

## Drug Class Review Monograph – GPI Class 13 – Antimalarials

Review Time Frame: 02/2016 – 04/2017

*Previous Class Review: 05/2016*

### **Background:**

Antimalarial medications are used to treat and prevent malaria infection, a mosquito-borne disease caused by a parasite. Most antimalarial drugs target the erythrocytic stage of malaria infection, which is the phase of infection that causes symptomatic illness. Classes of antimalarial drugs include:

- Quinolone derivatives (e.g., chloroquine, mefloquine, primaquine, quinine, lumefantrine): possess activity against the erythrocytic stage of infection;
- Antifolates (e.g., pyrimethamine, proguanil): act synergistically to target enzymes involved in folate synthesis, a pathway required for parasite DNA synthesis;
- Artemisinin derivatives (e.g., artemether): act by binding iron, breaking down peroxide bridges, leading to the generation of free radicals that damage parasite proteins and killing blood stages of all Plasmodium species.

### **New treatment guideline recommendations:**

- None identified

### **Newly approved drugs:**

- None identified

### **Newly approved formulations:**

- None identified

### **Newly approved generics:**

- None identified

### **Discontinued drugs:**

- None identified

### **FDA Safety Alerts/black box warnings:**

- None identified

### **Pipeline alerts:**

Agents pending FDA approval include:

- None identified

### **References:**

1. Travassos M, Laufer MK. Antimalarial drugs: An overview. Daily J (Ed), UpToDate. Waltham MA. Accessed May 2017.
2. Centers for Disease Control and Prevention. Malaria. Available from: <https://www.cdc.gov/malaria/index.html>. Accessed May 2017.

3. U.S. Food and Drug Administration. WWW.FDA.GOV. Accessed May 2017.
4. Envolve Pharmacy Solutions internal pipeline database. Accessed May 2017.