

Simulating the Potential Impacts of COVID-19 on child multidimensional poverty in MENA: 2021-22 update

By

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Some preliminary results

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Introduction

Child multidimensional poverty approach : MODA approach adopted by the study on Child Poverty in Arab Countries (UNICEF MENARO, 2017) . **9 MENA countries covered in the simulation study: Algeria, Egypt, Iraq, Jordan, Morocco, Palestine, Sudan, Tunisia, Yemen**

Child population in the 9 countries: **128.2 million, 72% of the child population** living in MENA. Children represent 40% of the total population of these countries (ranging from 28% in Tunisia, to 46% in Sudan)

Baseline (pre-COVID): the results of the study on Child Poverty in Arab Countries + updates for 4 countries with new survey data – update with newer data in progress

Three scenarios based on assumptions on impact channels/pathways, evidence coming from UNICEF offices and surveys, analysis and forecasts of economic impacts from international organizations:

short term: 6-9 months from the start of the pandemic (March 2020)

Medium term: 12 months from the start of the pandemic

Long term: 18-24 months from the start of the pandemic

MODA
Methodology:

Multidimensional Overlapping
Deprivation Analysis

Counting Index

CRC-based

2 age groups: 0-4, 5-17

5 dimensions per age group

MODA Methodology /2

'Triple' cut off:

Indicators 1=deprived 0=not deprived

Dimensions: union approach → deprived if deprived in at least 1 indicator

MD deprivation: deprived at chosen cut-off (2+ usually)

Arab MODA

Dimensions	Moderate Deprivation	Age
Water	Household does not have piped water into dwelling or yard	All children 0-17
Sanitation	Unimproved toilet facility	All children 0-17
	Shared toilet	
Housing	Primitive floor/type of household	All children 0-17
	Overcrowding (more than 3 people per room)	
Health	Un-skilled birth assistance (0-23 months)	Children 0-4
	Not fully immunized	
	No ante-natal care (0-23 months)	
Nutrition	Infant and young child feeding (IYCF) (0-23 months)	Children 0-4
	Wasting	
	Stunting (>24 months)	
	Obesity (>24 months)	
Education	Not enrolled in school (all ages)	Children 5-17
	Two or more grades behind school or did not complete primary (from age of end of primary to 17)	
Information	No access to any information device	Children 5-17
	No access to any communication device	

How does COVID19 impact MDCP?

Direct effects:

- Effects of NPI (lockdowns, limitations of services)
- Effects of COVID-19: illness, orphanhood, but also fear and distrust

Indirect effects

- Consequences of economic loss due to job loss, etc.
- Service disruption in the long term

Type of effects

Disruption in basic services

- Perinatal care
- Immunization campaigning
- Use of health services
- Disruption of education

Disruption in markets/food supply:

- Impact on diet diversity and nutrition

Disruption of people movement

- People stuck with families
- Access to market/services

Increased risk of VAW/C

- Evidence of increase VAW from studies of previous epidemics

Economic impacts

- Loss of jobs, economic downturn, decrease of public expenditures/debt increase
- Disruption to the supply chain

