

# NUTRITION-RELATED NON-COMMUNICABLE DISEASE (N-RNCD) COUNTRY PROFILES



## HAITI

Evidence has been mounting to support the hypothesis that maternal undernutrition, as well as in-utero and infant and young child undernutrition, increase the risk of developing N-RNCDs later in life (Barker, 1992 and Gluckman, 2010). Recent empirical studies have demonstrated that many common manifestations of undernutrition, such as intra-uterine growth restriction (IUGR), low birth weight, and stunting are all significantly associated with later development of hypertension, insulin resistance, and obesity. These conditions lead to N-RNCDs such as Type II diabetes mellitus (diabetes) and cardiovascular disease (CVD). Addressing maternal, infant, and young child undernutrition is therefore not only important to preventing the immediate threats of child morbidity and mortality, but also to reducing the risk of N-RNCDs later in life.

In Haiti, the burden of N-RNCDs is moderate to severe problem in the adult population (See Table 1). In addition to the data shown in the table, the average body mass index (BMI) among women stayed close to 22 kg/m<sup>2</sup> between the 2005-06 survey and 2012, but prevalence of overweight rose sharply from 21.2 to 25.3 percent (2005-066 and 2012 DHS). Prevalence of diabetes has risen from 7 percent in 1998 to nearly 10 percent in 2008 (Danaei et al, 2011).

**Table 1: Estimated Age-Standardized Adult N-RNCD Prevalence, Haiti 2008**

	Pre-NCD conditions (% of Adults)				N-RNCDs	
	Hypertension	Raised Glucose levels	Overweight*	Raised Cholesterol	Diabetes (% of Adults)**	CVD (% of Deaths)
Women	-	-	25%	-	9.6%	-
Total	-	-	-	-	-	20%

Source: Alwan, Ala and World Health Organization. (2011). *Global status report on noncommunicable diseases 2010*. Geneva, Switzerland: World Health Organization. \*Overweight Data from DHS 2011. \*\*Diabetes Data from Global Burden of Metabolic Risk Factors of Chronic Diseases Database (Danaei et al, 2011).

Table 2 shows percent of infants who were born low birth weight, children who are stunted, overweight, stunted and overweight, or who are stunted with an overweight mother, and overweight women, broken down by socio-economic characteristics. Regarding overweight, 4 percent of Haitian children fall into this category. For comparison, the percentage of children ages 2 to 5 who are considered overweight in the U.S is 11 percent (CDC, 2012). Taking a look at the current nutritional status of children under 5, there is evidence of risk for children of mothers in the top education and wealth quintiles, but overall risk of overweight and pre-NRNCDs is moderate.

**Table 2: National Survey Indicators on Nutritional Status, by Background Characteristics, Haiti 2012**

		% of Children under 5					% of Women 15-49
		Low Birth Weight	Stunted	Overweight	Stunted and Overweight	Stunted Child with Overweight Mother	Overweight
Educational attainment of mother	No Education	38%	34%	2%	1%	5%	24%
	Primary	34%	22%	4%	2%	4%	21%
	Secondary	31%	13%	4%	1%	3%	27%
	Above Secondary	23%*	1%*	7%*	1%*	1%*	41%*
Wealth index of family	Poorest	35%	30%	4%	1%	4%	10%
	Poorer	37%	25%	4%	2%	3%	15%
	Middle	35%	20%	3%	1%	4%	24%
	Richer	33%	15%	4%	1%	5%	28%
	Richest	27%	6%	3%	0%	3%	38%
Location of household	Rural	35%	23%	4%	1%	4%	20%
	Urban	31%	16%	3%	1%	4%	31%
Total	National	34%	21%	4%	1%*	4%	25%

Definitions: Low Birth Weight (<2500g or classified by mother as small or very small at birth); Stunted (HAZ<-2SD); Child Overweight (WHZ>+2SD); Maternal Overweight (BMI≥25)

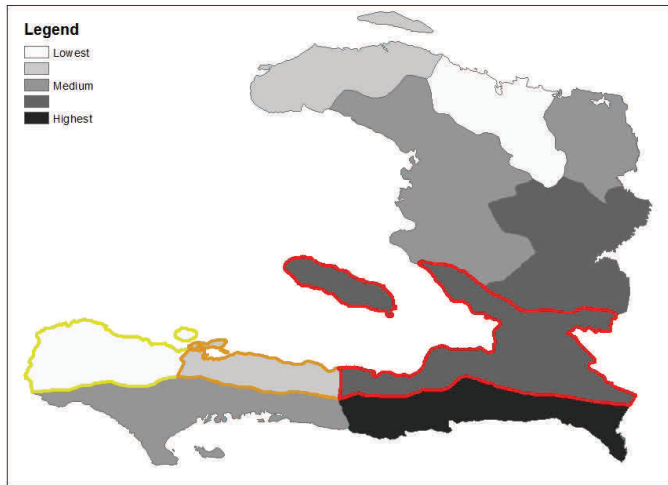
Source: DHS 2011 data, weighted estimates of percent of all children under 5 or percent of women 15-49. \*Very small sample of children for these mothers.



