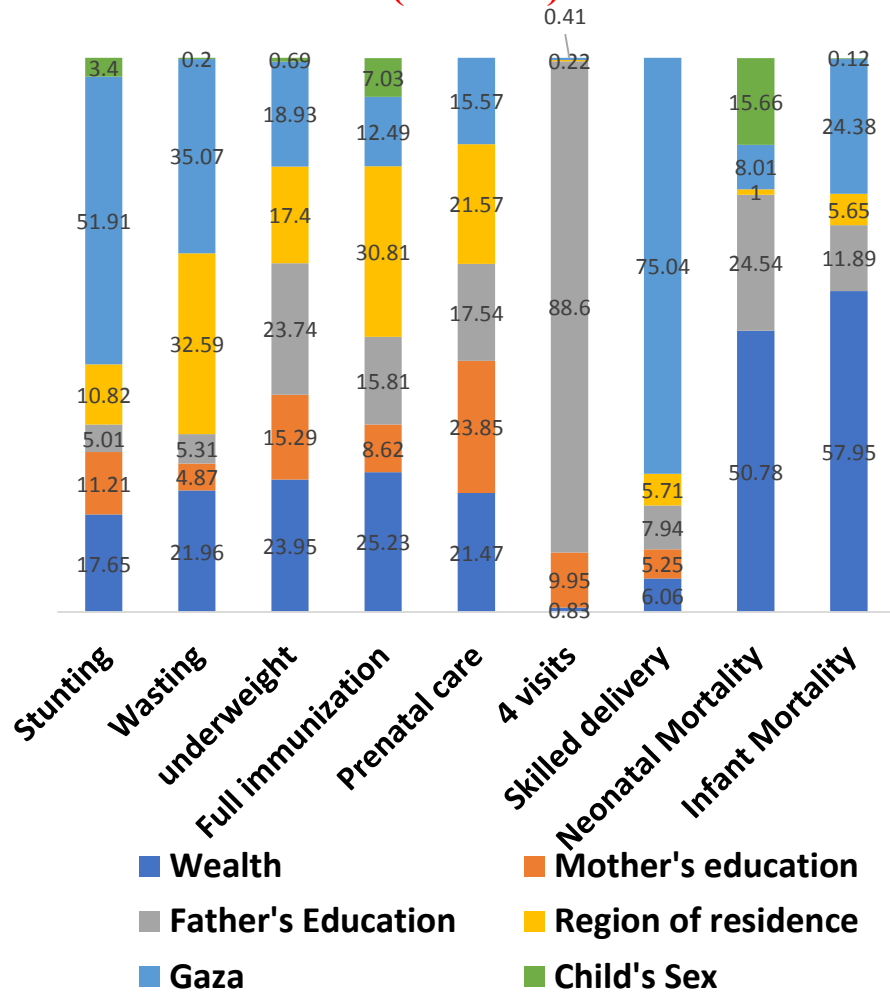


- Wealth
- Father's Education
- Mother's education
- Region of residence
- Child's Sex

Palestine (2006)

Main drivers:

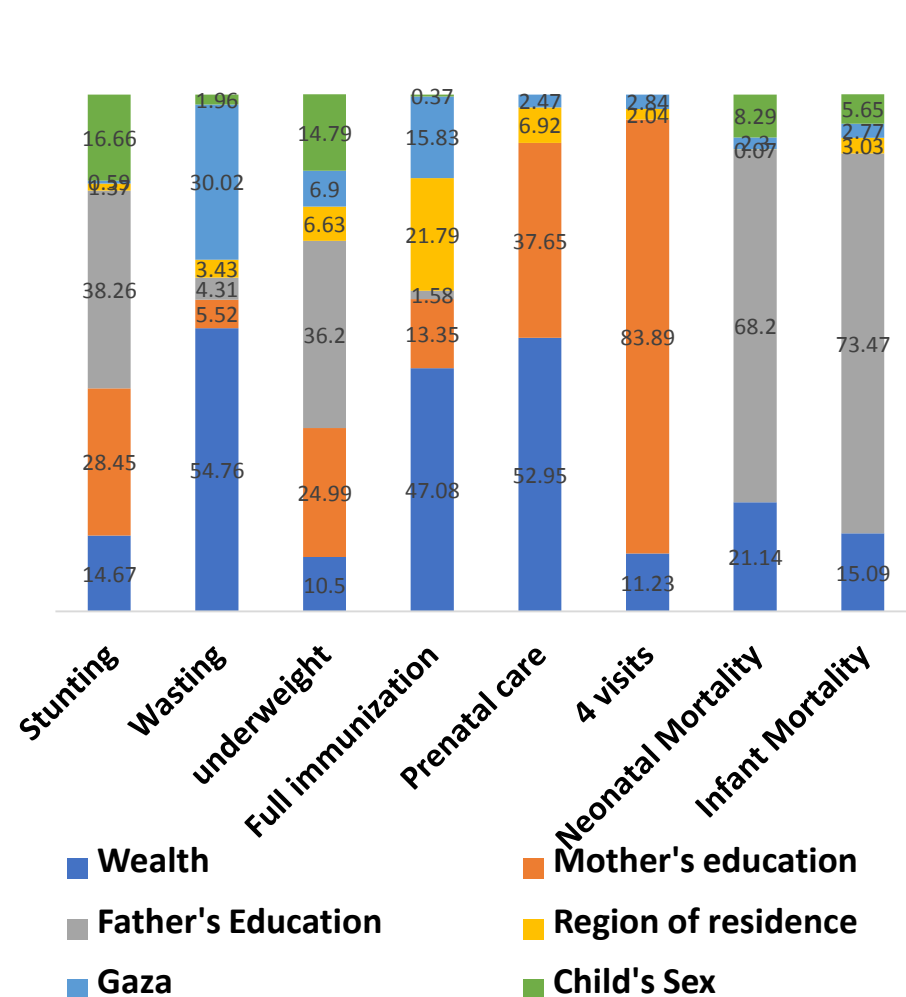
- Wealth (child mortality, underweight)**
- Gaza (stunting, wasting, skilled delivery)**
