

The cost and impact of ACCESS-SMC

David Collins, MSH

Transforming the malaria landscape in the
Sahel: Seasonal malaria chemoprevention

09 June 2016

One of the 5 critical barriers to expanding SMC



“The delivery of SMC drugs, which are themselves relatively inexpensive, is considered to be costly, while a lack of analysis and cost benchmarking means SMC’s cost-effectiveness is poorly evidenced.”

Key questions

- How many children were reached in 2015?
- How much did it cost?
- What were the cost drivers?
- How much was covered by the government?
- How many cases and deaths were averted?
- How much of the need was met in 2015?
- How much of the need will be met in 2016?
- How much funding will be needed to reach the 2016 targets and how much is the funding gap?

Notes

- Data were collected through **visits** to the seven countries in 2015
- Costs do **not include** UNITAID or MC/CRS global and regional project management costs or evaluation or research costs (e.g. LSHTM and MSH)
- **Management costs** only cover staff remuneration and not operating costs
- **Non-financial costs** such as volunteer time and patient costs are excluded
- The costs of **pharmaco-vigilance** are not included
- **Only direct service delivery costs** are included – health facility operating costs and depreciation of vehicles used for supervision., for example, are not included
- **Figures for cases and deaths averted** and cost savings are based on global and other country estimates that have **not yet been validated**
- **Chad** results have been excluded because figures are still **under review**

2015 coverage (excluding Chad)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Target population	649,693	210,047	809,638	595,901	792,133	90,925	3,148,337
Children reached (1)	680,433	201,283	688,228	416,973	787,467	77,208	2,851,592
Percent of target reached	105%	96%	85%	70%	99%	85%	91%

(1) Number of children covered per month averaged over 4 months.

2015 costs (excluding Chad)(US\$)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Total program costs	\$3,111,033	\$1,032,758	\$2,885,518	\$1,503,115	\$3,741,714	\$682,650	\$12,956,788
Total start-up costs	\$117,851	\$49,947	\$59,180	\$48,533	\$209,409	\$56,011	\$540,931
Total recurrent costs	\$2,993,183	\$982,810	\$2,826,338	\$1,454,582	\$3,532,305	\$626,639	\$12,415,857
Recurrent cost per child reached for 4 months	\$4.40	\$4.88	\$4.11	\$3.49	\$4.49	\$8.12	\$4.35

Cost drivers per child reached (US\$)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia
Medicines and supplies	\$1.46	\$1.37	\$1.32	\$1.33	\$1.22	\$1.49
SMC distributor Remuneration	\$0.98	\$0.54	\$1.52	\$0.51	\$1.26	\$1.32
Management - Project	\$0.45	\$0.55	\$0.22	\$0.40	\$0.65	\$0.44
Management - Government	\$0.55	\$0.33	\$0.36	\$0.79	\$0.03	\$0.53
Supervision travel	\$0.23	\$1.01	\$0.40	\$0.25	\$0.20	\$2.36
Meeting travel and per diem	\$0.30	\$0.11	\$0.08	\$0.03	\$0.23	\$0.05
Training - recurrent	\$0.20	\$0.15	\$0.07	\$0.10	\$0.79	\$1.31
Other recurrent program costs including social mobilization	\$0.22	\$0.82	\$0.14	\$0.07	\$0.10	\$0.61
Total	\$4.40	\$4.88	\$4.11	\$3.49	\$4.49	\$8.12

Outliers, such as in The Gambia, are still being checked

Malaria cases and deaths averted in 2015 excluding Chad (see annexes for details)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Children <5 reached in 2015	680,433	201,283	688,228	416,973	792,133	77,208	2,856,258
Total cases averted in 2015	246,783	73,003	249,611	151,230	287,295	28,002	1,035,924
Total deaths averted in 2015	1,285	380	1,300	788	1,496	146	5,395
Recurrent cost per case averted (US\$)	\$12.13	\$13.46	\$11.32	\$9.62	\$12.30	\$22.38	\$11.99
Recurrent cost per death averted (US\$)	\$2,329	\$2,585	\$2,174	\$1,847	\$2,361	\$4,297	\$2,301

The estimates for numbers of cases and deaths averted are based on global estimates and not on data for these countries. Some data from the project indicate that the actual figures may be higher.

