Partnering to develop products
At the end of the 1990s, the pipeline for malaria drugs was almost non-existent as the pharmaceutical industry did not view the malaria market as a viable investment in view of costs and risks of development versus a relatively small market opportunity. The antimalarials in use were growing more ineffective and were no longer saving lives due to growing parasite resistance. In these markets, where the profit model was inverted, malaria was not an attractive proposition to the developers of new drugs. It is a disease of poorer populations who, although they offer a huge demand for a high volume of newly-developed products, do not have the purchasing power to ensure pharmaceutical companies a return on their enormous initial investment in research and development (R&D).

Product Development Partnerships (PDPs)
were created to address this kind of inequality by focusing on developing new products to respond to health problems prevalent in low and middle income settings. These not-for-profit organisations were formed because commercial incentives had proven insufficient to draw for-profit companies into certain important areas. Medicines for Malaria Venture (MMV) was part of this movement and was created to address the market failure that existed in drug development for the disease. Now in its twelfth year of operations, MMV has matured over time and carved out an identity of its own, having justified its existence and proven the value of its business model. As is often the case, maturity has resulted in greater responsibility and the organisation’s partnership network has grown substantially. These partners are numbered in the hundreds and include universities and research institutions, pharmaceutical and biotech companies, service providers and professional advisors, governments and corporate donors, international and non-governmental organisations (NGOs). Vast information and communication networks exist within and around these collaborations that have a direct impact on MMV’s mission. Ideas and information are created and exchanged through contact and partnership, membership and collaboration, debate and discussion—and range in scale from interpersonal or interdepartmental to global forums and international conferences.

Communicating to influence
MMV’s position within the global health architecture means that, although its mission is unique, it shares goals and objectives with a number of other entities, both within and beyond its therapeutic area. As no one country, company or NGO can address global health challenges like malaria, the donor, stakeholder and communications networks overlap with many other organisations and, depending on the specific health priorities we want to advocate, frequently requires a cohesive and coordinated approach with others, often with the aim of creating influence. While MMV’s principle mission is the discovery, development and delivery of safe, affordable and effective antimalarials, there are many indirect, subtle and nascent responsibilities that support its main goal. Influencing and, if necessary, changing the behaviour of others is a task that is intricately linked to its collaborative business model and its ability to communicate effectively. Nothing is more important in a cooperative system than communication among participants. When people are able to communicate, they are more collaborative and more trusting, and they can reach solutions more readily. No single factor has as large an effect on levels of cooperation as the ability to communicate [1]. Additionally, the people and organisations that communicate have an influential effect on one another and on entities external to the collaboration.

Organisations involved in global health, as in many other sectors, are working more collaboratively than ever before and global virtual teams are the norm, not the exception. MMV’s model is based around collaboration and, as a ‘virtual’ pharmaceutical company, a primary focus is on product development. This is carried out in conjunction with a vast array of other entities. These relationships are formed and maintained through effective communication, teams and committees being formed and disbanded to ensure that this is optimal and transparent. MMV must be able to produce intangible goods and maintain an emphasis on quality for this kind of knowledge-based product as it does for tangible products, i.e. medicines. This communicative aspect supports the organisation in maintaining its image to the outside world and underpins functions such as fundraising or access to essential medicines in endemic countries. Before anything is communicated externally, a collaborative internal process often takes place to ensure the information is generated and executed correctly. This is both reactive and proactive and involves a number of methods, tools and strategies—the eventual message being dependent on the target audience and the desired outcome.