- Region of residence (immunization, wasting)**
- Father's education (4 visits)**



Palestine (2014)

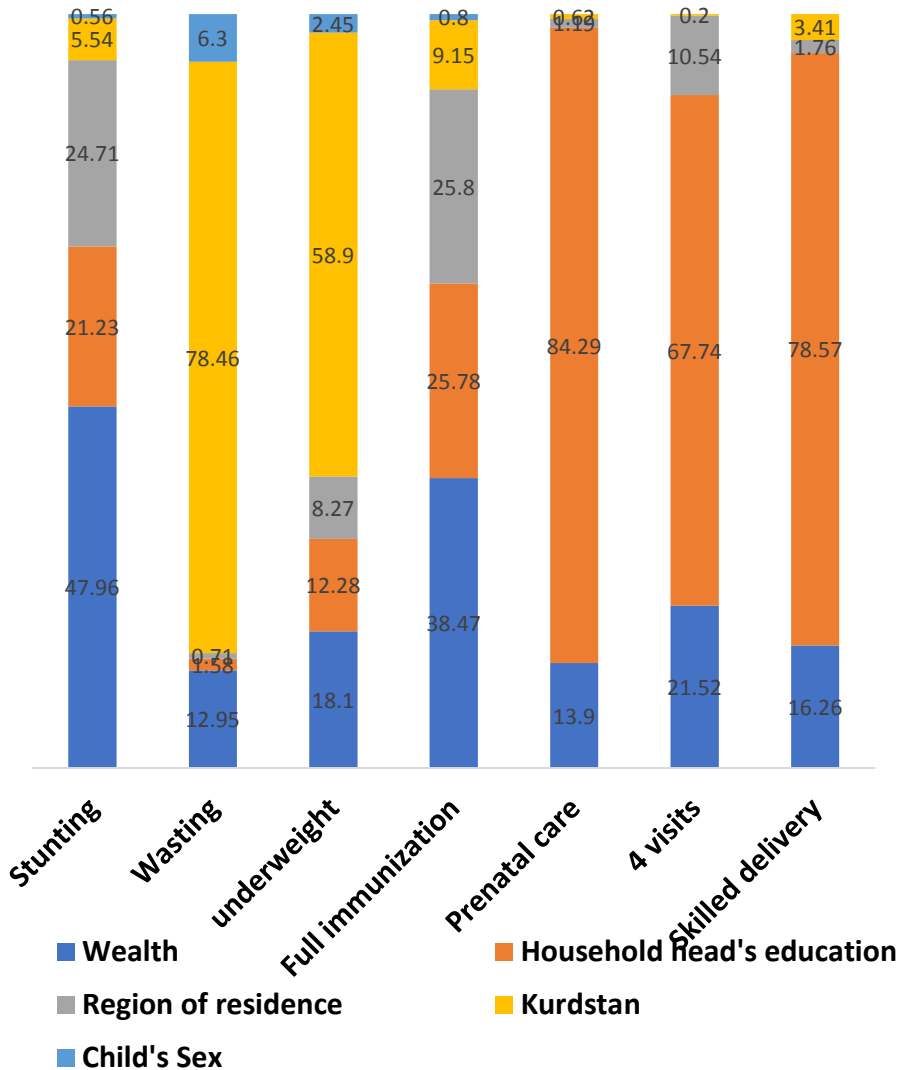
Main drivers:

- Father's education (child mortality, stunting)**
- Mother's education (4 visits)**
- Wealth (wasting, immunization, prenatal care)**



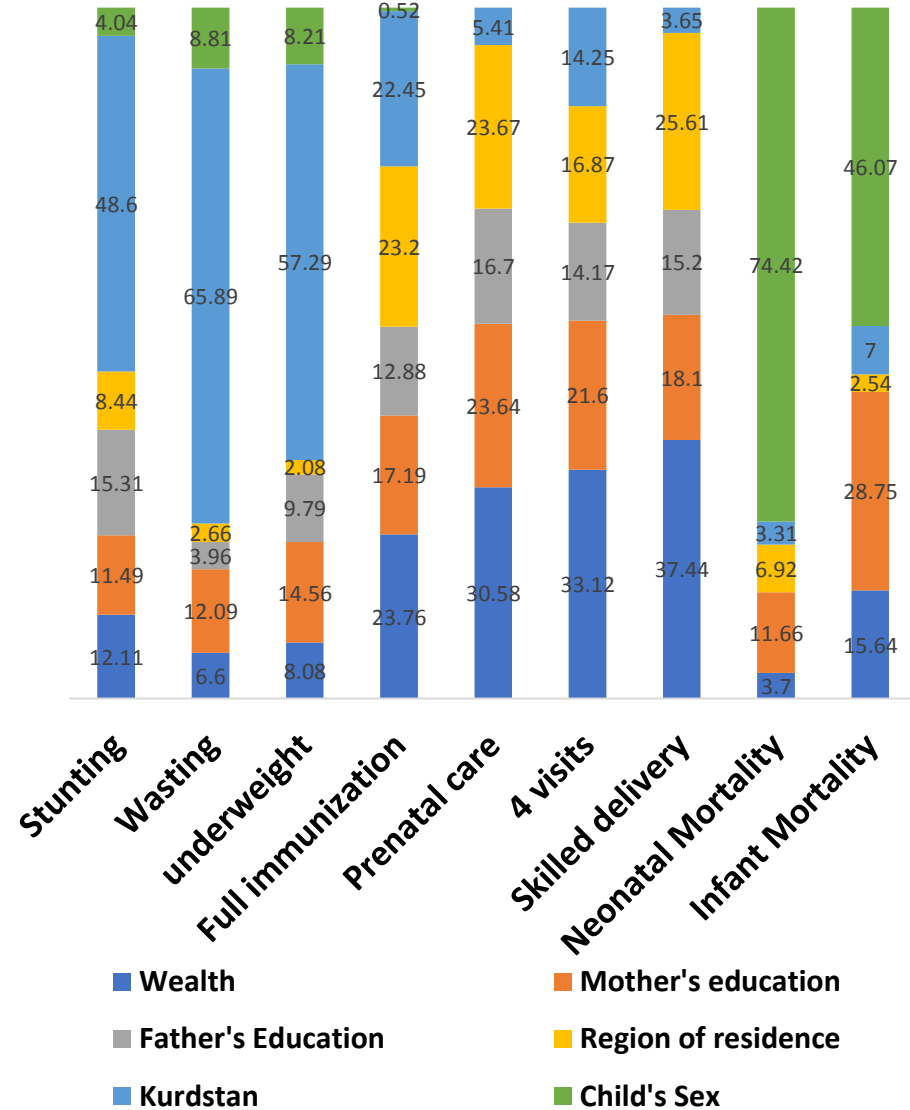
Iraq (2000)

