Seasonal Malaria Chemoprevention:
WHO Policy Recommendation and it's implications for case management

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Seasonal Malaria Chemoprevention (SMC) / Chimio-prévention Saisonnière du Paludisme (CSP):

SMC is defined as

"the intermittent administration of full treatment courses of an antimalarial medicine during the malaria season to prevent malaria illness with the objective of maintaining therapeutic antimalarial drug concentrations in the blood throughout the period of greatest malaria risk".

Key antimalarial interventions & strategies

Prevention

- Insecticide-treated mosquito nets (LLINs)
- Indoor Residual Spraying

In areas of high and stable transmission

- IPT in pregnancy (IPTp)
- IPT in infancy (IPTi)

In areas of high seasonal transmission

- Seasonal Malaria Chemoprevention

Diagnosis & Treatment

- Parasite based diagnosis
  - Microscopy
  - Rapid Diagnostic Tests
- Artemisinin-based combination therapies (ACTs)

Case management service delivery areas::

- Health facilities
- Community Case Management
- Private sector

Surveillance, M & E

- Routine HMIS
- Malaria surveillance and response systems
- Household surveys

Strengthening health systems in endemic countries

Why do we need new interventions & tools?

- None of the current malaria control interventions is completely effective
  - Preventive and curative interventions are both needed
- Opportunity to use existing tools (such as antimalarial medicines) in new ways
  - Lower cost and more rapid then developing completely new tools
- However, each new intervention has a cost to the health system
  - Need to demonstrable additionality of impact
  - Cost effectiveness

WHO Technical Expert Group on Chemotherapy: Consultation on Intermittent Preventive Therapy in children (IPTc): 4-6 May 2011

WHO/GMP convened its Technical Expert Group on Preventive Chemotherapy to *critically appraise all available evidence on IPTc, to determine and advise GMP on:*

- *whether IPTc represents a safe, efficacious and cost-effective tool for the control of malaria in children, and if so, to define:*
  - *epidemiological and geographical settings for optimal deployment of IPTc*
  - *choice of antimalarial medicines*
  - *potential value of deploying IPTc in the context of scaling up existing interventions (CM, ITNs, IRS)*
  - *optimal delivery strategies for IPTc*
  - *knowledge gaps and future investments in research for effective deployment.*

TEG Conclusions

- IPTc renamed Seasonal Malaria Chemoprevention (SMC)
- Monthly AQ-SP administration in areas of seasonal malaria reduced the incidence of clinical malaria, anaemia, and death
- No reported serious adverse events attributed to SMC
- The benefit was also observed in areas with good ITN coverage.
- Geospatial modeling based on known malaria epidemiology suggested that transmission conditions similar to those in the trial settings would be found across the entire Sahel region

GRADING of the evidence

Questions assessed by the GRADE* methodology

1. Does AQ+SP used in SMC (previously known as IPTc) provide protection in children aged between 3 and 59 months in the Sahel region of Africa during the malaria transmission season, during the period of drug administration and for one month following the last dose?
   - Protective efficacy is defined as:
     - prevention of clinical malaria - (Critical),
     - prevention of severe malaria - (Critical),
     - prevention of death - (Important),
     - reduction of anaemia - (Important),
2. Is AQ+SP safe and well tolerated compared to placebo during the period of drug administration and for one month following the last dose?

**Grading of Recommendations Assessment Development and Evaluation (GRADE) methodology*

Expected Benefits*

- Prevents approximately 75% of all malaria episodes
- Prevents approximately 75% of severe malaria episodes
- May result in a decrease in child mortality (1 fewer per1000)
- Probably reduces the incidence of moderately severe anaemia (19 fewer per 1000)
- Does not result in an increase in clinical malaria in the following malaria transmission season after one year of administration
- Serious adverse events have not been reported and are probably rare

**Based on results from 7 studies on SMC conducted in areas of highly seasonal transmission of malaria using AQ+SP monthly for up to 4 months during the transmission season in children less than 5 years of age*

Malaria Policy Advisory Committee (MPAC) - Feb 2012

- **The TEG report and the GRADE review was presented to the MPAC for review and recommendation**
- **The Malaria Policy Advisory Committee (MPAC)**
  - provide independent advice to the World Health Organization (WHO) to develop policy recommendations to control and eliminate malaria.
  - The mandate of MPAC is to provide strategic advice and technical input, and extends to all aspects of malaria control and elimination, as part of a transparent, responsive and credible policy setting process.

Seasonal Malaria Chemoprevention (SMC) / Chimio-prévention Saisonnière du Paludisme (CSP): Policy Recommendation – March 2012

- **SMC is recommended in areas of highly seasonal malaria transmission across the Sahel sub-region.**
  - A complete treatment course of amodiaquine plus sulfadoxine-pyrimethamine (AQ+SP) should be given to children aged between 3 and 59 months at monthly intervals, beginning at the start of the transmission season, to a maximum of four doses during the malaria transmission season (provided both drugs retain sufficient antimalarial efficacy).

Seasonal Malaria Chemoprevention (SMC) / Chimio-prévention Saisonnière du Paludisme (CSP): Policy Recommendation – March 2012

- **Target areas for implementation are areas where:**
  - Malaria transmission and the majority of clinical malaria cases occur during a short period of about four months.
  - the clinical attack rate of malaria is greater than 0.1 attack per transmission season in the target age group, and
  - AQ+SP remains efficacious (>90% efficacy).
- **SMC Contraindications: SMC should not be given to -**
  - A child with severe acute illness or unable to take oral medication
  - An HIV-positive child receiving co-trimoxazole.
  - A child who has received a dose of either AQ or SP drug during the past month.
  - A child who is allergic to either drug (AQ or SP).

SMC – Implications for Case Management

- **Antimalarial treatment policies**
  - The choice of SP+AQ (a non-artemisinin based combination) for SMC allows that artemisinin combinations being reserved for treating clinical cases where the rapid action of artemisinins as a combination partner is most useful
  - Treatment of breakthrough malaria infections during the period of SMC should not include either AQ or SP or combination drugs containing either of these medicines, such as AS+AQ.
    - In areas where SMC is implemented, alternative antimalarial combinations containing neither AQ nor SP must be made available for the treatment of clinical malaria in the target age group.

- **Deployment strategies**
  - While there are several potential approaches to implementing SMC, there is presently insufficient evidence to recommend a standard deployment strategy and individual approaches best suited to local conditions should be used. However, if possible, its delivery should be integrated into existing programmes, such as Community Case Management and other Community Health Workers schemes.

SMC – Implications for Case Management

- **In areas where SMC is deployed:**
  - Drug resistance monitoring and system evaluation should be supported or instituted,
    - Deployment of SP+AQ may increase drug pressure on the malaria parasite and lead to increased parasite resistance to SP and AQ
      - Potential implications for ACTs containing AQ or SP
  - The health system needs to record and monitor AQ+SP doses administered in order to evaluate the impact of the intervention. Existing systems to document severe malaria, malaria deaths, and record confirmed cases of malaria should be strengthened.
  - Pharmacovigilance should be strengthened where it exists, and where it does not, it should be instituted.

SMC Next Steps

- **Implementation Guide**
  - Draft being finalised expected to be printed 3rd quarter of 2012
  - Support to eligible to adopt and implement the strategy
  - Integrate SMC activities into the case management activities in the respective countries
    - Efficacy monitoring of the antimalarials
    - Monitoring programmatic effectiveness of strategy
    - Pharmacovigilance

Thank you