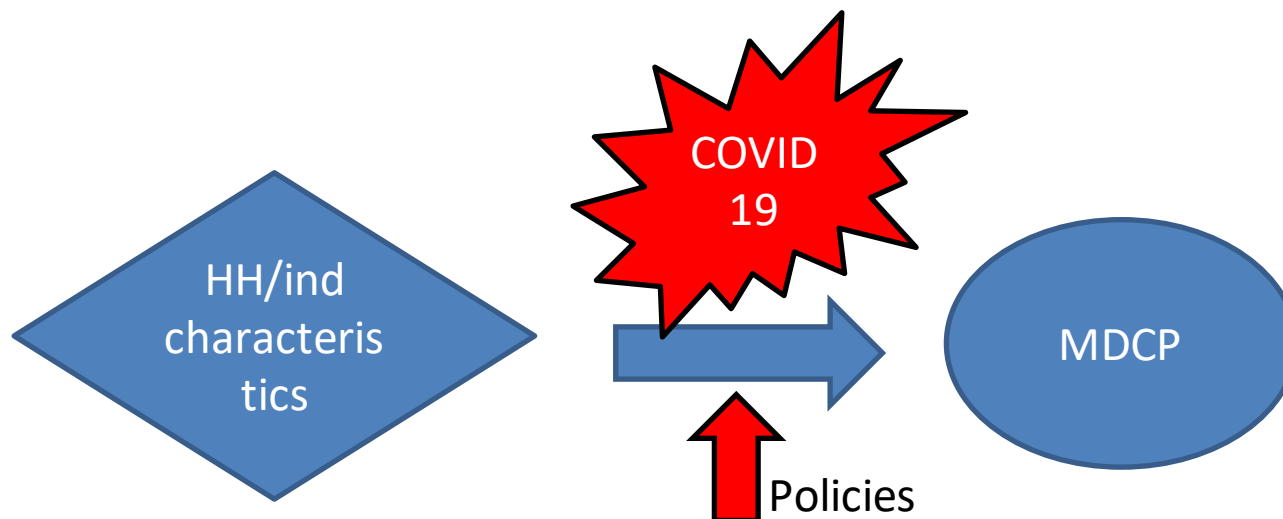
Some literature

- Schools closure increases drop-out rates, especially for children in secondary school (World Bank, 2010; Kirshner et al., 2010; Grau et al., 2017).
- Child labour may increase in medium-long term
(<https://blogs.unicef.org/evidence-for-action/why-child-labour-cannot-be-forgotten-during-covid-19/>)
- Evidence from Ebola: decrease in vaccination (UNICEF, unpublished)
- Substantial decrease in service utilization, ANC, skilled delivery, post-natal services (Sochas et al. 2017; Ribacke et al., 2016)
- Study of SARS found similar decrease in Taiwan. (Changet al., 2004)



How do we simulate the potential impact?

- The shock is mostly exogenous: NPIs, effect on demand and supply of services, and also global disruptions in supply chains, commodity prices, etc. Hard to predict impacts with individual/hh characteristics using normal simulation techniques
 - Methodology based on the Paes de Barros method (de Barros, Ganuza and Vos 2002)



Simulations

2 approaches:

- Technical (in the short term): increase of deprivation based on containment measures implemented by governments and on assumptions



Variables: school attendance, unskilled birth attendance and ANC for children ≤ 1 month, immunization, infant feeding for children 4-6 months

- Manual (in all scenarios): increase of deprivation based on evidence and assumptions, in terms of % change
 - Stratification
 - Urban/Rural
 - Poor/Not poor (in the medium and long term)
 - Poor= wealth quintiles <3
 - Correlation with other indicators: es crowding and toilet sharing
 - Random assignment of deprivation (from 0 to 1) within strata

General regional trends

- Sources of Information: UNICEF Tracker, World Bank Education simulations, World Bank Economic Outlooks, UNDP forecasts, Food security Index
- Underlying trends:
 - increase in poverty, unemployment,
 - More humanitarian crisis.
- UNICEF Tracker:
 - records high disruption in health and nutrition services in most countries in 2020 - and Q1 2021, especially maternal services and routine immunization. Some rebound in 2021.
 - Online learning only partially successful and in many countries still problematic in Q1 2021 - improvement in Q3 2021, most countries to reopen schools with hybrid learning
- Food Prices: on average food prices have increased by 6%.
 - Yemen and Sudan are the countries that reported the highest increase; Algeria, Tunisia and Egypt reported a moderate increase; the other countries showed a reduction in food prices

