

Mectizan Donation Program: evaluation of a public–private partnership

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Summary

The Mectizan Donation Program (MDP) has been perceived as a highly effective public health programme, and as a possible model for addressing future problems in international health. This evaluation examines how the MDP partnership has been functioning from the perspectives of partner organizations. The results of a survey of 25 partners show that the perceived benefits far outweigh the problems, and that the direct costs to the organizations have been minimal. The partnership is rated highly on many aspects of governance and management, with relatively few problems identified. A factor analysis demonstrated that a wide range of factors have influenced the partners' perceptions. The benefits with the largest weights appear to be those related to external perceptions of the organization, and those indicating that the organization feels that its opinions will matter and lead to action in the partnership. The biggest factors influencing the positive perceptions on the governance and management of the MDP partnership appear to be the involvement of senior leaders from different organizations, and being able to agree on priorities. The MDP has been able to involve a large and heterogeneous number of partner organizations through relatively informal mechanisms that rely on goodwill and reciprocity. The survey results show how there was a strong alignment of the MDP with the interests of the various partners, and that a manageable number of problems were addressed and services provided. While having long-term goals, the MDP and the onchocerciasis control programmes have been effective at demonstrating the effectiveness of the approach through regular, professional, and outcome-oriented evaluations. Although the MDP is considered to be central to concerns of national officials, this feature is not rated as high as public perceptions, the internal characteristics of the partnership, or its accomplishments. Similarly, the need to secure resources is not viewed as a major determinant of the partnership's success, perhaps because resources were readily available through Merck and the partner organizations and programmes. These findings, along with the strategic and operational success of the MDP confirm the view that this type of public–private partnership should be pursued vigorously in other areas of public health. Other potential partnerships would do well to examine the characteristics of the MDP partnership, with careful attention to the features of its governance and the management, including a strong alignment of interests with partners, balancing a long-term vision with clarity of roles and intensive management of coordination, and professional and results-oriented accountability.

keywords onchocerciasis, mectizan, public–private partnership, governance, evaluation

Introduction

The Mectizan Donation Program (MDP) has played a pivotal role in the control of onchocerciasis in onchocerciasis endemic countries of Africa and Latin America, leading some to describe it as one of the great medical achievements of the 20th century (New York Times Magazine 1989). International attention is increasingly focused on the potential of public–private partnerships in health (Ahn *et al.* 2000; Buse and Waxman 2001; Ridley *et al.* 2001; Widdus 2001). By becoming one of the most successful public–private partnerships in health, the MDP

has been offered as a model to address other serious development and health problems (Etya'ale 1998). Whereas there exists an extensive literature on the health impact of mectizan and onchocerciasis control, the analysis of the organizational aspects of this unusual venture is not as well known. Previous analyses of the organizational aspects of the MDP have described how it was designed and established, and identified the characteristics that helped to develop a successful partnership (Benton *et al.* 2002; Blanks *et al.* 1998; Frost & Reich 1998; Frost *et al.* 2002). Building on this previous work, the objective of this paper is to identify the characteristics of the MDP

partnership that have helped it to be sustained, in order to ascertain lessons for the future of onchocerciasis control and the application of partnerships to other public health interventions. In particular, we examine the partnership between the MDP and international agencies. A separate study examines the partnerships at the national and local level used in the distribution of ivermectin to assess the impact made on national and local health systems (Burnham & Mebrahtu 2004). Both studies are part of a series of evaluations of the MDP, which also includes an assessment of the health impact (Tielsch 2004) and economic effects (Waters & Rehwinkel 2004) of the programme.

The MDP provides the mechanism through which Merck donates the drug ivermectin for the treatment of onchocerciasis. Merck's goal in creating the MDP was to assure that ivermectin is available to those who need it and that good medical practice and approved prescribing procedures are used when the drug is distributed, including the monitoring of adverse reactions (Mectizan Donation Program 1999). Merck wanted an independent body to develop guidelines for community-based mass treatment programmes and an application procedure to ensure the ability of applicants to implement their plans safely and effectively (Dull & Meredith 1998). Merck was also concerned that the distribution mechanisms would prevent the drug from being diverted to the black market or for veterinary use. Although Merck had originally asked the WHO to form a partnership with it to distribute ivermectin, WHO was unsure of its ability to form a legal partnership with a private for-profit firm, and both WHO and Merck were concerned about potentially making negative assessments about the capacity of individual governments to implement treatment programmes (Frost *et al.* 2002). In 1987, Merck asked Dr William Foege to form a committee of experts that would oversee the technical aspects of its donation and distribution programme. At the time, Foege was the executive director of the Task Force for Child Survival and Development at the Carter Center. As a former director of the Centers for Disease Control, Foege had been a leader in the global campaign to eradicate smallpox (Dull 1990).

