

# Protecting the Sahel's children with Seasonal Malaria Chemoprevention

Medicines for Malaria Venture discusses the strides made to protect as many children as possible from malaria in the Sahel

In some parts of Africa, more than 60% of malaria cases occur in just 4 months of the year, during the rainy season. Around 39 million African children under 5 years of age live in these regions of defined malaria seasonality, where an estimated 152 000 die each year from malaria.<sup>1</sup>

Most of these young children live in the Sahel and sub-Saharan region, where the World Health Organization (WHO) recommends Seasonal Malaria Chemoprevention (SMC) with sulfadoxine-pyrimethamine and amodiaquine (SP+AQ) for those aged between 3 and 59 months in areas of high seasonal malaria transmission, where SP and AQ remain effective.<sup>2</sup>

SMC is the intermittent administration of full curative treatment courses of an antimalarial during the malaria season. It works to protect children from malaria, as the treatment courses maintain therapeutic drug concentrations in the blood throughout the period of greatest risk.

The WHO estimates that 25 million children under the age of 5 in the Sahel could be protected each year, averting 75% of malaria episodes,<sup>2</sup> and 20 000 deaths a year.<sup>1</sup> At the national level, SMC could also play a valuable role in helping countries reach the pre-elimination stage of control.



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A coordination group comprising malaria-endemic country institutions, malaria control programme managers, and international partners is being established by the West Africa Roll Back Malaria Network (WARN), to coordinate SMC-related activities, and support countries to plan, implement and monitor SMC. As part of the WARN SMC working group, Medicines for Malaria Venture (MMV) has developed an SMC Tool Kit in collaboration with National Malaria Control Programme managers and partners. The kit provides a set of practical tools to help with SMC planning, training, monitoring and evaluation. Building on this, MMV is continuing to support the implementation of SMC in the Sahel sub-region, specifically:

- Supporting the WARN SMC Working Group in coordinating countries and partners with effective SMC planning.
- Working with partners in West Africa to field-test the palatability and acceptability of a viable child-friendly (dispersible) formulation of SP+AQ (in development with Guilin Pharmaceutical (Shanghai) Co., Ltd.) once it is ready for use.
- Identifying at least one new pharma partner to undertake prequalification of a second SP+AQ product to increase drug supply and availability.

## Progress in the scale-up of SMC so far

SMC using trained community health workers has been piloted in four districts in Senegal through the health system. More than 890 000 courses of SP+AQ were administered to more than 180 000 children.<sup>3</sup> High coverage was achieved and the intervention was well accepted by the community. The cost per monthly course per child was USD\$0.50. Combining SMC with home-based management of malaria in Senegal seems to be a feasible and well-tolerated approach, and enables high coverage and effectiveness of both interventions.<sup>4</sup>

In Mali and Chad, Médecins Sans Frontières has administered SMC to more than 175 000 children between 3 months and 5 years of age. Preliminary results from the programme show that the number of cases of simple malaria dropped by 65% in the intervention area in Mali, and by up to 86% in Chad.<sup>5</sup> A significant decrease in cases of severe malaria has also been recorded.

In May 2014, UNITAID awarded a grant to Malaria Consortium (MC) with Catholic Relief Services to lead the 'Access SMC Consortium' to expand access to SMC

across the Sahel. The consortium comprises London School of Hygiene & Tropical Medicine, Management Sciences for Health, MMV, Speak Up Africa, and the Centre de Support en Santé Internationale. As well as implementing SMC, the 3-year project will also address the need to secure a second supplier, thereby helping to guarantee sufficient supply of drugs. The Access SMC Consortium aims to protect 7.5 million children in 2015 in Burkina Faso, Chad, Republic of Guinea, Mali, Niger, Nigeria and Gambia, pending country agreements and supply confirmation. MMV's role will primarily focus on securing global production capacities and ensuring drug availability in light of the increasing demand for SP+AQ.

In support of the continued scale-up of SMC, Guilin Pharmaceutical:

- Submitted the regulatory dossier for co-blistered SP+AQ for registration in all Sahel countries.
- Received WHO prequalification for their co-blistered SP+AQ for 1-5 year olds (SP 525 mg + AQ 150 mg) while the dossier for 3-12 month olds (SP 262.5 + AQ 75 mg) is under assessment with WHO.
- Is developing a child-friendly dispersible formulation.
- Has supplied 9 million treatments of SP+AQ between January and October 2014 - with the potential to protect over 1 million children.

### Looking ahead: what does the future hold for SMC?

We have yet to see a complete region-wide scale-up of SMC, which means there are many challenges ahead to overcome: some known and some unknown. One of the key issues is that given the seasonal nature of the intervention, if sufficient drugs don't reach countries ahead of the rainy season, the opportunity to protect tens of millions of children will be missed for another year. This issue is further compounded by the fact that currently there is only one manufacturer producing SP+AQ. To overcome these issues, it is important that people are sensitised to the importance of SMC and compliance to the drug regimen, adequate funding is mobilised and a second manufacturer of the drug secured.

Another challenge is that there is no child formulation, which can be problematic given that AQ is very



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bitter. As such, there is a need for a child-friendly formulation of the current regimen. There is also the ever-present threat of drug resistance emerging to the current regimen. In one of the pilots in Senegal, an increase in molecular markers for drug resistance to SP+AQ was seen. Although this was not at a level to be concerned about at the time, it points to the need for regular monitoring.

The Ebola outbreak is placing a huge strain on health programmes in West Africa. There is a risk it might push SMC implementation back for some countries. But this is not a moment to falter. Given that Ebola is causing many people to avoid medical centres, there is a risk that malaria-related morbidity may increase, making chemoprevention initiatives like SMC all the more important.

### References

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**March 2014**

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