Assumptions: Health and Nutrition

	Moderate Deprivation	Short-term impact HIGHER BOUND	12 months impact revised	18-24 months
Health	Not fully immunized	Children at critical age for vaccinations and booster (6m, 12m, 18m)= deprived	Substantial Increase for children aged <18m (about 20-25% in some countries)	increase in deprivation children <=24m 15-20% - rebound of vaccination in some countries
	No ante-natal care (0-23 months)	Increase in deprivation for small children (<3 months)	Increase in deprivation for children <12 m - reported substantial decrease of ANC and delivery services (mostly due to lockdowns and fear of contagion): 20-25%	increase in deprivation about 15-20% for children 0-23m: some rebound but still drop in services in most countries
Nutrition	Infant and young child feeding (IYCF) (0-23 months)	all children 4-6months deprived (assuming mothers stop BF)	Increase in deprivation due to increased Food Insecurity for all children 0-23 and disruption of bf support and nutrition programs - about 20%	Increase in deprivation due to increased Food Insecurity for all children 0-23 - rebound only in some countries, deprivation increase about 20% (very high in some countries)
	Wasting	Increase in deprivation depending on level Food Insecurity for children 6-23 months.	increase due to drop in nutritional services, supplements, monitoring and treatment of wasting (some countries report supply disruption and violations in breast milk substitutes) - however only partially translates to about 10%	Higher increase due to accumulation of malnutrition: 10-15%
	Stunting (>24 months)	Small increase	Stunting appears later -- increase due to children close to thresholds (5-10%)	Higher increase due to accumulation of malnutrition: 10-15% of children near the threshold
	Obesity (>24 months)	Not affected	Small increase concentrated in some countries - children close to threshold (<5%)	Small increase concentrated in some countries - children close to threshold (<5%)

Assumptions: Education and Information

	Moderate Deprivation	Short-term impact HIGHER BOUND	12 months impact revised	18-24 months
Education	Not enrolled in school (all ages)	Not affected	Affected: online learning only partially successful in 2020 for most countries -- treated as deprivation because effectively not going to school (10-15%), depending on availability of ICT devices and education of parents. Higher increase for vulnerable children. Higher increase in secondary	Drop out rates to increase (especially in secondary/lower secondary): 10-15%, higher in poorer countries and areas
	Two or more grades behind school or did not complete primary (from age of end of primary to 17)	age 11+: not deprived if access to computer/internet OR access to tv AND hh is not overcrowded Age 6-10: as above AND one adult in HH has at least primary education completed	Some increase (about 5%): too early to say	Repetition to increase - 10% reasonable estimate given online learning - but less likely if schools do not reopen in person
Information	No access to any information device	Not affected	Slightly affected in poor countries and areas: 5%	Net effect of some economic rebound: small increase (<5%)
	No access to any communication device	Not affected	Slightly affected in poor countries and areas: 5%	Net effect of some economic rebound: small increase (<5%)

Assumptions: HH-level dimensions

	Moderate Deprivation	Short-term impact HIGHER BOUND	12 months impact revised	18-24 months
Water	Household does not have piped water into dwelling or yard	Not affected	Slightly affected (regionally <5%)	Slightly affected (regionally <5%)
Sanitation	Unimproved toilet facility	Not affected	Not affected	Not affected
	Shared toilet	Affected by lockdown, but minimal, both in rural and urban areas (specific areas for some countries): <5pp	Slightly affected in some sub-regions or settlements of some countries	Not affected
Housing	Primitive floor/type of household	Not affected	Not affected	Not affected
	Overcrowding (more than 3 people per room)	Affected by lockdown, but minimal, both in rural and urban areas (specific areas for some countries): <5pp	Not affected	Not affected

Specificity by country

- In the short term:
 - Start of lockdowns/curfews → impact on health (ANC and skilled birth attendance)
 - Specific areas under lockdowns (source: ACAPS)
 - Iraq: Kurdistan for education
- Medium-long term
 - Specific vulnerabilities
 - Morocco: strong R/U divide
 - Health and food system vulnerabilities
 - Socio-economic impacts coming from survey evidence and UNICEF CO monitoring, as well as economic analysis

