

Assuring effective malaria treatment in Africa: drug efficacy is necessary but not sufficient

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Malaria must be tackled as an economic and social issue.

Resistance of *Plasmodium falciparum* parasites to antimalarial drugs has fuelled an increase in malaria prevalence and malaria specific mortality during the past decade in sub-Saharan Africa.¹ Promising efficacy results from field trials of artemisinin containing combination therapy (ACT) are a source of optimism and numerous African countries are considering changing first line malaria drug policy to ACT to counter high levels of resistance.² However, demonstrated drug efficacy is not enough to guarantee effective malaria treatment in Africa.³ Delivery of effective malaria treatment will not occur unless attention is also focused on the broader socio-cultural, economic, technical, and political environments in which it will be implemented.

Malaria is associated with retarded economic development in Africa and results in annual direct and indirect costs estimated to exceed US\$2 billion.⁴ Intersectoral competition for resources in African countries is severe and social expenditure often receives a disproportionately small budgetary allocation. Within the health sector, the AIDS pandemic has placed an additional burden on limited health resources and, thus, resources available for malaria management are effectively shrinking.⁵ This is occurring at a time when the costs of implementing ACT are substantially greater than previously used treatment regimens. While the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) offers some support for purchasing ACTs, ambiguity remains as to who will finance the implementation costs (including personnel and training costs) of ACTs over time. With the thrust toward health care decentralisation, this places the burden of implementation on district level health management teams, which are already struggling to provide basic services, or on affected individuals through cost recovery schemes. The transfer of malaria prevention or treatment costs to economically marginalised

communities at greatest risk of infection is incomprehensible.⁶

Recently, controversy has erupted, as malaria researchers have confronted the reality that chloroquine and sulfadoxine-pyrimethamine are still being used in areas of known resistance with financial support from international donor organisations. This has resulted in allegations that “despite a policy that names ACT as the gold standard of treatment, World Health Organisation signs its approval when the GFATM funds cheap but ineffective chloroquine or sulfadoxine-pyrimethamine to treat *P falciparum* malaria” and “although GFATM claims it supports only projects that use proven and effective interventions and interventions that work, in Africa in 2003, it allocated more funds to purchasing of chloroquine and sulfadoxine-pyrimethamine than to ACT”.⁷ This published viewpoint included an accusation that “for WHO and GFATM to provide chloroquine and sulfadoxine-pyrimethamine treatments.....at least wastes precious international aid money, and at most, kills patients who have malaria.” WHO and GFATM have denied the allegation, with WHO indicating that since 2001, it had been “actively promoting the use of ACT before resistance to currently used monotherapies reached an unacceptable level”, and would “continue to work with the public and private sectors, and major institutions such as the Global Fund, to make ACTs more widely available through lowered costs, increased access, and technical cooperation”.⁸ GFATM declared that “far from holding up change, the Fund is actually driving one of the fastest policy shifts in history by financing the availability of this treatment.”⁹

The WHO response also raised an important ethical consideration, that of national autonomy, stating that: “Cooperation in international health needs to strike a balance between respect for national autonomy and promotion of international policies and standards.”

Clearly not all autonomous decisions are necessarily beneficent, a conundrum well summed up by the philosopher Engelhardt: “one must often tolerate on moral grounds that which one must condemn on moral grounds”. However, respect for national autonomy cannot serve as an excuse for reduced efforts to secure adequate international funding to ensure that efficacious malaria treatment is available to all endemic areas.

Limited investment and deficient governance has produced dysfunctional healthcare systems in many African countries, with restricted availability and poor quality of infrastructure and services, inadequately trained, paid, and motivated health workers, and declining community confidence in the formal health system, with a detrimental effect on treatment seeking.¹⁰ Dysfunctional pharmaceutical procurement and management (with expiry, loss, and frequent stock-outs of essential drugs), poor drug quality (including sub-standard and counterfeit drugs), and a lack of legal regulation and enforcement activities, coupled with an expanding, often unregulated private market sector, have seen inadequate or inappropriate prescription and dispensing abound with failing standards of care.¹¹ These realities present enormous implementation challenges for even the best formulated treatment policies.