Main drivers: household head education (maternal health)
 Kurdistan (wasting & underweight)
 Wealth (stunting, immunization)



Iraq (2011)

Main drivers: Kurdistan (child nutrition)
 Sex (mortality)
 Wealth (maternal health)



Sudan (2000)

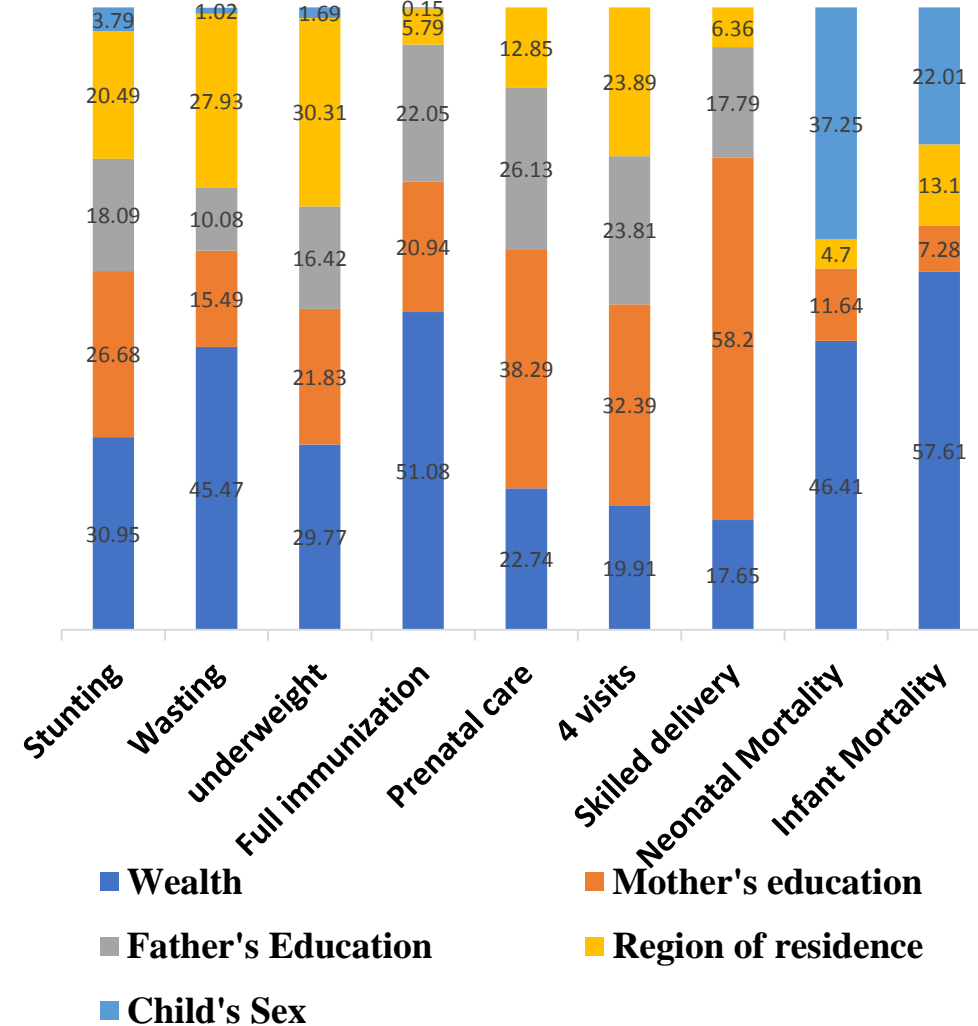
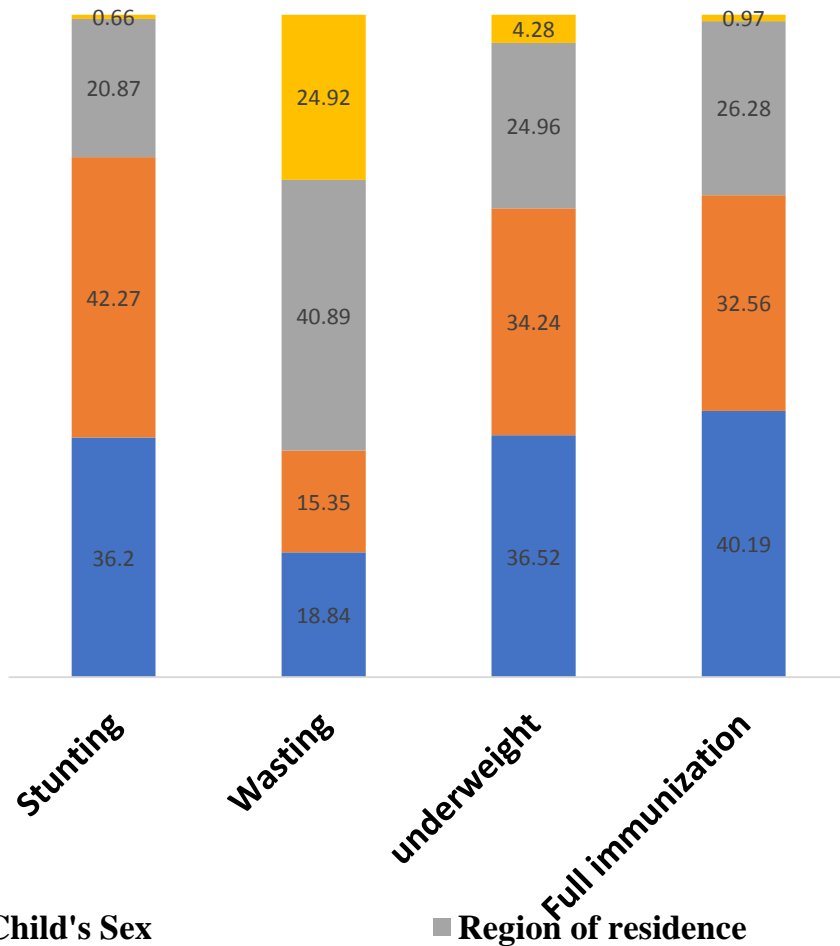
Sudan (2014)

Main drivers:

household head education (stunting)
Wealth (underweight, immunization)
Region on residence (wasting)

Main drivers:

Mother education (maternal health)
Wealth (Child health)