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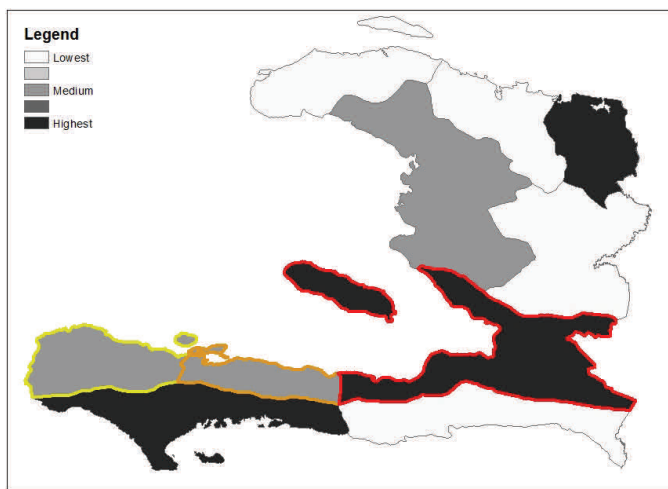


### Percentage of children who are born low birth weight (<2500g)



Looking further at Table 2, Haiti has high low birth weight rates across the country, with levels at or higher than 30 percent in all groups except the most highly educated. Child overweight is fairly steady across sub-groups at around 3-4%, while maternal overweight appears to trend upward with wealth, maternal education and urban residence. There is low prevalence of children who are both stunted and overweight, however there is relatively higher prevalence of stunted child—overweight mother (SC — OM) pairs across sub-populations, particularly among those mothers with no education, and the richer wealth quintiles, where SC — OM pairs rise to 5 percent of children. Prevalence of Stunting, while a serious issues for Haiti, appears to drop off precipitously in the highest wealth and education sub-groups. Approximately 6% of mothers in Haiti had above a secondary education.

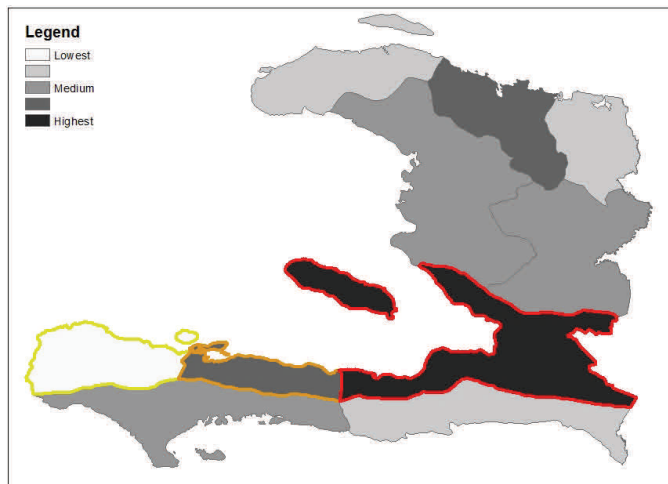
### Percentage of children who are overweight (WHZ>+2SD)



*National level estimates do not adequately illustrate the wide sub-population variations that exist. The maps here show these rates at the regional level. The Metropolitan area (red border) has one of the highest rates of low birth weight (36 percent), while also having the highest rates of child overweight (4.6 percent) and maternal overweight (31 percent). Nippes (orange border) also sees high rates across all three indicators.*

*Grand'Anse (yellow border) has the lowest rate of maternal overweight (14 percent) while having one of the higher child overweight rates (4 percent).*

### Percentage of women who are overweight (BMI≥25)



This descriptive analysis begins to explore where future risks may lie for N-RNCDs in Haiti, identifying where undernutrition programs may need to be tailored or targeted to better avoid later life health conditions. Child and maternal overweight appear to be of moderate concern and some specific sub-populations, are seeing relatively higher rates of SC — OM pairs. Low birth weight remains a significant concern. More in-depth analysis is needed to understand the determinants and dynamics influencing these relationships. SPRING is currently working to develop more evidence on why certain subpopulations are more at risk and how this information can be used to adjust nutrition programs.

Source: DHS 2012 data, weighted estimates of percent of all children under 5 or women 15-49.

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