

# Policy Brief

## Budget Impact and Policy Implications of Introducing Artesunate-Pyronaridine (ASPY) into Ghana's Malaria Treatment Mix

### Purpose

To recommend the inclusion of **Artesunate-Pyronaridine (ASPY)** on the National Health Insurance Scheme (NHIS) Medicines List based on evidence from the National Health Technology Assessment system on budget impact, clinical effectiveness and Ghana-specific policy considerations.

### Key messages

- Ghana will manage an estimated 25.06 million uncomplicated malaria episodes over five years (2025 to 2029), driven by population growth despite stable incidence.
- Introducing ASPY can be budget-saving, but only if procurement prices are tightly controlled.
- Under rapid and high uptake, ASPY at list price saves GHS 8.8 million, while a 10% rebate increases savings to GHS 21.9 million.
- A price increase of just 6 to 7% eliminates all savings under high uptake, making price the dominant fiscal driver.
- The NMEP target deployment pathway is programmatically sound, but financially viable only with disciplined pricing.

### Overview

Ghana has positioned itself to eliminate malaria, a disease with long standing disease burden with significant financial and equity impacts. Ghana's population is projected to grow from 35.15 million (2025) to 38.19 million (2029), generating over 5.2 million malaria cases annually by Year 5. Approximately 93.5% of confirmed cases are treated with ACTs, forming the relevant demand base for ASPY introduction. ASPY offers a non-inferior clinical alternative to existing ACTs and contributes to resistance management through diversification of first-line therapies. This analysis assessed whether ASPY can be integrated without increasing NHIS expenditure, in line with ISPOR best practice for Budget Impact Analysis (BIA)<sup>1</sup>.

### Findings

#### Summary Economic Findings

##### *Base Uptake Scenarios (Current programme list price)*

- Gradual uptake: Savings of GHS 6.1 million (5 years)
- Rapid uptake: Savings of GHS 7.7 million
- Rapid and high uptake: Savings of GHS 8.8 million

This indicates that, the savings increase monotonically as ASPY market share rises.

##### *Price Sensitivity (Rapid and High Uptake)*

- 10% rebate: savings of GHS 21.9 million
- 10% premium: cost of GHS 4.3 million
- 20% premium: cost of GHS 18.7 million

<sup>1</sup> ISPOR best practice for Budget Impact Analysis (BIA)

Break-even price increase: approximately 6 to 7% above current programme list price and also below the price of Artemether-Lumefantrine.

#### *NMEP Target Deployment Pathway*

With ASPY market share from year 1 to year 5 being: 6%, 6%, 15%, 25%, 35%.

- Market price: cost of GHS 338 million (5-year cost)
- 10% rebate: savings of GHS 30 million (5-year savings)

#### **Note on financial risks and gains:**

Under all scenarios analysed, the option of onboarding ASPY under the NMEP ASPY deployment strategy at the market prices or leaving prices to be set by market forces was the least attractive option, which consumed a budget impact of GHS 338 million over 5 years, while the same NMEP strategy could lead to optimal savings of -GHS 30 million at 10% price rebate.

## Policy Implications

1. Uptake determines magnitude; price determines direction - higher ASPY penetration increases fiscal gains *only* when prices are controlled.
2. Procurement price discipline is non-negotiable - even modest price premiums reverse savings and create opportunity costs for vector control, diagnostics, and surveillance.
3. Timing of cash flows matters - drug acquisition costs are front-loaded, while savings from reduced failures and complications accrue over time, this requires careful NHIS cash-flow planning.
4. Equity considerations are central - savings of GHS 20 to 30 million could be reinvested in high-burden regions to accelerate the transition from control to elimination.

## Policy Recommendations

1. Adopt the NMEP deployment strategy, but only with a negotiated ceiling price at or below current list price.
2. Anchor procurement negotiations at the break-even threshold ( $\leq 6\%$  price increase and below the price of artemether-lumefantrine) to preserve budget neutrality under high uptake.
3. Pursue accelerated yet operationally feasible uptake, supported by provider training, supply chain readiness, and adherence support.
4. Link ASPY introduction to outcome monitoring, including sentinel PCR<sup>2</sup> surveillance for treatment failure and resistance.
5. Ring-fence realized savings to strengthen vector control, diagnostic quality assurance, and surveillance in high-burden districts.

## Conclusion

ASPY can deliver clinically sound and fiscally meaningful value to Ghana's malaria elimination programme, but only under disciplined pricing and strategic rollout. Over five years, savings range from -GHS 6.1 million to -GHS 21.9 million at base and rebated prices, while even modest premiums generate substantial new costs. Price control, phased scale-up, and rigorous monitoring are essential to ensuring ASPY strengthens in Ghana's malaria elimination agenda.

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<sup>2</sup> PCR (Polymerase Chain Reaction) surveillance is a highly sensitive molecular laboratory method used to detect and monitor the presence of specific genetic material (DNA or RNA) of pathogens—such as viruses, bacteria, or parasites—within populations, environments, or specific settings, rather than just diagnosing individual patients.