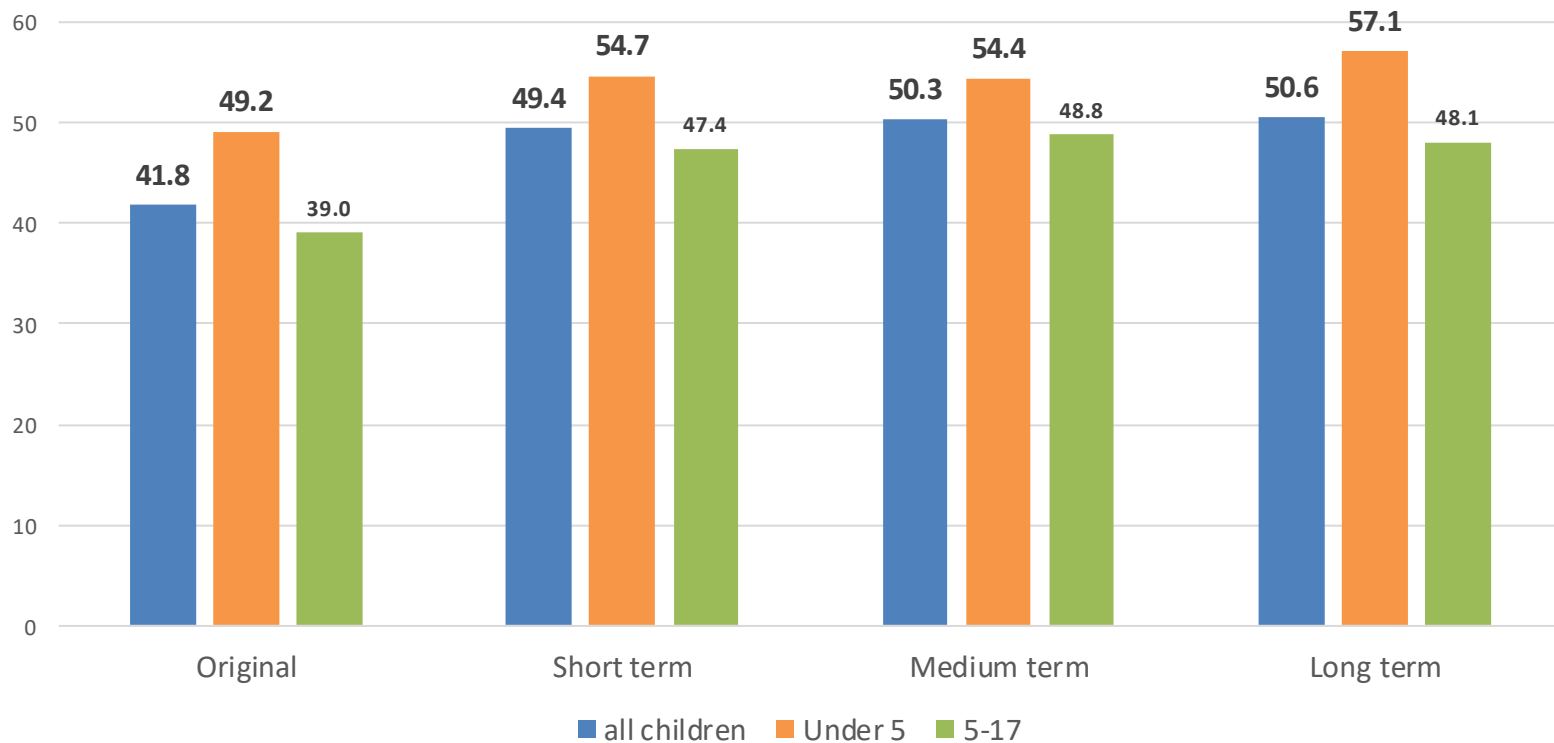
Example: Iraq

- Iraq is a country with moderate levels of deprivation, and a vulnerable social-economic situation: we can expect COVID19 pandemic to worsen the situation of children and families. The outlook for Iraq, which was already negative prior to the COVID-19 shock, has markedly worsened since
- Macro impacts (even pre-covid: fall in oil prices); surveys of the impact of the COVID-19 lockdowns on small and medium enterprises have also registered significant negative effects on employment that are likely to disproportionately affect marginalized groups.
- Income poverty will increase by 11.7 percentage points—or by over 50 percent—taking the poverty rate up from 20 percent in 2017-2018 to just over 31 percent in 2020.
- UNICEF Tracker: moderate disruption in health and nutrition services. Disruption in WASH for camps and informal settlements
- Food prices have decreased by 0.2% since the start of the pandemic

