Building Partnerships for Dengue Control: The Challenges and Opportunities - Experiences from other Disease Control Programmes

By

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Abstract

The private and commercial sectors represent a great force that can help increase the reach and sustainability of preventative and disease management services. Examples are drawn from diarrhoea disease control programmes, contraceptive marketing and insecticide-treated mosquito nets for malaria control in Africa. Care must be taken to "segment" the market so that public sector resources can be targeted to those who really need it in a way that does not disrupt investments from other partners. Often a neutral task force is needed to mediate and articulate the mutual benefits of the partnerships. Steps in the partnership model include an inventory of capacities, consensus meetings, market research, communications, monitoring plans, etc. Protocols are also available for improving diagnosis and treatment in the private sector. Specific to Aedes control, these examples suggest novel ways of dealing with non-essential containers, safer water jars, copepods and ovicidal soap. Likewise, for disease recognition and management, there may be ways of improving practices in the vast, and largely unregulated, private sector. In short, we need to expand our definition of "community" to include the private and commercial sectors, who can be mobilized to meet mutual "business" and "public health" objectives

Key words: Dengue, Aedes control, Public-Private Partnerships, Community

Dengue control is the epitome of a community-based programme. Since Dr Dr Duane Gubler’s 1989 address “Aedes aegypti and Aedes aegypti-borne disease control in the 1990s: Top down or bottom up?”(1), there has been growing recognition that the public sector cannot “deliver” dengue control to the population, and that “communities” must have more involvement. In the past decade, there has been a great deal of progress in broadening community involvement in Aedes source reduction and improving caretaker recognition of dengue disease and

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appropriate response. However, sustainability and scale have plagued many of these “community-based” control programmes. Other disease control programmes may provide examples of how, in dengue, we can overcome the problems of scale and sustainability through partnerships with the private and commercial sectors. We must, in effect, expand our definition of “community” to include not just households and service groups, but the local shopkeeper as well. An expanded definition of “community” to include the shopkeeper (and the supporting commercial networks) may provide the combination of vertically-structured centralized and community-based approaches deemed necessary for short-term success as well as long-term sustainability²².

The private and commercial sectors represent a great force, for both good and bad, that can be tapped by national dengue control programmes to increase the reach and sustainability of both preventative and disease management services. This working paper will outline first, a model for engaging the commercial sector being used to launch a nationwide insecticide-treated materials (ITM) initiative in Ghana, and a new continent-wide ITM project in Africa. It will also outline how these principles were used for diarrhoea control programme in Latin America, and for contraceptives in Morocco and Indonesia. For dengue control, these partnerships may involve recycling and source reduction, larvicide distribution, coils and fumigants, safer water jars, improved caretaker recognition and demand for quality services in both the public and private sectors.

Common principles

Mutual benefit, market segmentation, neutral task force, consumer-driven

While the first model deals with large-scale manufacturing, distribution and promotion companies for insecticides, nets and malaria drugs, and the second with individual private providers and their clients, the principles are the same. In order for partnerships to work, they must be mutually beneficial. There are examples of successful partnerships in the areas of contraceptives, ORS and diarrhoea control projects (through the promotion of handwashing with soap), showing that public health objectives can also make good business sense: the greater the coverage, the greater the sales volume. Second is the concept of “market segmentation”. Public health delivery systems often serve a disproportionate number of people who can afford to pay. Experiences from ORS and contraceptive marketing show that when these populations are offered convenient, high quality and affordable options through the commercial sector, they are often eager to switch. As those who are able to pay migrate out of the public sector, an opportunity is created to reallocate resources towards the more needy. The commercial partnership can thus be seen as an extension of the national disease control strategy, and not as a competitor or project divorced from the overall programme. Third, partnerships require effort, and often a neutral task force who can work evenly between the ministry and the commercial sector to relieve the ministry of undue pressures or the appearance of favouritism, and to bring
together the needs for equity and public health impact on the one side, and commercial viability on the other. Finally, the marketing plan or health education must be consumer-driven: not based on a prescription of what we think the public should know and do, but what actually motivates families to decide and act, to seek treatment or consume, in one manner or another.

