

## Achieving progress and impact at the clinic level

Professor William Brieger on the plethora of statistics showing progress in the reduction in malaria, and points to how it is the interventions at the bottom of the health pyramid that are having decisive impact

This year's World Malaria Day, 25 April 2011, has a theme of 'achieving progress and impact.'<sup>1</sup> The Global Malaria Program (GMP) of the World Health Organization (WHO) and the Roll Back Malaria (RBM) Partnership have both published major reports to document progress and impact. We will look at some of these national, regional, and global findings, but ultimately we hope to encourage staff at each public, private, and NGO hospital and clinic in malaria-endemic parts of Africa to take responsibility for demonstrating impact in their own service or catchment areas.

On a global scale the World Malaria Report of 2010 documents the steady, though possibly slowing progress in malaria fund disbursements – up to \$1.8 billion in 2010.<sup>2</sup> The report also showed that by the end of 2010, approximately 289 million insecticide-treated nets (ITNs) would have been delivered to sub-Saharan Africa, enough to cover 76% of the 765 million persons at risk of malaria. Unfortunately only 35% of children less than 5 years of age were expected to have slept under these nets, much lower than the RBM goals of 80% coverage for malaria interventions by the end of 2010.

Other points of progress over nearly a decade include an increase from 5% to 35% in the number of malaria cases confirmed through diagnostic tests. The report also states that, 'Information from manufacturers indicates that the number of ACTs procured has increased in every year since 2005. By the end of 2009, 11 African countries were providing sufficient courses of ACTs to cover more than 100% of malaria cases seen in the public sector,' but concedes that much more progress is needed in meeting treatment goals in most countries.

Moving from the global to the country level, we find the fourth in RBM's Progress and Impact Series No. 4 features Senegal because, 'Since 2005, Senegal has built an effective malaria control program based on strong management and well-defined plans.'<sup>3</sup> The report shows inputs, outcomes and impact. Inputs such as 6 million ITNs and 1 million rapid diagnostic tests led to 45% of children and 49% of pregnant women using ITNs and 86% of patients presenting with a potentially

malarial fever were screened with a rapid diagnostic test in 2009. At the impact level, Senegal reported that:

- under-5 mortality was reduced by 30% between 2005 and 2008/2009;
- moderate anaemia (between 7 and 10 g/dL) in children under 5 dropped from 55% to 48.5% between 2005 and 2008/2009;
- the number of confirmed cases of malaria decreased by 41% in 1 year;
- the lives of 26 800 children under 5 have been saved since 2001, according to the Lives Saved Tool model.

### Examples of clinic and community progress

While we are looking for measurable impact at national level, we must see that impact occur at the local level. Each clinic and hospital in malaria-endemic areas has a responsibility to document improvement in malaria control implementation and declines in malaria morbidity and mortality. In short, impact is achieved one clinic at a time.

Rwanda is recognised as one of the countries that has achieved a major breakthrough in controlling malaria. Two studies show that progress can and should be measured at the clinic level. Amy Sievers and colleagues showed that good hospital records can document pre- and post-implementation changes in health.<sup>4</sup> They made use of the district hospital laboratory and examined records of paediatric admissions. ITNs and prompt treatment with artemisinin-based combination therapy (ACT) was instituted in the district in August 2006. The following December and January during the transmission season follow-up review of admission records was undertaken. Prior to intervention in August, 80% of paediatric hospital cases were confirmed in the laboratory as malaria compared with 48% in December–January.

Mac Otten and colleagues took a wider scope and documented progress at ten district hospitals and ten health centres in the five provinces of Rwanda.<sup>5</sup> In-patient malaria cases and deaths in children less than 5 years old in Rwanda fell by 55% and 67%, respectively, after combination of mass distribution of ITNs to all households and nationwide distribution of ACT in the public sector. Again, accurate clinic records over a 7-year period made the study possible.

Volunteer community health workers (CHWs) also contribute to services provided and progress made

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within the service or catchment area of a clinic. CHWs must also keep good records so that the impact of their services can be measured. An example comes from Akwa Ibom State in Nigeria where staff in 15 local government clinics were trained not only to improve their own skills in providing malaria-in-pregnancy control services, but also to train and supervise the work of CHWs in the 96 villages surrounding their clinics.<sup>6</sup>

Over the period of a year, over 8000 pregnant women in these 15 catchment areas received the required two doses of intermittent preventive treatment (IPT) with sulphadoxine-pyrimethamine to control malaria. The village-based records maintained by the CHWs showed that they were responsible for 81% of the women reached. A follow-up survey showed that the approach combining clinic and CHW provision of IPT reached 65% of the pregnant women in the catchment areas with two IPT doses compared with 27% in catchment areas of neighbouring clinics that did not involve CHWs.

As we have passed the RBM target year of 2010, we now look forward to 2015 and the Millennium Development Goals (MDGs). For example, the target for MDG 4 is 'Reduce by two-thirds, between 1990 and 2015, the under-5 mortality rate.' So far the improvement between 1990 and 2008 in sub-Saharan Africa where most malaria deaths occur is a drop from 184 per 1000 live births to 144.<sup>7</sup> For MDG 6 the target is to halt by 2015 and then begin to reverse the spread of HIV/AIDS, malaria, and other diseases. The recent United Nations MDG report shows wide variation in malaria treatment among endemic countries – from 67% to only 1% of children under 5 with fevers receiving any type of antimalarial drug. This is not good enough to make a major impact on a disease that contributes to at least 8% of child mortality worldwide.

To achieve the MDGs each clinic needs to provide ITNs, IPT, and malaria treatment AND keep good records of the services. They need to reach out to their surrounding communities and train volunteers who can not only extend services but keep good records to verify their accomplishments. If all front-line health workers make the commitment to diagnosing malaria with appropriate tests, delivering timely malaria control services and documenting achievements, we will be closer to actually seeing the progress and impact that is the theme of World Malaria Day 2011.

#### References

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*Clinic records and registers need to be accurate and up to date*



*A nurse checks record books of community malaria volunteers at a monthly meeting in Akwa Ibom State, Nigeria*