Dimensions	Moderate Deprivation	Short-term impact	12 months impact revised	18-24 months
Water	Household does not have piped water into dwelling or yard	Not affected	Not affected	<10% increase in urban areas, 10-24% drop in rural areas
Sanitation	Unimproved toilet facility	Not affected	Not affected	Not affected
	Shared toilet	Increase (2-3pp) more pronounced in Urban areas and in Kurdistan	Not affected	Not affected
Housing	Primitive floor/type of household	Not affected	Not affected	Not affected
	Overcrowding (more than 3 people per room)	Increase (2-3pp) more pronounced in Urban areas and in Kurdistan	Not affected	Not affected
Health	Un-skilled birth assistance (0-23 months)	Deprivation for children <=1m (restriction started beginning of march)	Disruption in maternal care services: 10-24% increase in deprivation for children <=12m	Increase in deprivation for children <=24 m <10%
	Not fully immunized	Deprivation for children at critical ages as per general framework	Increase in deprivation for children <=18m 10-24% drop	Increase in deprivation for children <=24 m <10%
	No ante-natal care (0-23 months)	Deprivation for children <=1m (restriction started beginning of march)	Disruption in maternal care services: 10-24% increase in deprivation for children <=12m	Increase 10-24% for children 0-23m
Nutrition	Infant and young child feeding (IYCF) (0-23 months)	Increase for children 4-6m, increase for children >6m higher in Kurdistan	Drop in breastfeeding support programs and nutrition programs (10-24% drop): increase in deprivation around 10-15%	Lower increase around 10%
	Wasting	Medium increase (10-12pp)	Substantial drop in early detection and treatment, increase 10-15%	Higher increase due to accumulation effect and external factors - 15-20%
	Stunting (>24 months)	Not affected	Small increase for children on threshold (5-10%)	higher increase but some rebound in programs (<15% increase)
	Obesity (>24 months)	Not affected	Not affected	Not affected
Education	Not enrolled in school (all ages)	All children who have no access to distance learning according to general framework	Moderate to high increase in deprivation: 20-30% (based on internet penetration)	Some school reopened, KRI went back online since November. Total increase in deprivation around 20% - due to drop outs, higher in secondary, lower in primary ed -- in KRI higher % of families with computer and internet but still low. Most internet through mobiles.
	Two or more grades behind school or did not complete primary (from age of end of primary to 17)	Not affected	Small increase <10%	increase around 10%
Information	No access to any information device	Not affected	very small increase for poor households (<5%)	very small increase for poor households (<5%)
	No access to any communication device	Not affected	very small increase for poor households (<5%)	very small increase for poor households (<5%)