Savings to health system

- By reducing the numbers of malaria cases SMC reduces health system costs which are significant because:
 - **treatment for uncomplicated cases** of malaria often accounts for between 20% and 40% of outpatient visits to health facilities (Hanson et al), as well as for a high proportion of iCCM services provided in the community; and
 - **severe malaria** (including cerebral malaria) accounts for between 0.5% and 50% of inpatient admissions (Hanson et al)
- These figures will be estimated for 2016 when we have more data

Actual met and unmet need for 2015 (excluding Chad)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Children eligible for SMC (2015)	2,365,703	415,622	2,897,966	3,700,000	10,851,345	90,925	20,321,561
Reached by ACCESS-SMC	680,433	201,283	688,228	416,973	792,133	77,208	2,856,258
Reached by other donors	273,614	-	705,417	206,704	180,295	-	1,366,030
Total children reached	954,047	201,283	1,393,645	623,677	972,428	77,208	4,222,288
Total reached percentage	40%	48%	48%	17%	9%	85%	21%
Total not reached %	60%	52%	52%	83%	91%	15%	79%

Projected met and unmet need for 2016 (excluding Chad)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Children eligible	2,433,851	426,279	2,982,007	3,840,600	11,198,591	93,835	20,975,163
Targeted by ACCESS-SMC	1,349,366	426,279	1,461,520	1,210,499	1,735,602	93,835	6,183,266
Targeted by other donors	1,084,485	0	1,257,146	1,056,127	0	0	3,397,758
Total targeted	2,433,851	426,279	2,718,666	2,266,626	1,735,602	93,835	9,674,859
ACCESS-SMC as percent of total targeted	55%	100%	54%	53%	100%	100%	65%
Gap	0	0	263,341	1,573,974	9,462,989	0	11,300,304
Percent gap	0%	0%	9%	41%	85%	0%	54%

2016 financing projections excluding Chad (based on 2015 unit costs)

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Children targeted for SMC by all partners	2,433,851	426,279	2,718,666	2,266,626	1,735,602	93,835	9,674,859
Cost of reaching children targeted for SMC by all implementing partners (US\$)	\$10,706,363	\$2,081,407	\$11,164,475	\$7,906,983	\$7,785,314	\$761,589	\$40,406,133
Children with unmet need for SMC	0	0	263,341	1,573,974	9,462,989	0	11,300,304
Cost of reaching unmet need (US\$)	\$0	\$0	\$1,081,436	\$5,490,708	\$42,447,715	\$0	\$49,019,859

Cost-effectiveness

- The cost of ACCESS-SMC treatment is **within the range** found by Pitt et al for IPTc which was deemed to be cost-effective in terms of DALYs
- The burden of malaria falls **more heavily on lower economic groups** (Goodman et al) and so SMC is an equitable intervention
- **Household costs should be minimal**, especially where treatment is delivered on a house-to-house basis
- The project has been exploring ways to **make service delivery more cost-effective** – e.g. the use of household, fixed point and mobile approaches, integration with other services, and the use of treatment innovations such as tablet grinders. A cost-effectiveness analysis of these and other approaches will be conducted later

Closing message

- Seasonal malaria chemoprevention
 - has a significant **impact** on child morbidity and mortality;
 - **does not appear to be costly** to deliver especially when compared with the costs of diagnosis and treatment;
 - results in **savings to the health system** and to households.
- Next steps
 - increase **coverage**
 - determine the **most cost-effective** ways to provide services
 - transition services to governments for **sustainability**

Acknowledgements

- Malaria Consortium
- Project Partners
 - CRS, MMV, LSTMH, Speak Up Africa
- National Malaria Control/Elimination Programs
- MOH departments in project countries
- MSH field offices
 - Ghana, Guinea, Mali, Niger & Nigeria
- MSH technical and support staff – especially *Gladys Tetteh, Colin Gilmartin, Gege Buki and Alexandra Kyerematen..*



Thank you

www.access-smc.org

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



ANNEXES

Annex 1. Malaria cases and deaths averted in 2015

	Burkina Faso	Guinea	Mali	Niger	Nigeria	The Gambia	Total
Children <5 reached in 2015	680,433	201,283	688,228	416,973	792,133	77,208	2,856,258
Cases per year per child without SMC (1)	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Total cases per year	587,964	173,929	594,700	360,307	684,484	66,716	2,468,100
% cases of malaria averted due to SMC (2)	42%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Total cases averted in 2015	246,783	73,003	249,611	151,230	287,295	28,002	1,035,924
Total deaths per year per 1,000 children (3)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Total deaths in 2015 without SMC	3,069	908	3,104	1,881	3,573	348	12,883
% deaths averted due to SMC (4)	42%	42%	42%	42%	42%	42%	42%
Total deaths averted in 2015	1,285	380	1,300	788	1,496	146	5,395
Recurrent cost per case averted	\$12.13	\$13.46	\$11.32	\$9.62	\$12.30	\$22.38	\$11.99
Recurrent cost per death averted	\$2,329	\$2,585	\$2,174	\$1,847	\$2,361	\$4,297	\$2,301

Annex 2 – cases and deaths averted data sources

Based on global estimates by Cairns (2012)

(1) 0.86 cases per year per child without SMC was derived from 33.7 million episodes of malaria divided by 39 million eligible children under-five.

(2) 48% of malaria cases averted due to SMC was derived from 14,144,750 cases averted among 33.7 million episodes.

(3) 4.5 deaths per year per 1,000 children was derived from 152,000 childhood deaths from 33.7 million episodes.

(4) 42% of deaths averted due to SMC was derived from 63,651 deaths averted as % of 152,000 childhood deaths.