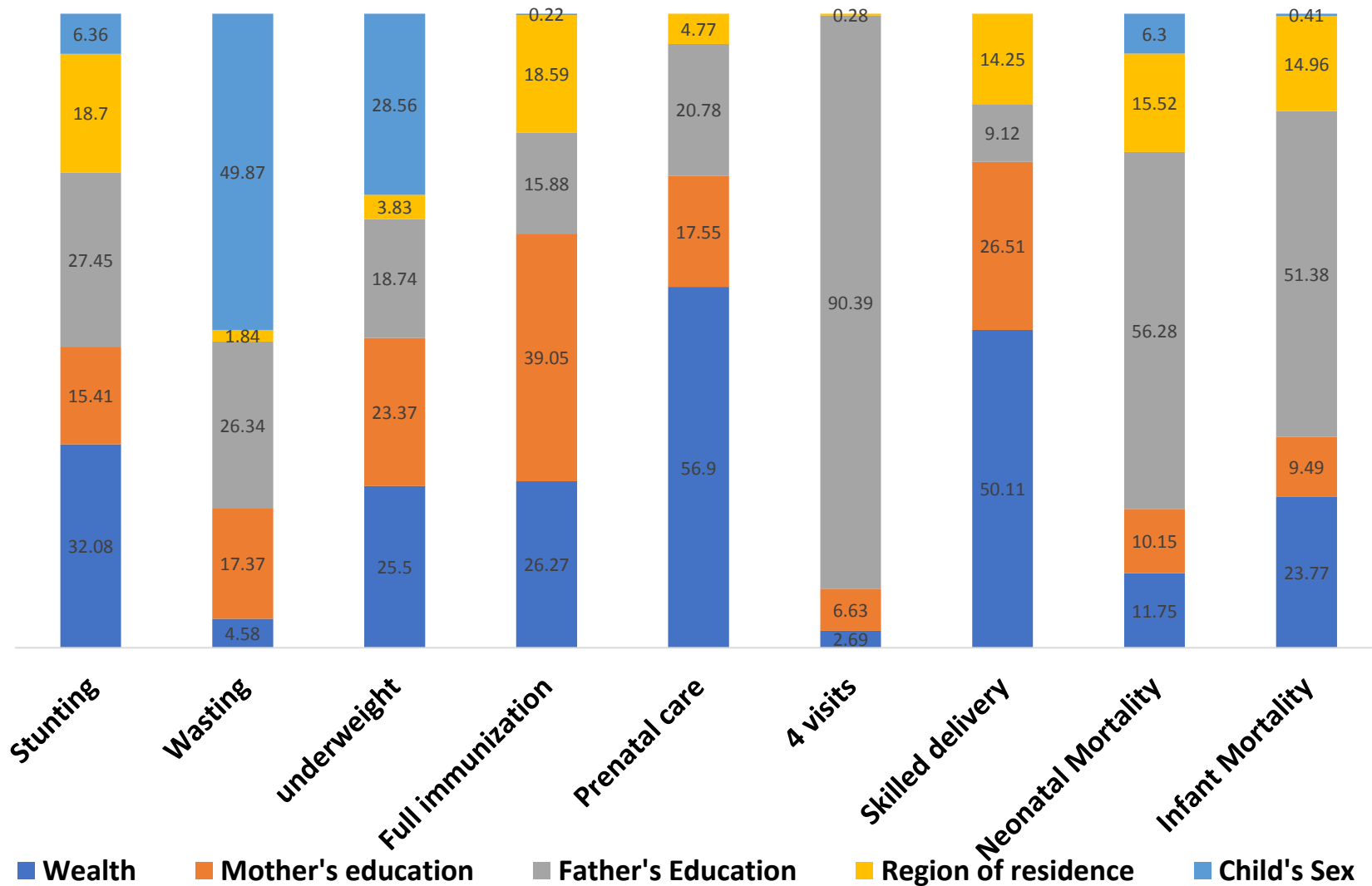


Child's Sex Household's head education Wealth

Wealth Mother's education Father's Education Region of residence Child's Sex