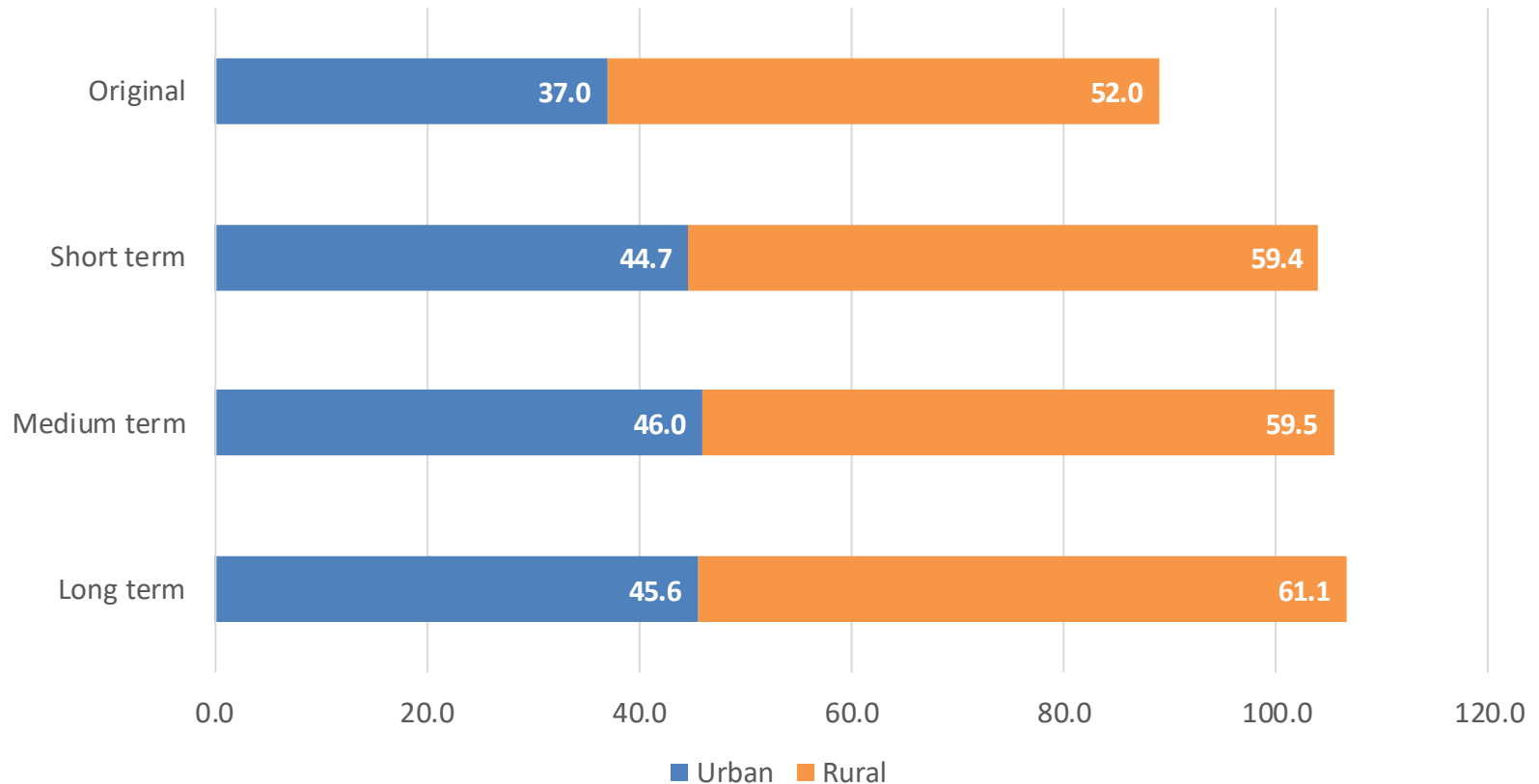
Child multidimensional poverty in Iraq: Baseline (pre-COVID) and simulation results

% of children living in Multidimensional poverty
(2 or more deprivations)