Commercial sector partnerships for insecticide-treated materials in Africa

In January 1998, a global task force was formed with representatives from WHO, UNICEF, the World Bank, and the USAID BASICS project, and representatives from insecticide manufacturers including AgrEvo, Bayer, Zeneca, Cyanamid, the SC Johnson Wax Co. and mosquito net manufacturers including Chemdol, South Africa and the Siam-Dutch Mosquito Net Co. Through a series of discussions, a consensus developed that the public sector and ministry of health cannot on its own adequately promote and distribute ITMs on a large scale. Likewise, the financial risk was too great, and the profit margins too narrow, for the manufacturers to individually create a retail market for their own products. Strategic partnerships between the commercial and public sectors could be formed to share the investments initially needed to research and build a market environment that would result in the mutual benefits of increased product use, access and sustainability. This strategy requires a shift of donor support away from commodity procurement and distribution to sharing the costs of market analysis and the initial health education and promotion to grow the overall market. This donor investment may only be required for the first few years, after which the commercial partners continue promoting the issue of malaria control and marketing their individual products. ITMs are not the first for this type of initiative: successful partnerships for other public health products exist, including ORS, contraceptives, latrines and soap. These other examples show that commercial/public partnerships can provide sustainability (decreased long-term donor dependence); coverage (cost-effective sharing of resources), and equity (market segmentation and decreased burden on the public sector).

Steps in the partnership model

While each partnership is unique, they were established using a common model, with guidelines and protocols available for each of the steps. The steps include, first selecting the relevant public health need, in this case ITMs; then conducting an inventory of company capacities and the competitive market; developing a consensus in the public sector, establishing a commercial/public task force, under the chair of the Ministry of Health; then developing a marketing plan, contracting market research, finalizing marketing strategy, developing promotional materials and launching the campaign. Finally, there are the steps of monitoring and evaluation of public health impact and programme management. After a consensus was built at the global level among insecticide and net manufacturers, donors, UNICEF and the WHO Roll Back Malaria, Task Force for
ITMs, the model was applied by the Ministry of Health in Ghana.

**Initial steps**

**Assessing capabilities, establishing task force, marketing plan and provisional budget**

The assessment of November 1998 showed strong technical and financial support in the government and among the major donors, especially DFID, USAID and the World Bank. Among the potential commercial sector partners, AgrEvo, Bayer, Zeneca and the SC Johnson Wax Co., are present and their products are registered. (This includes both bulk and single-dose formulations of deltamethrin, cyfluthrin and lambda-cyhalothrin). In addition, there are a number of world-class consumer research and promotion agencies that can be contracted, and a number of distribution companies that penetrate the 700 pharmacies, 6,000 “chemical sellers” and 130,000 “table top” vendors throughout Ghana.

The Ministry of Health convened a round table with donors and commercial sector partners in January 1999. A provisional budget of $1.2m was developed for market research and a two-year, nationwide promotional campaign, using radio, TV, “road-shows”, print and interpersonal communication was initiated. This budget includes $190,000 for project management, $133,000 for market research, and $770,000 for advertising and promotion, including mass media, grassroots and trade promotion (detailing). The campaign is two-phased: donors and the four commercial partners will together pay for the market research, strategy development and generic “umbrella” campaign for malaria awareness and the importance of ITMs, using an “overbrand” logo for the range of ITM products endorsed by the ministry. The individual companies then will promote their own products under this umbrella campaign and compete for their share of the overall market share using their own brand name and logo alongside the ministry “overbrand” logo. It is expected that as the commercial sector begins to meet the needs of the middle and higher economic strata, the public sector, Ministry of Health and NGOs will be able to focus their resources solely on those at the very bottom, and strike a balance for a commercially viable, non-donor dependent, long-term and equitable access to ITMs in Ghana.

This model is the framework for a new USAID-supported project “NetMark”, that began on 1 October 1999, to build a sustainable market for insecticide-treated mosquito nets in Africa. NetMark is a partnership between the US-based NGO, Academy for Educational Development, the SC Johnson Wax Co.(SCJ), a 113-year-old, $5 billion/year company that is a global leader in the marketing of consumer insect control products such as RAID® and OFF!. SCJ has had manufacturing and marketing operations in Africa for more than 40 years and is present in most countries. The other partners are Group Africa, Ltd. (a grass-roots marketing firm based in South Africa), Johns Hopkins University and the U.K. Malaria Consortium. Again, here the strategy is to work with the commercial sector to create awareness and demand for a specific public health issue and product. The
vast majority of the “product” will go through commercial channels and the public sector will concentrate more on sharing in demand creation, policy, monitoring health impact and issues of equity.

