and patient can both agree on an individualised action plan aimed at adjusting therapy to minimise any clearly visible low or high glucose patterns, which should result in more glucose values that are in the target range.

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7 Ly TT, Nicholas JA, Retterath A, Lim EM, Davis EA, Jones TW. Effect of sensor augmented insulin pump therapy and automated insulin suspension vs standard insulin pump therapy on hypoglycaemia in patients with type 1 diabetes: a randomized clinical trial. JAMA 2013; 310: 1240–47.

Widening the options for recurrent malaria

The global need for new antimalarial drugs and new combinations is enormous and urgent,1,2 but their successful delivery needs resilience to overcome the barriers imposed by expensive and lengthy clinical development plans. Attention is often directed to areas such as southeast Asia, where some antimalarial combinations are failing but transmission intensities are much lower than in sub-Saharan African countries. Children in Africa have frequent and life-threatening malaria infections as they grow up, and these need to be treated safely.

Pyronaridine-artesunate and dihydroartemisinin-piperazine are two artemisinin combination therapies (ACTs) that exemplify the challenges that arise in the pathway towards licensure and wider implementation. These two drug combinations have a good track record of efficacy3–6 and are approved by the European Medicines Agency (EMA). However, their introduction into first-line therapies in malaria-endemic countries, particularly in sub-Saharan Africa where the global malaria problem is worst, has been sporadic and slow.

Questions about the safety of ACTs (ie, hepatotoxicity for pyronaridine-artesunate and cardio toxicity for dihydroartemisinin-piperazine) might have delayed their endorsement by WHO,7 thereby obstructing adoption into national malaria-control programmes. They are also needed in southeast Asia where other antimalarial treatments are no longer effective when used in conventional doses.8

Adequate assessment of antimalarial drugs should not be restricted to investigating their ability to cure a single infection safely, but to rather account for their overall efficacy in decreasing the long-term cumulative incidence of disease and their prolonged safety when used repeatedly. In high-transmission, malaria-endemic areas, repeated symptomatic malaria infections are common until the acquisition of a degree of immunity against the disease. In highly endemic vivax transmission areas, relapses caused by hypnozoites frequently contribute to repeated clinical episodes of malaria. In The Lancet, Issaka Sagara and colleagues from the West African Network for Clinical Trials of Antimalarial

1080–84.
Drugs (WANECAM) provide reassuring results on the safety and efficacy of pyronaridine-artsunate and dihydroartemisinin-piperaquine in a large, randomised, controlled trial undertaken in Mali, Burkina Faso, and Guinea. For 2 years they followed up a longitudinal controlled trial undertaken in Mali, Burkina Faso, and Guinea. For 2 years they followed up a longitudinal controlled trial undertaken in Mali, Burkina Faso, and Guinea. For 2 years they followed up a longitudinal controlled trial undertaken in Mali, Burkina Faso, and Guinea. For 2 years they followed up a longitudinal controlled trial undertaken in Mali, Burkina Faso, and Guinea.

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The WANECAM trial also shed light on other safety concerns, particularly prolongation of the QT interval and the consequent increased risk of life-threatening arrhythmias. The findings suggested that the incidence of QTcF prolongation was higher after dihydroartemisinin-piperaquine versus artemether-lumefantrine and pyronaridine-artsunate, but no differences were noted between dihydroartemisinin-piperaquine and artsunate-amodiaquine. There were no clinical symptoms or complications associated with the prolongation, and retreatment did not seem to make these findings worse, although the numbers studied were small.

Manufacturers recommend that dihydroartemisinin-piperaquine should be taken under fasting conditions to minimise the risks of a food effect that increases plasma
concentrations of piperaquine and cardiac effects. In the WANECAM study,7 dihydroartemisinin-piperaquine was administered without first imposing a fast, providing further reassurance about safety. The results from this study are also consistent with the opinions of an expert panel convened by WHO to review the cardiotoxicity of antimalarial drugs,11 and with the conclusions of a meta-analysis reviewing the safety of repeated use of dihydroartemisinin-piperaquine.12 They further support the continued use of dihydroartemisinin-piperaquine in malaria-endemic areas.

Rigorous safety assessments of any new drug are necessary to safeguard patients. Generally, risk-benefit analyses of antimalarial drugs also need to account for the life-threatening potential and continuing morbidity associated with malaria. The findings from the WANECAM study support upscaling the use of pyronaridine-artesunate and dihydroartemisinin-piperaquine in sub-Saharan Africa so that they can contribute even more effectively to the global fight against malaria.

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A milestone for palliative care and pain relief

Universal health coverage (UHC) has assumed an iconic place in work to achieve the Sustainable Development Goals (SDGs). Its central importance for achieving SDG 3—ensuring healthy lives for all—is proven by the increasingly sophisticated efforts to measure UHC and to estimate to what extent UHC can be achieved by 2030. An example is the Global Burden of Disease (GBD).1 The GBD team constructed a UHC Index by beginning with the idea of access to quality essential health-care services and access to safe, effective, quality, and affordable essential medicines and vaccines. They then took a collection of tracer indicators, including for vaccines, antenatal care, skilled birth attendance, facility births, antiretroviral coverage, and treatments for several diseases amenable to personal health care. The GBD’s UHC Index was based on a comprehensive assessment of these components. Palliative care and pain relief were not among these measures.

Palliative care and pain relief are some of the most neglected dimensions of global health today. They are