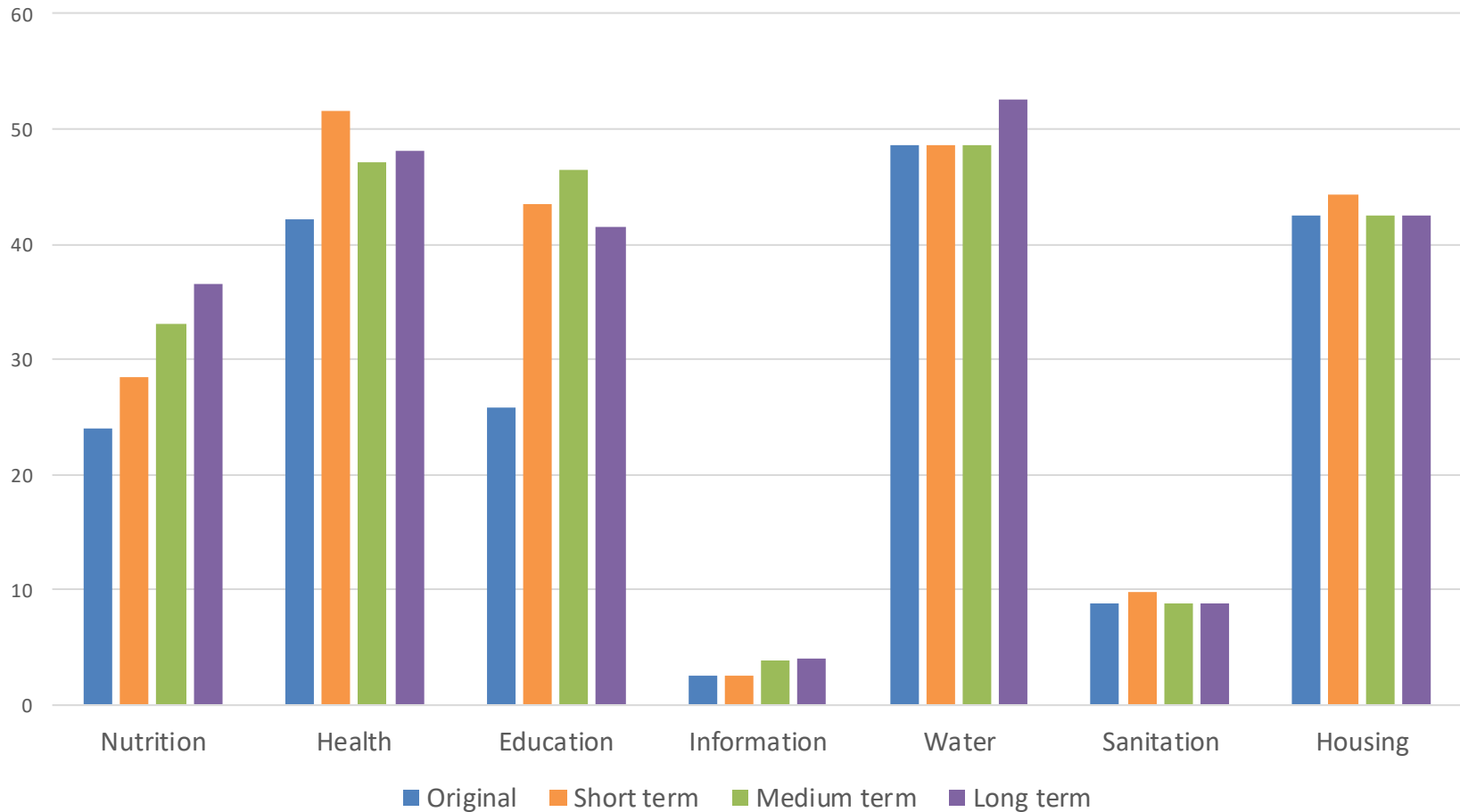


Child multidimensional poverty in Iraq: Baseline (pre-COVID) and simulation results