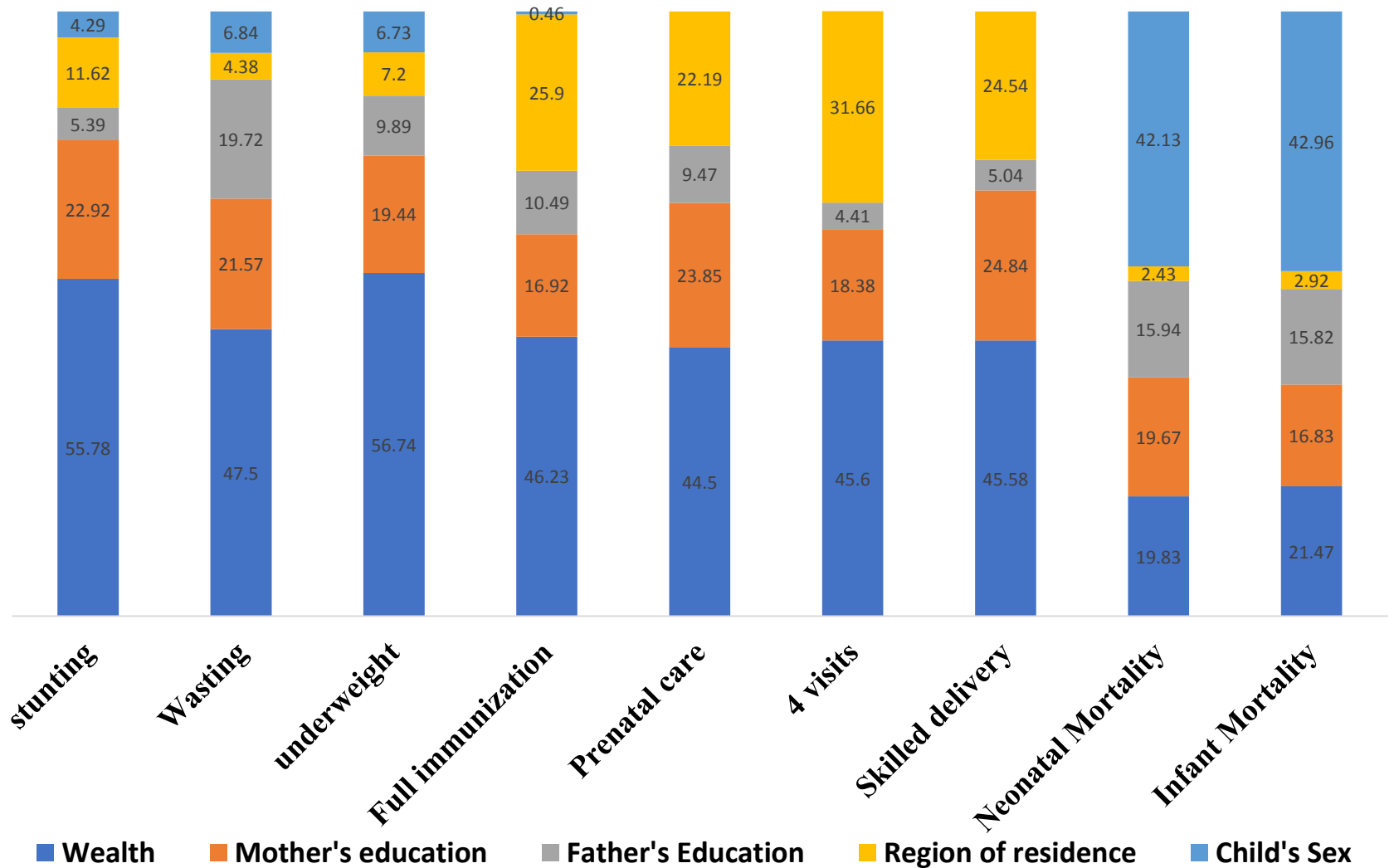
Tunisia (2011)

**Main drivers: Father's education (child mortality, 4 visits health)
Wealth (prenatal care, skilled delivery)
Child's sex (wasting, underweight)**



