Evaluating national health expenditure with disease burden

- Triangulating health expenditure with disease burden estimates will give insight whether national health system resources have been spent in line with disease burden priority of the country.
- The purpose of this evidence brief is to evaluate the alignment of Ethiopia's health expenditure (NHA 2013/14 and 2016/17) with the burden of disease estimates to inform resource mobilization strategies of the health care system in cognizant with epidemiologic transitions in Ethiopia.
- National Health Account (NHA) and Global Burden of Diseases, Injuries, and Risk Factors Study (GBD 2019) were mapped in this brief by reclassifying NHA diseases categories to the broader GBD categories; communicable, maternal, neonatal and nutritional disorders (CMNN), non-communicable disease (NCDs). and iniuries.

Key Finding

- CMNN diseases have the highest disease burden and highest total health expenditure compared with NCDs and injuries in both 2013/14 and 2016/17 health account periods.
- The relative percentage difference of total health expenditure for CMNN and NCDs showed higher expenditure for CMNN disease than NCDs regardless of their disease burden contribution.

Table 1: Percentage contribution to total DALYs by total health expenditure for major disease categories

	DALY contributions		Health Expenditure share (%)
Burden by GBD major category	**DALYs %, 2013**	**DALYs %, 2014**	**2013/14***
CMNN Diseases	66.08%	64.58%	70.50%
NCDS	27.44%	28.76%	11.20%
Injuries	6,49%	6.66%	2.50%
n.e.c*.	NA	NA	15.80%
Relative Difference (CMNN Vs NCD)	**38.64%**	**35.82%**	**59.40%**
Burden by GBD major category	**DALYs %, 2016**	**DALYs %, 2017**	**THE Share (%)-2016/17***
CMNN Diseases	62.11%	60.53%	69.85%
NCDS	30.73%	32.21%	11.53%
Injuries	7.16%	7.27%	2.58%
n.e.c*.	NA	NA	16.04%
Relative Difference (CMNN Vs NCD)	**31.38%**	**28.32%**	**58.32%**

* n.e.c means not else classified

- The health spending share by source of funding showed that CMNN disease were having high priority with households and donors.
- However, NCDs and injuries were having high priority with government, and household spending both in both 2013/14 and 2016/17 health accounting and GBD finding periods.

Table 2: Percentage contribution to total DALYs by sources health expenditure for major disease categories

Burden by GBD major category	**Health Expenditure , by source (%), 2013/14**			
	Government	Households	Donors	Total
CMNN Diseases	10%	51%	39%	100%
NCDS	42%	54%	4%	100%
Injuries	53%	42%	5%	100%
n.e.c.	32%	25%	43%	100%
Burden by GBD major category	**Health Expenditure , by source (%), 2016/17**			
	Government	Households	Donors	Total
CMNN Diseases	29%	32%	39%	100%
NCDS	49%	49%	3%	100%
Injuries	60%	38%	2%	100%
n.e.c.	20%	20%	60%	100%

- With CMNN disease categories; diarrhea, lower respiratory infections, and other common infectious diseases accounts for the highest proportion of the total DALYs and expenditure (15.2% in 2013/14 and 19.8% in 2016/17 respectively).

- Malaria accounts 8.3% of total expenditure in 2016/17 with about 1.7% of total burden in 2016 and 1.8% in 2017.
- Maternal disorders and nutritional deficiency have high expenditure shares but relatively less contribution to the total disease burden in the country in 2013/14 and 2016/17.
- HIV/AIDS contributed relatively low disease burden but expenditure was high, 9.8% in 2013/14 and 9.24% in 2016/17 of the total expenditure.
- Tuberculosis and Non-communicable diseases i.e cardiovascular diseases, neoplasm and mental disorders have high disease burden contribution with less expenditure in 2013/14 and 2016/17 health account periods.
- From the NCD categories diabetes has relatively contributed less DALYs compared to cardiovascular and neoplasm diseases and relatively accounts better expenditure in both health account periods.

Table 1: percentage contribution to total DALYs by sources of health expenditure and GBD disease categories

Diseases by GBD category	DALY contributions		THE Share (%)- 2013/14*	DALY contributions		THE Share (%)- 2016/17*
	DALYs %, 2013	DALYs %, 2014		DALYs %, 2016	DALYs %, 2017	
Communicable, maternal, neonatal, and nutritional diseases (CMNN)						
Diarrhea, lower respiratory, and other common infectious diseases	22.91%	22.79%	15.20%	21.97%	20.64%	19.80%
HIV/AIDS and Tuberculosis	9.06%	8.85%	12.30%	8.23%	7.99%	11.54%
HIV/AIDS*	5.33%	5.14%	9.80%	4.68%	4.48%	9.24%
Tuberculosis*	3.73%	3.71%	2.50%	3.55%	3.51%	2.29%
Maternal disorders	1.07%	1.06%	6.80%	1.06%	1.07%	4.51%
Neglected tropical diseases and malaria	5.38%	3.92%	10.50%	3.49%	3.45%	16.82%
Malaria*	3.79%	2.26%	9.30%	1.74%	1.81%	8.33%
Neglected tropical diseases*	1.59%	1.66%	1.2-%	1.75%	1.64%	8.49%
Neonatal disorders	19.76%	19.82%	0.30%	19.98%	19.75%	0.83%
Nutritional deficiencies	3.82%	3.84%	13.20%	3.60%	3.65%	11.39%
Other communicable, maternal, neonatal, and nutritional diseases	2.79%	2.82%	12.20%	2.69%	2.75%	4.96%
Non-communicable diseases (NCDs)						
Cardiovascular diseases	4.17%	4.35%	1.20%	4.66%	4.88%	1.5%
Chronic respiratory diseases	1.26%	1.310%	0.10%	1.38%	1.44%	0.1%
Diabetes, urogenital, blood, and endocrine diseases	3.30%	3.46%	4.90%	3.71%	3.90%	3.8%
Digestive diseases	2.55%	2.75%	0.90%	2.89%	3.05%	1.6%
Mental disorders	4.07%	4.29%	0.30%	4.72%	4.97%	0.3%
Neoplasms	2.89%	3.06%	1.90%	3.28%	3.48%	1.8%
Neurological disorders	1.38%	1.46%	0.00%	1.59%	1.69%	0.0%
Other non-communicable diseases	8.21%	8.25%	1.90%	8.95%	9.25%	2.5%
Injuries						
Injuries	6,49%	6.66%	2.50%	7.16%	7.27%	2.6%
n.e.c	NA	NA	16%	NA	NA	16.0%

*values will add and gives 100% excluding these values

Conclusion

Government covers one third of the total spending for health, it only covers 10% in 2013/14 and 29% in 2016/17 of the expenditure for CMNN. NCDs have demanded high household expenditure.

Relying heavily on donors and household spending could have serious implication to build a sustainable health care financing mechanism.

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