The MDP is linked to several other partnerships, including regional programme partnerships at the international level [the Onchocerciasis Control Program (OCP), the African Program for Onchocerciasis Control (APOC), and the Onchocerciasis Eradication Program of the Americas (OEPA)] and country level partnerships [non-governmental development organizations (NGDOs) coalitions and national onchocerciasis task forces] (Drameh *et al.* 2002; Mariko 1998; Onchocerciasis Control Program 1998). It may not be possible to separate the

MDP partnerships from extended partnerships set up at the regional or country level, and this evaluation was not intended to isolate them. It is clear that experiences in the regional programmes and country programmes influence people's perception of the MDP itself. In many respects, experience from the OCP, which concluded at the end of 2002, may have had a subsequent effect on the MDP and other programmes. The existence of other partnerships in onchocerciasis control is an important part of both the strengths and weaknesses of the MDP. Nonetheless, for this analysis, we focus our interpretations to the MDP partnerships with international organizations, and not specifically about the partnerships within the regional and national onchocerciasis control programmes.

The MDP and the partnerships

The organization of the MDP is designed to deal with its international partners, and includes the Mectizan Expert Committee (MEC) and the MDP Secretariat (Fig. 1). The MEC is made up of six independent experts in public health and tropical disease, along with liaison members from the Centers for Disease Control, the World Health Organization (WHO) and Merck. The MDP Secretariat includes three branches: the Mass Distribution Program in Atlanta, USA, the Humanitarian Branch in France which provides ivermectin to hospitals and clinics for treatment of individuals, and the Whitehouse Station, NJ, USA branch, which provides administrative support (Thyelfors 2002). The MEC and the Mass Distribution Program are the main points of interaction of Merck with international organizations, ministries of health, international and local non-governmental development organizations, along with their participation in the regional coordination programmes for the treatment of onchocerciasis.

The MEC reviews all new applications for distribution of the drug in community-based mass treatment programmes to ensure that the new programme will be able to meet its requirements for safe and effective distribution, monitoring and reporting. The MEC provides technical advice to applicants on the implementation of proposed treatment programmes, and is responsible for monitoring programme activity. The committee reviews annual reports submitted by the treatment programmes that document the number of persons treated, the remaining inventory of ivermectin and any adverse reactions. These two functions help to build a relationship between the implementing organizations and the MDP (Frost & Reich 1998). In addition, the MEC collaborates with the technical and implementation committees of the African regional programmes for onchocerciasis control (APOC Joint Action Forum 2001).

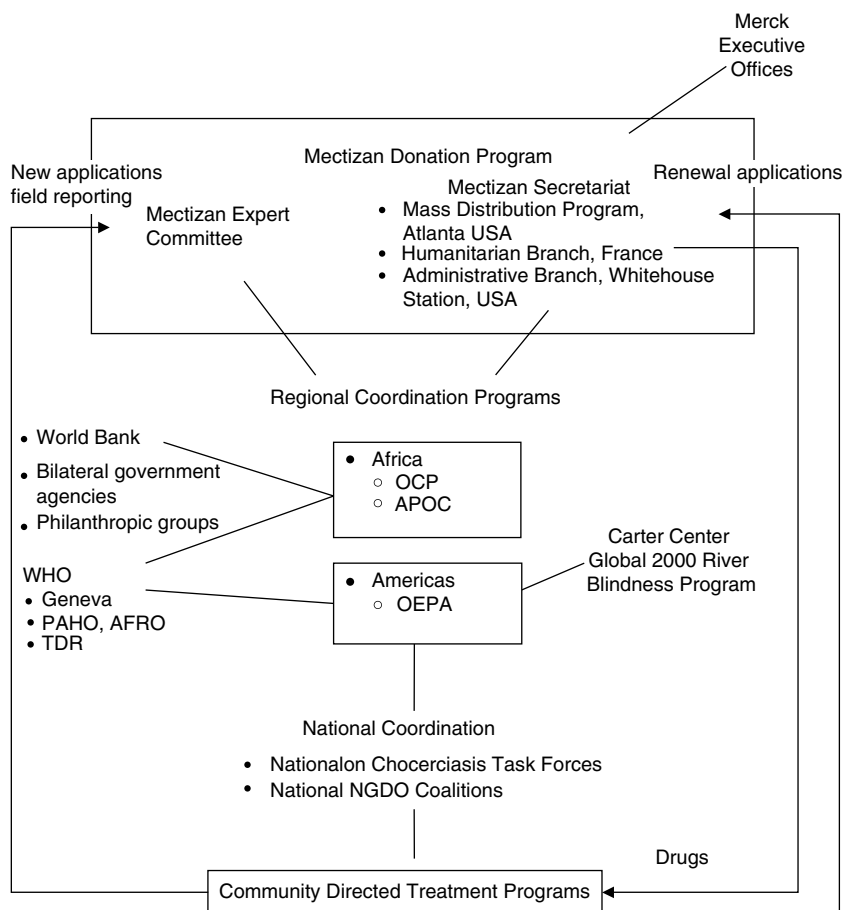


Figure 1 Mectizan Donation Program and partnerships.