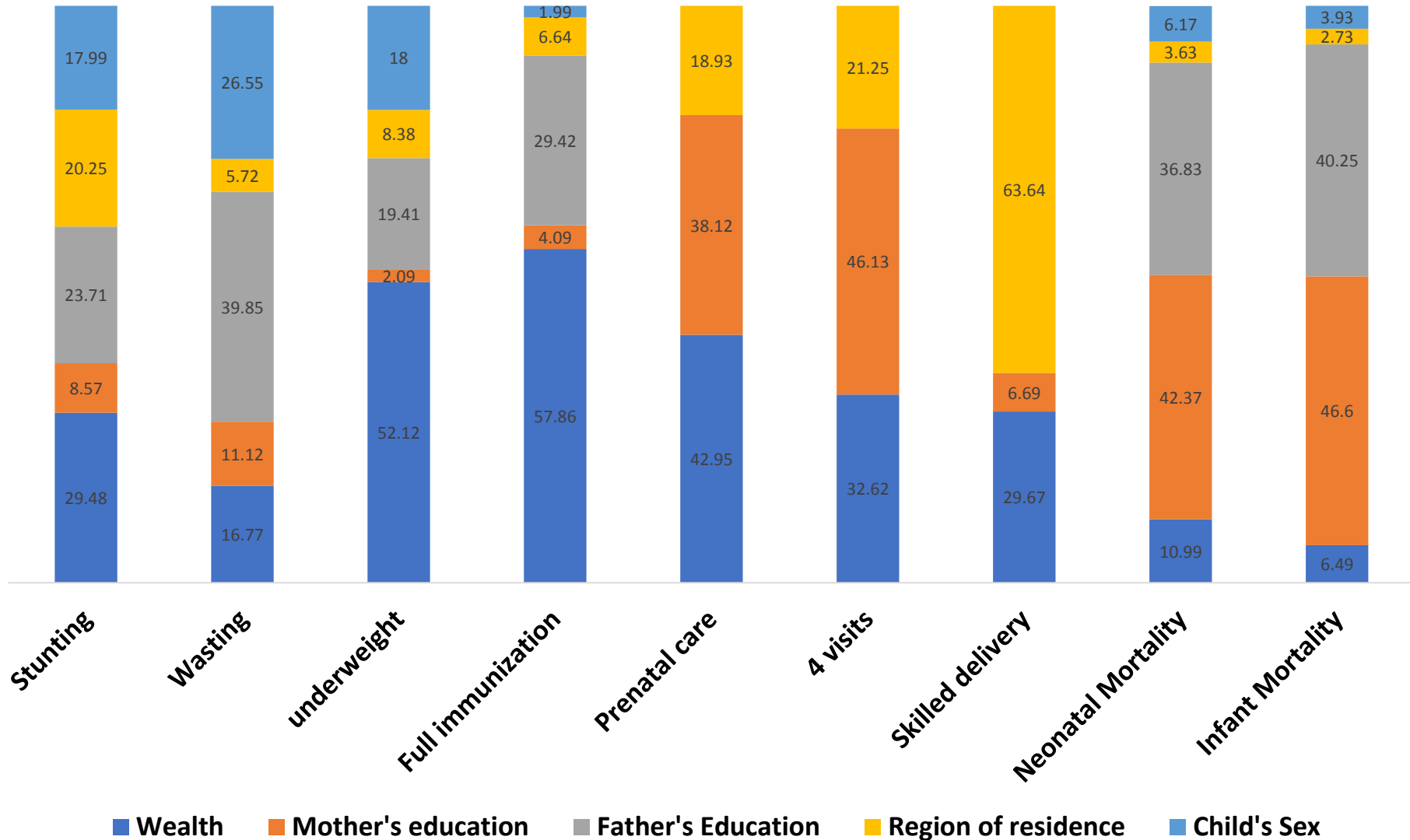
Yemen (2013)

Main drivers: Child's sex (child mortality)
Wealth (all other indicators)



Algeria (2012)

Main drivers: Wealth (stunting, underweight, full immunization, prenatal care
Mother's education (child mortality, 4 visits)
Region of residence (skilled delivery)



Thank You