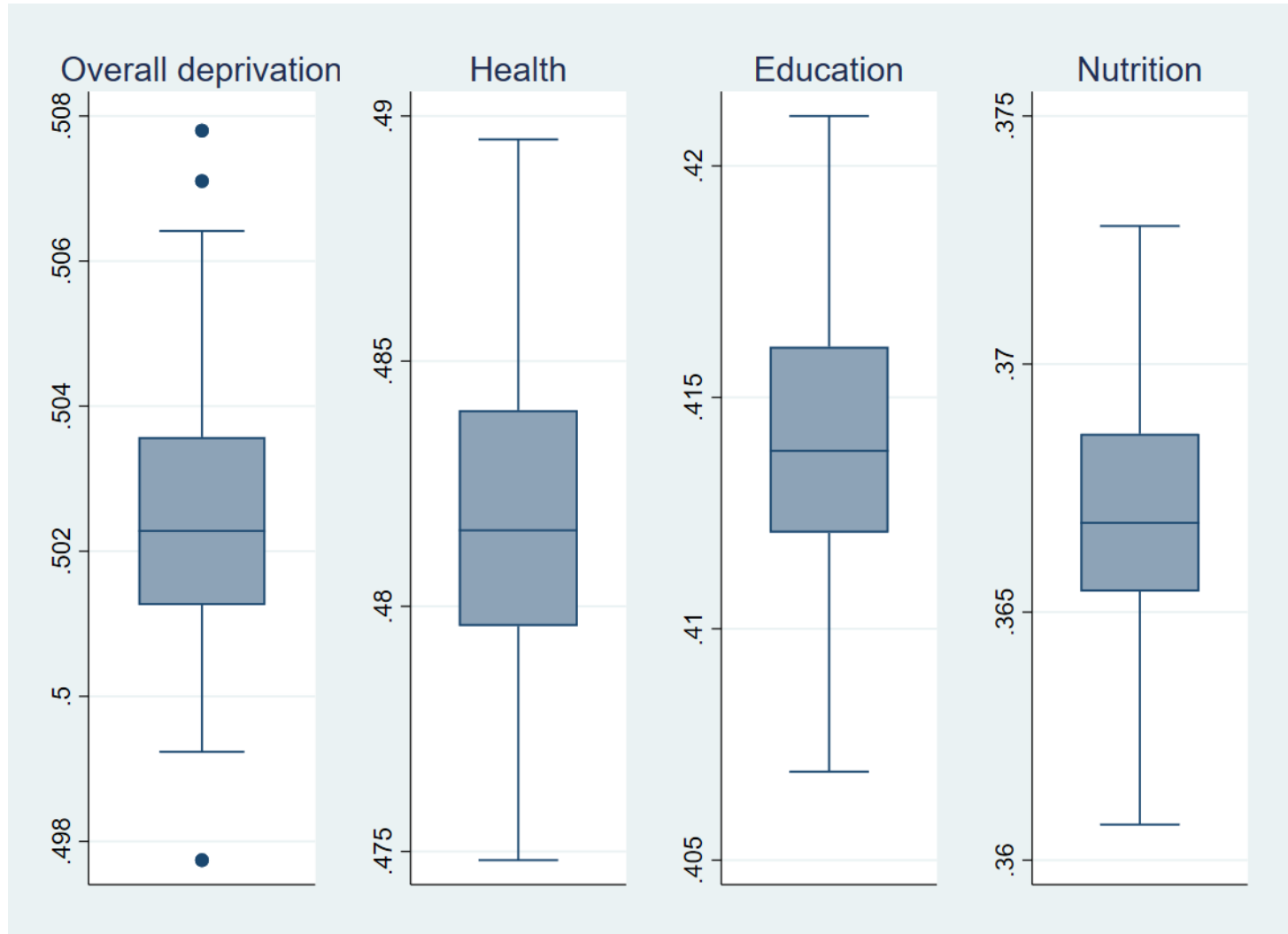
Simulation results over rural/urban



Deprivation in the individual dimensions



Monte Carlo Simulation



N. of draws: 100

Some additional considerations and next steps

- Regional aggregation is to be revised due to some newer data – regional simulation estimates will change even for the short term. Possibly even newer data in the next future?
- Gender analysis – not possible with MODA. Consideration on gender to be added in the brief and the paper (but without data analysis)
- Analysis by wealth quintiles: not meaningful for the regional analysis (but possible for the country analysis – to be shared with COs)
- Situation evolves rapidly, possible some more rebound from countries, but worsening in others
- Violence against children and women: not part of regional MODA, but important aspects of the pandemic impacts (direct and indirect).