The secretariat in Atlanta communicates with programme applicants and Merck’s office of Corporate Contributions regarding the status of applications, and carries out the daily activities of the MEC (Frost & Reich 1998). The Administrative branch in Whitehouse Station, NJ includes the Senior Director of Marketing of Anti-Infectives and the Office of Corporate Contributions. The Senior Director of Marketing of Anti-Infectives liaises with Merck senior management and is responsible for the planning, implementation, and budgeting of the MDP. The Office of Corporate Contributions coordinates the shipment of the drug, and houses the staff of Worldwide Product Donation Policy and Programs (Frost & Reich 1998). At least one staff member from the Worldwide Product Donation Policy and Programs attends annual meetings of the regional coordination bodies, APOC and OCP, the annual NGDO Coordination Group meetings, and any special meetings of individuals and organizations interested in the eradication and control of onchocerciasis. The purpose of their attendance is to build relationships with partners and to

stay in touch with the issues related to the treatment of onchocerciasis with ivermectin (Colatrella 2002).

Conceptual framework on governance and management of partnerships

In this study, we were interested in the role of governance and management of the MDP partnership at the international level, as these are critical to its continued operation. Although there is a wide literature on different models of governance (Carver 1990; Herman and Renz 2000; Mitchell and Shortell 2000), for simplicity, we adapted Gill’s (Gill 2002) description of the main functions of good governance, which fits in with various conceptual models. The main governance functions we examined in the MDP partnership include the following:

- Creating a vision
- Securing resources
- Defining clear roles and responsibilities

- Establishing and monitoring benchmarks for performance
- Accounting to key stakeholders for the organization's direction and performance.

Some of these functions overlap with traditional concepts of management, which in this paper, we consider as being concerned with implementation. In the case of the MDP partnership, we considered the main management tasks to be:

- Implementing the chosen strategies through appropriate structures
- Providing the coordination mechanisms
- Engaging partners' interest in the shared vision and mission
- Promoting discussion and constructive conflict among partners
- Adjusting to changes in the leadership and composition of members
- Implementing monitoring and reporting systems.

We also incorporated the work of Mitchell and Shortell (2000) on health partnerships, which identified seven dimensions of governance and management that are particularly relevant for health partnerships. We refer to these dimensions to identify the organizational issues and barriers to sustainability of the MDP health partnership:

- The nature of the problems addressed: MDP is concerned with a long run improvement in a single problem – the control of onchocerciasis, as opposed to short term or broader based health goals.
- Partnership composition: there are a large number and types of organizations (e.g. governments, non-government organizations, multilateral agencies, grass roots groups, for-profit companies) and people involved in different levels of the partnership (global, regional, national and community partnerships).
- Differentiation: the number of types of activities and goals pursued by the MDP, which includes the mass distribution and individual humanitarian use of ivermectin to support onchocerciasis control. Partners are also involved in vector control, surveillance, reporting, advocacy and other health and development activities, though mass distribution of ivermectin is at the core of the MDP.
- Coordination and integration: The mechanisms of coordination to achieve the goals of the partnership, which in this case depend largely on relatively informal interactions and understandings that are based on norms of trust, cooperation and reciprocity,

rather than by formal contracts, or ownership of assets by a single firm that provides ivermectin distribution services.

- **Accountability:** the mechanisms used by the MDP to justify its actions to its internal and external stakeholders.
- **Centrality:** the importance and influence of the MDP on the power structure concerns of the recipient countries and local communities.
- **Alignment:** the match between the composition of partners and the scope of the problem addressed.

Materials and methods

In addition to reviewing previous reports on the organization of the MDP and its relationship with the international onchocerciasis control programmes; this study used semi-structured interviews with key informants and a self-administered survey of staff involved in the MDP partnership.

Working with the Mectizan secretariat, we identified 21 international organizations and 34 individuals within these organizations who have been active with the MDP at the international level. These organizations include the Carter Center, Merck Executive Offices, the World Bank, the WHO office in Geneva, regional WHO offices – AFRO and PAHO, the regional coordination programmes – OCP, APOC, and OEPA, and the international NGOs. Wherever possible, we identified both the staff person directly involved with the MDP at the operational level and a senior manager involved with strategic planning of the organization. We received completed surveys from 25 persons, including at least one from each of the 21 organizations.

We conducted semi-structured interviews with experts who have worked in various aspects of onchocerciasis control for many years. The purpose of the qualitative interviews was to clarify organizational structures and governance functions, and to help identify important aspects of the partner relationships. These surveys suggested that the costs of the partnership were really quite small and mostly indirect, and could be better phrased as problems rather than costs. Using this expert input and our conceptual framework, we developed the short survey on the partners' views of the benefits, problems, governance and management of the MDP.