1 15 PDPs currently exist
2 such as drug development for, malaria, tuberculosis (TB), sleeping sickness and visceral leishmaniasis, vaccine development for HIV, TB, malaria, dengue fever, meningococcal meningitis and pneumonia, microbicide development for HIV, and insecticide development for vector-borne diseases.
Advocating the mission
When the target audience is current and potential donors, the overarching desired outcome is to obtain, maintain and increase funding. MMV’s funding comes from government and intergovernmental agencies, private and corporate foundations and individuals. Funding cycles and amounts vary and can depend on a number of factors, including policy and budgetary considerations. The formal process of applying for grants cannot be viewed as a rigid, linear checklist and decisions to fund are never solely based on a set of quantifiable numbers. Conversations exist at various levels of time and space and several years are often invested in relationship-building before significant funds can be raised. Securing and maintaining the interest and commitment of current and potential donors is an on-going, dynamic, increasingly strategised process. Depending on the priorities of specific grantors - drug development, maternal and child health, neglected or tropical diseases, malaria, poverty, the PDP model, global development - MMV may or may not fit with their agenda, something which can change over time. This shift can stem from a number of factors including a change in government, a new business plan, a change in economic climate or a mandated review or report. In order to influence policymakers and behavioural changes amongst grantors, MMV takes part in reviews and committees and holds membership with advocacy and donor groups. Ensuring that we are constantly plugged into the activities of bodies like the Global Health Technologies Coalition (GHTC) the PDP Funders Group or the Roll Back Malaria (RBM) partnership allows us to step into the larger advocacy fray when necessary and relevant, while maintaining our underlying narrative of malaria as a global health priority, the value of the PDP model, the need to invest in R&D, the importance of drugs in the eradication agenda, MMV’s stringent financial and portfolio management, and so forth.

As donors become more strategic in their allocation of funds and calls for PDPs to be collectively assessed, increase, collaboration and competition often overlap and external relations must be adjusted accordingly. While it is vital to recognise the power of partnerships and that certain objectives can only be achieved through collaboration with diverse organisations, MMV has a responsibility to influence policies and agendas, advocate its own mission and objectives using a number of methods and platforms, and show evidence to stakeholders why financing malaria drug development is a savvy investment. Additionally, while progress in tackling the disease can provide a pretext for current donors to turn their attention away, it is important to show why staying the course is necessary. MMV must be clear and transparent in documenting and communicating its use of funds, associated portfolio and access progress, the ultimate effectiveness of its products through well-researched case studies, contributions to the Millennium Development Goals (MDGs) and lessons learned which might benefit the field more broadly. The goal is to anticipate and meet donors’ need for evidence of return on investment.

Communicating with ‘the Market’
Most of the PDPs that have launched products have followed the standard pharmaceutical industry practice by picking ‘low hanging fruit’. Rather than developing entirely new products, they have tweaked existing ones. Even for such low-cost and effective products, however, uptake remains uncertain. As more products come through the pipelines, there are warnings of insufficient funding both for late-stage clinical trials and barriers including weak healthcare systems that make it difficult to administer the product [2]. The global health community is largely aware that, in order for medical innovations to benefit the people who need them, the limited resources on the ground must be recognised. The access and delivery (A&D) of medicines to disease-endemic areas is part of MMV’s mandate. With the overall goal of health impact through the uptake of malaria drugs, this incredibly challenging work is structured around three ‘pillars’: acceptance, expansion and evaluation. The average consumer does not consider it important to know where a drug has come from and how it was developed, so MMV’s messages of reliability, quality and efficiency do not resonate at this level and health communications are directed towards professionals and governments.

Although PDPs have been focused primarily on product development, they share a vision of realising the public health impact promised by new products. Introduction and uptake of MMV’s products remains the first order of A&D business, playing a unique role in advancing the cause of evidence-based decision-making by health authorities and policy makers. National policy decisions regarding first and second-line treatments are becoming significantly more complex and PDPs are often the organisations most familiar with evidence to support decision making. When a new health product becomes available, countries have a choice to adopt the product into their national health systems or to pursue an alternate strategy to address the public health problem. To arrive at sound policy decisions, countries must engage in science- and evidence-based dialogue with expert resources, such as MMV, who act as objective partners in advising on national treatment policy, however the reach into endemic countries can be limited. Generating data, and bringing the data to the attention of country stakeholders, is an important part of catalysing decision-making [3]. MMV is one contributor to this activity as part of a complex decision-making environment and each of the many stakeholders will bring some perspective, history, and perceived conflict. It is critical to note that PDPs do not have direct profit motives when supporting decision-making. The underlying rationale is to help address a public health problem, for which the intervention can be evaluated for its role as one locally appropriate solution. It is more credible for the PDP to engage local stakeholders on technical grounds, and to provide them with the technical arguments they need so that they (rather than the PDP) can take part in the later, more political parts of the decision-making process. [4] MMV faces such challenges, for example with the availability of Artemisinin Combination Therapies (ACTs). Although the World Health Organisation specifically recommends ACTs as first-line treatment for Plasmodium falciparum malaria, the most deadly form...
Communication and collaboration...