Curative services
Working with the pharmaceutical sector and private providers

The model outlined above has also been used successfully to promote contraceptives in Morocco, reproductive health services in Indonesia, handwashing with soap in five Latin American countries and ORS in Bolivia and Côte d’Ivoire. For malaria, a similar approach is being discussed for Kenya, where the Ministry of Health recently changed the first-line treatment from chloroquine to sulfadoxine-pyremethamine (SP). There are potential partnerships with the local pharmaceutical industry to increase public awareness for the need to change from the ubiquitous chloroquine-based “fever powders” and through the pharmaceutical distribution, promotion and detailing network, increase the market share for SP and reduce the share for the chloroquine formulations, as well as other malaria drugs not part of the current national malaria drug policy.

Working with private providers to improve diagnosis and treatment

In many situations, including DHF, private practitioners often provide much or most of the curative care, but are largely ignored in efforts such as the current Integrated Management of Childhood Illness (IMCI) assessment and training activities. But involving private practitioners will require practical quality assessment and improvement methods and tools that can be implemented by peripheral government and NGO organizations. Following is an example of the development and testing of such tools in two sites in Bihar and one in Rajasthan, India, and one site in Java, Indonesia, by Northrup, et al., 1998(4).

Two tools were developed. First was an assessment methodology, the verbal case review (VCR), a delayed household exit interview of mothers who had taken their sick, under-5 child to a practitioner in the previous two weeks. The VCR asks the mother to recall specific actions taken by the practitioner in history-taking, physical examination, treatment and counselling of the child, and in the analysis compares those results to the national and international guidelines. The second tool is an intervention approach called by its acronym, INFECTOM, consisting of four components: Information about national protocols, Feedback comparing practitioners’ behaviour with those standards, Contracting with those providers for specific case management actions and Ongoing Monitoring, with VCR results relative to the actual promises and contract.

The verbal case review was developed because most of the current, quality evaluation tools, which require direct observation and exit interviews with patients immediately after the clinical encounter, are impractical in many settings. For example, it is difficult to observe itinerant private providers or drug vendors, when the busy private provider finds it an intrusion and
refuses to participate, or when it takes a long time to accumulate enough exit interviews to make an adequate sample size of patients. The VCR is a combination of the exit interview methodology of the WHO Health Facility Survey and the Verbal Autopsy. It screens for cases through a household survey to identify under-5 children sick in the last two weeks. The instrument is then used to ask mothers of the sick children to recall the case-management practices that took place during an encounter with a practitioner for a particular illness. Instead of determining through direct observation whether the provider “checks the child’s fever with a thermometer” the VCR asks the mother if that action was performed. However, in India it was found that mothers were unable to say what medicines were used other than type (tablet, syrup, ORS, injection, etc.). Thus, for malaria purpose, it is necessary for interviewers to have samples of medicines to show the caretaker. For DHF, questions might also include use of a blood pressure cuff, tourniquet test, etc.

The second tool, INFECTOM, then uses the VCR data to implement quality improvement. In the first stage, group meetings were held to inform the private providers of national guidelines and the discrepancies with VCR results. In the Bihar study, 44 out of the 67 private providers mentioned by mothers in the VCR study, attended, at their own expense, a two-day seminar. Following the seminar, community health workers (CHWs) visited all 67 providers and negotiated behavioural “contracts” on specific actions in the guidelines. Two weeks later, the CHWs began monitoring the private providers with additional verbal case reviews and provided them feedback on their actual performance towards the “contract”. This monitoring was conducted twice before the final survey at seven months, which showed a significant improvement in case-management practices for ARI, diarrhoea and fever. The group sessions had only a moderate impact on quality improvement. Evidence from this and other studies that a multi pronged approach is needed to change clinical practice, and that educational outreach through peers (detailing) is more effective than didactic lecturers or simply providing written guidelines.