The surveys focused on the partners' views on the benefits, costs, governance and management of the MDP. Four-point Likert scales were used for respondents to rate their perceptions of the benefits of the MDP partnership ranging from 1 (no benefit) to 4 (major benefit). The

problems of the programme ranged from 1 (major problem) to 4 (no problem), though a reverse scoring was used in the analysis. The section investigating the dimensions of governance and management of the partnership provided four response options for each statement: 'Strongly Disagree', 'Disagree', 'Agree' and 'Strongly Agree'.

Given the small sample size, statistical analysis is limited, and includes a frequency distribution for each response, and an examination for outlying cases and variables. To help determine if there is a smaller set of components and set of underlying variables that explain the pattern of responses, factor analyses were used (SPSS 2001). To first reduce the number of variables, a principal axis factoring method was used with variables where there were at least 20 respondents. For the governance and management items, the 16 variables having an extraction communality greater than 0.4 were retained in the factor analysis. The variables explained 60% of the underlying variance and otherwise appeared to be a reasonable model (e.g. the Bartlett's test of sphericity P -value < 0.0005). A principal components method was used to find the minimum number of components and variables that explains the variation in responses for the combination of variables. A Varimax rotation was used to minimize the number of identified variables in each component. A similar procedure was conducted for the responses concerning benefits and problems of the partnership, where all 23 variables were retained.

Results

The survey results are derived from the self-reported opinions of 25 key informants who responded to the survey. In Figs 2–4, the bar graphs show the per cent age frequency of responses for each item in the categories of Benefits of Partnership, Problems of Partnership, Governance Characteristics, and Management Characteristics respectively. The items are listed in order of highest to lowest per cent age response for the most extreme rating on the scale (e.g. in the case of Fig. 2, this is labelled as a major benefit), with the responses adding up to 100% for each item.

As shown in Fig. 2, the aspects of the MDP partnership that are rated as giving the most major benefits to partners were the access to populations they have had difficulty reaching (52% of respondents), and the use of other organizations' strengths to help achieve their own organization's goals (44%) and raising their public profile (44%). Interestingly, an increased ability to access resources was the only item where the majority of partners did not feel the partnership was providing at least a moderate benefit (46%). On all other items, more than

60% of respondents felt their organizations were receiving a moderate or larger benefit.

Unlike the high ratings for the benefits of the partnership, very few items were rated as moderate to major problems to the partners (Fig. 3). The largest problems were that the activities may not reach the primary constituencies of the partner organizations (17% reported this as a major problem), and that the efforts of individual organizations may not be recognized (8% as major problem). In contrast, there was little risk of embarrassment to the partners as a result of the MDP partnership (none rated this as a major problem, and only 4% as a moderate to large problem).

The MDP is rated highly in a number of governance dimensions (Fig. 4), the strongest being: the ethical behaviour of the leaders; the respect the MDP has gained in the international health community; and the confidence gained because of commitments from other organizations. The programme was rated highly in the questions concerning the vision of the programme, and the degree to which the programme was aligned with the interests of partner organizations. For example, all respondents agreed that there is a clear and shared vision for the programme, and that objectives of the MDP are important for their organization, with 92% agreeing with the mission and roles of the MDP. Only 13% of respondents saw a moderate or major problem in the MDP competing with their organization.

In terms of securing resources, the MDP rated well in terms of avoiding duplication of investments (64% viewed this as a moderate or major benefit). The majority of partners did not feel that increased access to resources was a moderate or major benefit of the partnership. However, accessing difficult populations was seen as a moderate or major benefit for 88% of respondents. The direct costs of the participating were considered low; few saw the demands for time (8%) or financial costs of participating (8–12%) as being a moderate or large problem.

Another strength of the programme was in the area of performance evaluation and accountability. Four-fifths of respondents felt that the programme uses professional evaluation methods, though 28% felt that the programme did not use feedback loops with communities and countries. Centrality of the MDP to national officials did not figure as prominently as other dimensions of the programme, with 21% of respondents reporting that MDP was not important to national elected officials. However, there was a unanimous opinion that the MDP was respected in the international community. It may be that for onchocerciasis control, international opinion may be a more important motivating factor for these partners than the opinions of country policy-makers.

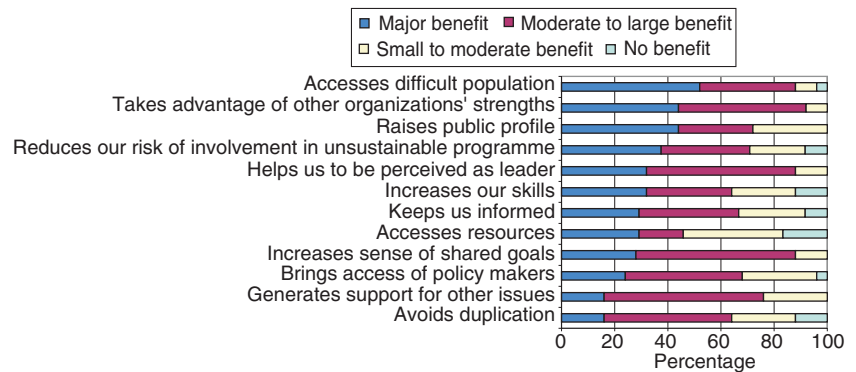


Figure 2 Benefits of partnership with the Mectizan Distribution Program.