of the disease, only one in five antimalarial treatments is an ACT, not enough are produced and although many public health services provide them free, the over-the-counter price of a course tends to be a costly $10. Moreover, most Africans rely not on public health services—which are often poorly resourced and hard to reach—but on the private sector. Within endemic country public sector health systems, where traditional marketing and communication theories cannot necessarily be applied, where life expectancy can be as low as 40 years and health systems are often broken, the impact of products can only be realised after navigating through a myriad of cultural, social, economic and political considerations.

In few individual countries, there may be more extensive involvement in tracking adoption activities and generating local evidence. This local involvement begins with geographical prioritisation based on disease burden, relationships established during clinical trials, in-country resources, and other factors. Strategies adopted by PDPs to establish a presence in endemic countries vary from the opening of country offices to engagement of part-time consultants or with long-term or ad hoc committees. Once a PDP commits to support country decision making, the approaches vary, but include country consultations, regional meetings, formation of regional, product-specific committees, support of in-country advocates, development of decision-making frameworks, provision of technical assistance to aid therapeutic or diagnostic guideline revision, and conduct of stakeholder and Phase IV studies. To reach large numbers of countries, the formation of partnerships is essential. At this early stage, impact data are limited but PDPs can and do play an important catalytic role in their support of country decision making in a number of target countries [4]. MMV and its drug development partners have also made extensive use of country-level dialogues such as sub-regional meetings (of WHO AFRO and RBM) and, in select cases, day-long workshops. These provide opportunities to give product-specific briefings and to reinforce recommendations of normative entities (primarily WHO) in terms of best practice for the development and revision of treatment guidelines and for the correct use of new, quality medications in combination with proper diagnosis [4].

Collaborating in the developing world

Activities of MMV within malaria endemic countries include board membership, scientific advisory participation, partnerships for clinical trials, partnerships to launch access projects, and manufacturing issues. MMV is part of several innovative health communication collaborations in the developing world. For example, MMV is scaling up a project in Tanzania—SMS for Life—that allows rural health workers to report the availability of ACTs using their own mobile phones in exchange for a small SMS credit that goes directly to the individual’s phone. The principle of the project is very simple: the health facility worker keys in the availability of drugs into a normal sms, which is then sent to a central database. Reports are then generated, which can be used by the district health managers, the regional health teams and national programme managers for supply management and addressing supply bottlenecks. Other examples of the uses of the data include predicting future stock outs and actively managing order placement, refining national demand forecasts, predicting seasonal or other changes in supply or need. The system can also be expanded to capture information about the total number of cases of malaria, thus mapping supply and demand information, as well as providing a unique tool to report directly on many donor-required malaria indicators. Long-term use of such data would significantly strengthen supply chains beyond the malaria programme.

In early 2011 MMV signed an agreement with the African Leaders Malaria Alliance (ALMA) agreeing to work together to promote the removal of monotherapies, advocate for national scale-up and correct use of ACTs and Rapid Diagnostic Tests (RDTs), and support the dissemination of best practices relating to ACT and RDT use. These issues are completely aligned with MMV’s own access work. The creation of ALMA in 2009 is an example of the growing political will and shows that heads of state and governments of endemic countries are taking ownership of activities that require collective action and communication. It also provides a forum for African leaders to keep malaria high on the development agenda. As MMV is constantly striving to engage stakeholders and build relationships with decision makers, being a part of such knowledge-sharing forums creates an advocacy platform in line with MMV’s mission. It is also a prime example of how the organisation advocates for behavior change through effective partnering and communication.

Conclusion

As PDPs and their pipelines mature, so will the messaging and advocacy supporting their work. MMV works within systems that are not just built around incentives and rewards but also engagement, communication and a sense of common purpose and identity. While the majority of resources and collaborations are focused on the development of drugs, the communication networks based around the acquisition of funds and the delivery of medicines play a vital role in our mission to help control and eventually eradicate malaria. Within this partnership network, influencing the behaviour of others means ensuring the right information reaches the appropriate audience at the desired time while guaranteeing transparency, consistency and understanding.

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