Another important aspect of this intervention was the information flow facilitated by the CHW, in conducting the VCRs and detailing to the private providers. Numerous studies have shown that patient expectations are an important influence on a provider’s case management practices. Through the VCR with mothers and continuous monitoring and feedback to the community on private provider performance, the interventions hoped to create an environment in which the community would have information on expected quality standards, and act upon providers to deliver good quality care: “consumer education” in other words. In adapting these methodologies to quality of care for the management of dengue and dengue haemorrhagic fever, this would include “consumer” information on appropriate DHF management protocols, and the added expense and dangers of “inappropriate” therapy, especially unnecessary injections and infusions. Patients should be encouraged to use (and pay for) appropriate services and avoid the others.
In summary, there are examples, models and protocols for engaging the private and commercial sectors, largely taken from malaria control programmes, which may have some application to DHF control strategies. First, there is great potential for developing commercial sector partnerships for increasing the reach and sustainability of ITMs. Second, there is potential for engaging national pharmaceutical manufacturing and distribution companies for promoting the malaria treatment endorsed by national policy, and reducing the “market share” of those drugs not approved. Finally, there are examples and protocols available for a systematic approach to improving the quality of care in the private sector.

**Private and commercial sector partnerships for dengue control**

As mentioned in the introduction, partnerships may involve: recycling and source reduction, larvicide distribution, fumigants, safer water jars, improved caretaker recognition and demand for quality services in both the public and private sectors, and other tactics.

Collection and recycling of unnecessary domestic water containers is of course an area that demands commercial sector partnerships. Commercial marketing may also be applied to the distribution of copepods or ovicidal soap. Initial contacts have been made with the Cyanmid International Company in Singapore to explore potential partnerships for retail marketing of Abate® in other countries in the region, but there needs to be further discussion on the advisability of pushing temephos into the mass market. Two immediate dangers could be: pressure for increased insecticide resistance, and a ‘chemical dependence’, i.e. that householders will rely on a chemical fix, rather than ‘home hygiene’, source reduction etc.

In Yangon, Myanmar, much of the Aedes aegypti breeding was found to be in vases for cut flowers on the household alters, where each morning a family member will also place a bundle of burning joss sticks or incense. The Ministry of Health, Vector-Borne Disease Control Unit considered the idea of encouraging the joss stick manufacturers to incorporate a pyrethroid insecticide in the incense so that every morning the room would be fumigated. The project was never pursued, but offers intriguing possibilities.

Likewise, in Battambang, Cambodia, there has been consideration of commercial partnerships for marketing safer water jars. The current 400- and 600-litre water jars are nearly impossible to drain and clean, and rarely come with well-fitting covers. The concept here was to market a jar with a small bunghole that could be un-stoppered for draining and cleaning and a well-fitting cover. There was a trial of such water jars in the refugee camps on the Thai-Cambodian border in the late 1980’s, but the effort was not “marketed” and sustained. In Battambang, the “safer water jar” would be promoted and advertised in collaboration with the larger water jar manufacturing businesses.
Behaviour change for Aedes control, caretaker recognition and appropriate treatment-seeking are areas where communication and marketing specialists from the commercial sector could greatly improve the quality of our information, education and communication (IEC) effort. For example, the tourism industry in cities such as Vientiane, can be hurt by a dengue outbreak. Hotels and their marketing agencies can be encouraged to help pay for media placement (as they do in Phnom Penh) and provide the services of consumer research and communications specialists. Camille Saade of the USAID BASICS Project writes: “Milton Friedman’s famous observation that ‘the business of business is business’ may no longer be as accurate as it once was. There is evidence that a growing number of companies are taking on a broader social role, seeking to be one of service to the communities as they serve their own core business interests. Participation in the “Healthy Cities” and dengue control projects would be a natural fit for the hotel and tourism industry.

Finally, for improved quality of clinical care, there are endless anecdotal accounts of mothers paying exorbitant fees for unnecessary injections and medicines. As we promote IEC campaigns for DHF awareness and prompt treatment-seeking, it is equally important that the consumer understands what is appropriate and what is inappropriate therapy. A recent study from Hanoi showed “an unexpectedly high proportion of customers, being "Tu Lam Bac Sy" (their own doctors), deciding themselves which drugs to buy.” That being the norm for most DHF-endemic countries, we need to work much more closely with the private pharmacy network to improve prescribing and referral practices and with the communities and caretakers to improve demand for quality services.

In conclusion, as the epitome of a community-based control programme, by expanding our definition of “community” to include the private and commercial sectors, we can greatly increase the reach and sustainability of dengue control efforts. The private and commercial sectors are an important force, and can be mobilized to meet mutual “business” and “public health” objectives. There are precedents for partnerships in the fields of reproductive health and malaria, and such partnerships can be formed for dengue as well.

References