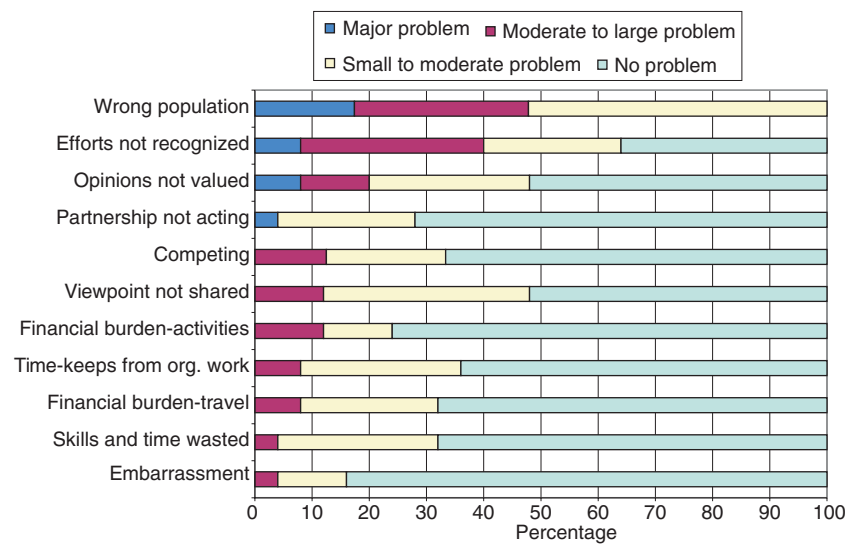


Figure 3 Problems with participation in the Mectizan Distribution Program.



Figure 4 Governance characteristics of the Mectizan Donation Program.

The programme was rated highly on its ability to clearly define roles and responsibilities, though this was not rated as high as other areas of governance and management. For example, nearly one-quarter felt there was a problem in ensuring that people understand the roles played by the

different agencies, while a similar proportion felt that the MDP did not balance responsibilities between countries and partners. In discussing the management of committees of the MDP, 36% believed that they did not create a sense of balance of responsibility.

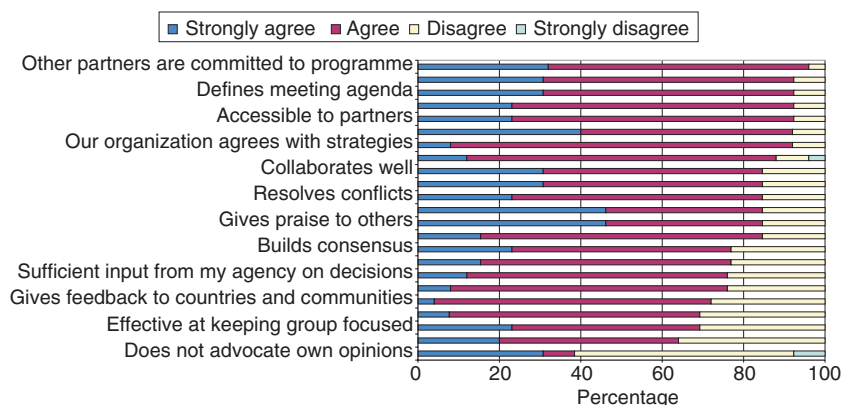
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Figure 5 Management characteristics of the Mectizan Donation Programme.

The MDP was also rated highly in its management performance (Fig. 5). The MDP did well on questions about how well it was able to implement the chosen strategies. Nearly all (92%) partners felt that the partnership management was 'getting things done'; while 72% of respondents felt that the MDP had no problem in accomplishing its objectives. The vast majority (88%) believed that operational plans and budgets were timely and appropriate, with three-quarters believing that the MDP had sufficient operating staff.

The results were more mixed concerning the coordination mechanisms itself, and the ways conflict is handled. Nearly all (85%) agreed that conflict is resolved skilfully; with 77% feeling that consensus building was performed well. More than two-thirds felt that a moderate or major benefit of the MDP was in keeping them informed. However, about 28% felt that the partnership did not provide feedback to communities and countries, and 31% felt that the committees did not communicate well to their agency.