Malaria must be tackled as an economic and social issue.¹² Socio-cultural factors are central in determining malaria risk and persistence.¹³ Health planners must consider community beliefs and practices when developing and implementing health policies, as communities must be reasonably convinced of their value before they will embrace changes.¹⁴ Little attention has been paid to social factors, such as gender, marginalisation, and inequity, which constrain individual's choices and their ability to exercise those choices in illness prevention and treatment.¹⁵ At community level, the most economically marginalised populations are at greatest risk from malaria because of limited resources, substandard education, and lack of access to healthcare facilities. The challenge facing ministries of health is how to extend malaria control to reach those most at risk.

If the full benefits of ACT are to be realised in Africa, then international donors and African governments must continue to actively tackle the broader political, social, economic, legal, and cultural challenges to successful implementation.¹⁶ Rather than only focusing on efficacy, it is time to emphasise these contextual factors that affect programme effectiveness.¹⁷ Having a better understanding of these influences on

malaria treatment policy formulation and implementation, and applying this understanding to improving health service delivery, should facilitate the provision of effective malaria therapy in Africa.

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Public health terminology

Community genetics or public health genetics?

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The current debate on the terms “public health genetics” and “community genetics” is timely because it provokes thought on the values embodied in the usual methods of public health.

The history of public health is full of words: words defining the area of work, words that are then endlessly redefined or replaced by new words, and old words that come back into fashion again. Think of terms like “social medicine”, “social hygiene”, “community medicine”, “public health” The name of this very journal illustrates some of the terminological evolution as it has occurred in Great Britain. It started in 1947 as the *British Journal of Social Medicine*, at a time when the 19th century term “social medicine” had been revived. “Social medicine” was then perceived to have more positive connotations than the term “public health”, which had become associated with old fashioned hygienic practices. The journal first changed its name into *Journal of Preventive and Social Medicine* in 1953, and then became the *Journal of Epidemiology and Community Health* in 1978, after “community medicine” had replaced “social medicine” as the name for the British public health profession.¹

Although the journal has wisely not changed its name a second time, “public health” is again the preferred term in Great Britain, as well as in many other countries, and has largely recovered its positive connotations.

But not among everybody. In a recent editorial in *Community Genetics*, Professor Leo ten Kate rejects the term “public health genetics”, and proposes to use “community genetics” instead, because the second refers to values that are not safe with the first.² The term “public health genetics” has been introduced to denote the interface between genetics and public health, and is used in titles of training courses and names of research groups. It reflects attempts of the public health profession to cope with, and make best use of, the rapid advances in genetics. Genetic tests can, for example, be used in screening programmes for disease or for targeting health promotion interventions.³ “Community genetics”, on the other hand, reflects attempts of clinical geneticists to apply

their counselling methods to the whole population. According to ten Kate, clinical genetics embodies a non-directive approach that is badly needed when genetics is applied at a population-wide level. The public health approach is seen to be too directive, and to have an undue focus on achieving health gains for the population as a whole, instead of helping individuals to make autonomous choices, for example, when it comes to the reproductive options that they face when presented with genetic information.

Even though the contrast between the two approaches may be somewhat of a caricature, this is an interesting debate, because it forces us to reconsider the values embodied in the usual methods of public health. What characterises public health is a focus on improving population health, instead of on the health of the individual who may or may not come into contact with health services. This leads to a preference for collectively organised interventions that actively try to reach everybody in the population, and a reliance on quantitative information that guides interventions in such a way that population health gains are maximised. Often, public health interventions are characterised by a certain degree of paternalism, and the value system of many public health professionals may indeed not be centred around protecting and increasing the individual's autonomy.⁴

But that is changing, for example in the area of health promotion where community based approaches have been developed that aim to reach health goals through empowerment of people, and in

the area of screening where strict rules for implementation have been developed that emphasise informed consent. Recently developed ethics codes such as those of the American Public Health Association also reflect an increasing awareness of the necessity to strike a careful balance between individual autonomy and collective values.⁵ Let us not forget that public health's emphasis on collective action is driven by a desire to achieve equal access to effective health interventions, and that effective

applications of genetics also deserve equal access, even when reproductive options are involved. Nothing is wrong with public health genetics—but it is good to listen to our critics and to reflect on our value systems.

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THE JECH GALLERY

Avoid fornication

"Avoid fornication" is chiselled precisely in cultured Times typeface on a flat, rustic slab set awkwardly into the highly textured and coloured flint nap vernacular wall of this local forest church in southern England.

The search for effective contraception can be traced back to biblical times, but it is only since the advent of the contraceptive pill in the 1960s that women around the world have begun to have effective choice and control over their fertility.

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