The results of the factor analysis of the benefits and costs help to identify those variables that contribute the most to the total variance of these responses (Table 1). The first component, which accounts for 23% of the total variance, is composed of a number of items that have high correlations in this component and low correlations in other components, and are related to the external perceptions of the partner organization (raising public profile, avoiding embarrassment, and not competing with their own organization). Also, the risks of not having opinions valued in the partnership or the partnership not taking action are also correlated with this component. The second largest component is less clear, but is most influenced by the belief that the partnership increased the skills of the organization, and kept them informed. The third and fourth components are nearly equal in their weighting. The third component highlights the access to

policymakers. The fourth component is composed of two main elements relating to reducing the risk of being involved in an unsustainable programme and not losing time from doing the organization's other work. Finally, the smallest of the principal components is composed of partners being able to access populations they have had difficulty reaching.

Factor analysis of the governance and management aspects of the partnership yielded four main components, which accounted for 68% of the variance in responses (Table 2). The first component, which accounts for nearly 40% of the variance, highlights the involvement of senior leadership and agreement on priorities. The second component, which explains another 10% of the variance, is less clear. The strongest item is the confidence gained by the commitment of other organizations (0.78 correlation). The use of professional evaluations also has a high correlation with this component, but it also has a relatively high correlation with the first component (0.51). The third component is of nearly equal size, and highlights the management of the partnership: having sufficient operating staff. The fourth component highlights three main parameters of governance and management of the partnership: the way it gives feedback to communities and countries, the way it utilizes the skills of many organizations, and the agreement between partners on the strategies.

Discussion

Previous evaluations

There are numerous reports of the donation programme's success in the fight against onchocerciasis in terms of increasing numbers of treatments given, improved coverage of endemic communities, economic value, and descriptions of the benefits to participating organizations and agencies

Table 1 Rotated component matrix showing correlation of benefits of costs of the Mectizan Donation Program partnership with principal components

	Component				
	1	2	3	4	5
Benefits					
Other organizations' strengths	-0.31	0.36	-0.01	0.53	-0.30
Risk reduction	0.16	-0.09	0.28	0.81*	0.29
Access population	-0.13	-0.03	0.06	0.11	0.88*
Access resources	0.26	0.24	0.39	0.59	0.24
Avoids duplication	0.00	0.65	0.02	-0.12	0.54
Perceived as leader	0.30	0.03	0.63	-0.02	0.16
Raises public profile	0.72*	0.29	0.19	-0.14	0.28
Increases skills	0.17	0.82*	0.10	-0.38	0.03
Keeps informed	-0.15	0.80*	0.11	-0.15	-0.30
Access policy makers	0.06	0.19	0.79*	0.14	0.18
Feeling of shared goals	0.44	0.72*	0.16	0.04	0.04
Generates support-other issues	-0.04	0.69	0.16	0.36	0.11
Costs (reverse coded)					
Reaches wrong constituency	0.05	-0.08	-0.06	0.67	-0.07
Time-keeps from org. work	0.06	-0.10	-0.26	0.88*	0.00
Efforts not recognized	0.57	0.25	-0.18	0.15	0.09
Skills and time wasted	0.78	-0.05	-0.09	-0.11	0.02
Opinions not valued	0.88*	0.05	0.09	0.04	-0.15
Partnership not acting	0.82*	-0.20	-0.38	0.12	0.01
Viewpoint not shared	0.57	-0.59	0.16	-0.22	-0.06
Embarrassment	0.76*	-0.17	-0.15	0.17	-0.15
Financial burden-travel	0.42	-0.02	-0.85	0.10	0.07
Financial burden-activities	0.37	-0.10	-0.82	0.07	0.27
Competing with own organization	0.75*	0.08	0.12	0.14	-0.01
Percent of variance explained	22.8%	15.5%	13.4%	13.1%	13.1%

Notes: Extraction method – principal component analysis; Rotation method – varimax with Kaiser normalization; Cumulative percentage of variance explained by components in the model = 72.1%.

* Variable identified with principal component.

(Dull 1990; Benton 1998; Colatrella 1998; Cross 1998; Dull & Meredith 1998; Etya'ale 1998; Nyiama 1998; Mectizan Donation Program 1999; World Health Organization 2002). In the other evaluation studies in this series, the effectiveness of the partnership is described in terms of its strategic and operational performance, and are critical to understanding the value of the partnership. Until the end of 2002, the programme had contributed to preventing 9 89 000 cases of blindness (Tielsch 2004), and added nearly 10 million healthy life years (Waters & Rehwinkel 2004). Onchocerciasis control programmes have been estimated to have an economic rate of return that range from 6 to 24%, with 27 health life days added for each \$1 investment (Waters & Rehwinkel 2004). These achievements have been possible because of the operational scale of the MDP, which has distributed more than 250 million tablets of ivermectin in 34 of the 35 onchocerciasis endemic countries in the world, with an estimated 30 million people receiving at least one dose of the drug (Merck 2002).

The partnership dimensions of the MDP have also been considered a success. Fujisaki and Reich (1997) assessed the contribution of the Special Programme for Research and Training in Tropical Diseases (TDR) to the development of ivermectin for the treatment of onchocerciasis. Their evaluation documents the contributions of TDR in the early stages of development not only in clinical trials, but also to decisions about pricing and distribution of the drug. This ongoing dialogue between Merck and WHO helped to build trust that would later contribute to the development of the MDP.

A 1998 analysis of the MDP and its institutional relationships highlighted three important factors contributing to the success of the donation programme:

- Each participating organization perceived benefits from its collaboration with the other institutions involved in the programme
- The relationship between Merck and the MDP has been characterized by transparency and open

Governance and management items	Component			
	1	2	3	4
Utilizes skills of many	0.16	0.27	0.08	0.80*
Secures resources	0.25	0.63	0.18	0.23
Senior leaders involved	0.86*	0.28	0.17	0.03
Has sufficient operating staff	-0.22	0.10	0.81*	0.18
Balance responsibility between agencies and countries	0.37	0.28	0.55	0.31
Understand roles of different agencies	0.55	0.41	0.04	0.23
Appropriate planning	0.20	0.67	0.34	0.35
Professional evaluation	0.51	0.70*	0.07	0.00
Gives feedback with countries and communities	0.20	-0.01	0.17	0.85*
Uses a clear decision process	0.37	0.65	0.48	-0.03
Sufficient input from our organization in decision making	0.08	0.21	0.69	0.09
A clear and shared vision	0.32	0.12	0.67	0.04
Agree with mission and roles	0.63	-0.05	0.54	0.07
Agree on priorities	0.81*	0.07	-0.01	0.39
Agree on strategy	0.04	0.27	0.12	0.73*
Other organizations commitment gives us confidence	-0.14	0.78*	0.09	0.23
Percent of variance explained	39.7%	10.5%	10.2%	8.5%

Notes: Extraction method – Principal component analysis. Rotation method – Varimax with Kaiser normalization; Cumulative percentage of variance explained by components in the model = 68.8%.

* Variable identified with principal component.

communication, and the visibility and credibility of the MDP's first chairman strengthened the relationship with Merck and other organizations

- The clear separation of Merck's role in providing and shipping the drug from the Expert Committee and Secretariat's role of providing technical expertise and management of the donation programme (Frost & Reich 1998).

Another analysis of the MDP partnership reviewed the international context for the MDP, examining the main stakeholders of the MDP, their concerns and resources, and the extent to which partners have had experience with each other (Frost *et al.* 2002). The authors cite three 'boundary objects' as the main reasons for the successful development of the partnership: ivermectin, the MEC, and William Foege. The characteristics of these 'objects' helped to provide legitimacy to the different stakeholders (e.g. Merck, WHO, Ministries of Health, NGOs) so that trust and cooperation could be built up between the partners. They were also plastic enough to be understood in different ways by the various stakeholders, yet still have a common identity and provide some distance to the main stakeholders. For example, the MEC and its chairman allowed Merck to make donations of ivermectin without having to pass judgment on the capabilities of any national

Table 2 Rotated component matrix showing correlation of governance and leadership aspects of the Mectizan Donation Programme partnership with principal components

government or programme. Their professionalism helped to obtain goodwill among the other stakeholders. WHO, which otherwise was not able to work directly with a for-profit company (Merck), was able to collaborate through this partnership. Since the analysis by Frost and colleagues, Foege no longer chairs the MEC, and additional partner programmes have come on board (APOC).

The results from this study help to explain how the MDP has been able to sustain its partnership beyond the explanations for the success of the initiation period. The factor analyses show that there are not one or two characteristics of the partnership that accounts for its success, according to the partner organizations. Because the analyses did not load on just a few principal components or single variables within the components, it is more likely that multiple dimensions are considered important. When considering the benefits and problems, the largest weight appears to be those elements related to positive external perceptions of the organization, and that the organization feels that its opinions will matter and lead to action in the partnership. The biggest factors influencing the positive perceptions on the governance and management of the MDP partnership appear to be the involvement of senior leaders from different organizations, and being able to agree on priorities.

The survey also supported the qualitative interviews that found that the partnership costs in terms of spending their own funds and time were largely insignificant to the organizations involved. Given the importance of the risks concerning public perception and the potential for wasting their effort, the costs of participation may have been much higher if these important risks had not been addressed so well by the MDP partnership.

The analysis of the response frequencies highlights how partner organizations believe that the benefits have far outweighed the problems to their organizations. The partnership has contributed to programme success in achieving cooperative goals that individual organizations could not achieve on their own. It has improved the public image of partners, and helped ensure that commitments are long term, and able to overcome technical, institutional, and political uncertainties. Although the MDP is considered to be central to concerns of national officials, this feature is not rated as highly as the internal characteristics of the partnership and its accomplishments. Similarly, the need to secure resources is not viewed as a major determinant of the partnership's success, perhaps because resources were readily available through Merck and the partner organizations and programmes.

The partners' high rating of governance and management of the partnership suggest why the MDP has been a sustainable programme, and is likely to remain so. The survey results suggest that some of the success of the partnership may be attributed to the strong alignment of the MDP with the interests of the various partners and the onchocerciasis programmes, and the limited number of problems addressed and services provided. While having long-term goals, the MDP and partner programmes have been effective at demonstrating the effectiveness of the approach through regular, professional, and outcome-oriented evaluations. According to the key informants, it has been the attention to running of the partnership and the communications, rather than any rules about the way the partnerships should work that have been important. The result is that the MDP has been able to involve a large and heterogeneous number of partner organizations through relatively informal mechanisms that rely on goodwill and reciprocity.

The survey results also point to some areas for even further improvement in the management of the programme for the partners. In particular, the public promotion of partner's achievements and in communication between partners is ranked less well. This is bound to be a continuing challenge for any partnership.

It is unlikely that the MDP would have become as successful as it has been if the control programmes

themselves were not well-managed and able to benefit from the advantageous technical features of ivermectin. Ivermectin is a very effective drug for onchocerciasis with few side effects, and can be administered in a single annual dose (Fettig 1998). Ivermectin was able to be provided free of charge, in part because of its low cost and because there is a parallel veterinary market that can still provide earnings to Merck. Nonetheless, it is also clear that the MDP did provide an opportunity to make the programmes more effective, and to enhance the role of partner organizations. The question remains as to whether there are similar opportunities in public health that can build from this success. Can this model of partnership be applied to other programmes? If so, what are the implications for other mass treatment programmes, or for other health campaigns?¹ The scope of this evaluation did not allow for direct comparisons with other public-private partnerships or disease control programmes. It is therefore difficult to determine how much of the success of the MDP is because of well functioning disease control programmes, and how much to the design of the partnership. It is likely that the well functioning disease control programmes and the design of the partnerships have been mutually reinforcing.

Notwithstanding the limitations of this study, we conclude with the following suggestions about the implications of this type of public-private partnership in public health. The obvious response to the success of the MDP is that other similar types of partnerships should be explored with more vigour. The MDP experience may explain the recent advent of other drug donation programmes, including Glaxo SmithKline and the Task Force for Child Survival and Development with the donation of malarone for treatment of malaria in drug resistant areas; Glaxo SmithKline and WHO with the donation of albendazole for the elimination of lymphatic filariasis, Pfizer and the Edna McConnell Clark Foundation with the donation of azithromycin for treatment of trachoma.

Yet donation of an effective drug and assurance of resources for distribution are only part of the story of a successful partnership. We believe that the key factors that have sustained the MDP programme are its governance and management, factors that need to be carefully built into the selection and design of partnerships. Whereas the MDP has not relied on more formal partnership mechanisms, it has required good governance and management, with clarity in the roles, and consid-

¹ The question of application of the MDP to routine health systems is discussed by Burnham and Mebrahtu (2004).

erable amounts of goodwill that have built up over years of successful programme implementation. The more critical factors are the ability to reduce the potential risks to the partner organizations, clearly align the programme goals with the interests of the various partners, and build up trust among partners through involvement of senior leaders in the organizations, and having partnership management arrangements and personnel that are widely seen as legitimate and capable. Without these characteristics, battles over territory between partners pose a risk of overcoming the good intentions of a programme. Although considerable resources were brought to bear by the MDP partnership, the partnership was not formed for the purpose of resource generation, but for improving implementation of a number of programmes pursuing specific long-term health goals. Partnerships where a major aim is to raise revenues should not expect the same results if modelled after the MDP. The MDP experience suggests that extensive effort in coordination of information and activities is an ongoing challenge, and that this is a significant part of its sustainability.

Given that an infrastructure and goodwill exists for mass distribution in onchocerciasis control, it would make sense to attempt to add other types of interventions to these assets. Such a strategy might work if the sponsors of other drugs are partners who are willing to share credit. But it should be noted that one of the areas for improvement in the MDP lies in better promotion of partners' contributions to the success of the programme. In theory, examples of interventions that could build on a mass distribution infrastructure in Africa include: azythromycin for community treatment of sexually transmitted diseases; childhood and maternal immunization campaigns; lymphatic filariasis control; or micronutrient distribution. Such interventions could build on the local infrastructure and experience gained, and may require the use of an agency such as the MDP, and the partnership mechanisms that have been employed. It also makes sense to test how well additional activities in community disease surveillance works through the community distribution channels (Burnham & Mebrahtu 2004).

The MDP has enjoyed success as a partnership, and contributed to a remarkable improvement in the health of millions. Whereas vector control programmes may not become a blueprint for international development, the MDP has become a model for innovation that can address other health challenges. It leaves a legacy of how a public-private partnership can work, demonstrating how the attention to governance and implementation of partnership arrangements can pay off for public health.

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