Interview

Malaria control: learning from the past to create a better future

Dr José A Nájera was born in Madrid, Spain, in 1932. He became a physician at the University of Litoral, Rosario, Argentina in 1954. He studied Tropical Medicine in London and Public Health and Statistics in Madrid. In 1959, Dr Nájera started work as an assistant in the department of virology in the National School of Public Health, Madrid, before joining WHO to train as a Malariologist in 1961, becoming the team leader of a WHO Field Research Project working during the 1960s in Ghana, Uganda, Pakistan and Nigeria. In 1969 he joined the Pan American Health Organization in Washington, DC, USA, where he worked on malaria research, vector biology and control, and eventually became coordinator of malaria, parasitic diseases and vector control. Dr Nájera became the director of the Malaria Action Programme at the WHO HQ in Geneva, Switzerland, in 1982 and, in 1990, director of the newly established Division of Control of Tropical Diseases, until his retirement in 1992. Since his retirement, Dr Nájera has worked as a consultant for various projects, including work with the WHO in the preparation of the Global Ministerial Conference on Malaria, held in Amsterdam, The Netherlands in 1992, participation in meetings of the WHO Expert Committee and Study Groups on Malaria and in the evaluation of antimalaria programmes in Brazil, Costa Rica, Honduras, Iran, Iraq, the Maldive Islands, Mexico, Myanmar, Panama, Sao Tome and Sudan. He remains a member of the WHO Panel of Experts on Malaria. He has also worked with the World Bank preparing documents on malaria control, with the Swedish International Development Agency evaluating malaria programmes in Central America, and with CRESIB/MalERA as a member of the International Advisory Group. He is the author of some 50 papers on malaria.

José A Nájera
Tel.: +34 913 571 019
najera@bluewin.ch

■ **What made you choose to focus your career on malaria control?**

I have always been attracted to tropical medicine. My father worked on African trypanosomiasis and leishmaniasis. When, in 1948, it became possible to leave Franco's Spain, the family moved to Argentina, where I studied medicine. After I finished medical school I studied public health and tropical medicine in London and Madrid. In 1960, the new WHO malaria eradication campaign started to employ young people to be trained in their in their malaria eradication centers, and I joined the course in Jamaica, with practical work in Mexico, Guetemala and Brazil, and in-service training in Africa. Since then I have worked in various positions within the WHO in the field of malaria control.

I became Director of the Division of Control of Tropical Diseases (CTD) when it was created in 1990, as a result of a merger between the Division responsible for malaria control and the Division of Parasitic Diseases. I was Director of the newly formed Division until my retirement in 1992.

■ **What achievements were you most proud of during your time at the WHO?**

As the Director of the CTD, along with Dr Peter de Raadt, the Deputy Director of the Division, a specialist in African trypanosomiasis, we were able to achieve the purpose of the new Division, which was to improve communication between the teams working in control of tropical diseases. Specifically, I am very happy to have had the chance to work on preparing for the Global Ministerial Conference in Amsterdam in 1992, which defined the malaria control strategy that was finally approved by the world at large.

■ **How much has the field changed since you started working on malaria?**

The field has changed enormously. Not only have the problems changed, but the

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perception of the problems and possible solutions have changed. We have lost the exaggerated confidence we had in the 1950s and 1960s that malaria was going to be eradicated.

There have been many sociopolitical changes that have affected work in the field. The financial support of the global campaign has gone up and down, but in particular was very much affected by the economic crises of the early 1970s and 1980s. Therefore, there have been changes over time in how feasible it has been to implement strategies. Now that there is a hugely increased awareness of malaria and this has attracted more international funding, there is a renewed hope that things could change for the better.

■ **Do you think that the current level of funding for malaria control is sufficient?**

I think more important than the question of financial support is the international awareness of the problems that endemic countries have been facing over the last decade. The renewed financial support is a demonstration of that. This awareness will motivate the countries themselves and their external collaborators to start a new movement towards achieving their objective of reducing the burden of malaria.

■ **You have published previously on the history of malaria control: why do you think it is important that we are aware of the history of the disease?**

If we are going to make another attempt at something that in the past was not as successful as we hoped, it is important that we try to understand why the initial attempt did not accomplish what it intended. We need to define what was good and what was not in the original plans. We must look to history if we are to do better in the future than we have in the past.

■ **What has been the history of malaria control over the last century?**

There have been attempts to control malaria for many centuries. However, malaria control developed fast during the first half of the 20th Century, and very good control was achieved in Europe and North America. After World War II, the advent of DDT and the new antimalarial drugs, particularly chloroquine, led to eradication being considered possible. Eventually, the WHO launched a global campaign for eradication. In retrospect, we can identify that there were various problems with this eradication program. After 13 years and a considerable slowdown of progress in the second half of the 1960s, the WHO had to recognize that a global malaria eradication campaign was not feasible in the foreseeable future. In the 1970s and 1980s there was little progress, and the strategy focused mostly on firefighting. In the early 1990s, particularly in tropical Africa, there was a renewed feeling in endemic countries that malaria was one of their most important health problems. In the 1950s, many of the newly independent African nations thought that malaria was mainly a problem of the European colonizers. Therefore, there was not a great deal of national support. Nevertheless, by the 1990s, all African countries recognized that malaria was as much, if not more, of a burden to their people as other public health problems such as AIDS or TB. The Organization of African Unity and the heads of state started debating the malaria problem. This sowed the seeds of what I expect will be the next great move forward in malaria control.

■ **What lessons can we learn from successful eradication efforts?**

If we look at the registry of countries that have achieved local eradication, they are mostly countries that have had a long history of control efforts during the first half of the 20th Century. They viewed eradication as a continuation of the malaria control effort. They based their control on continued investigation of local epidemiology to decide what, where and when interventions should be used. This is what has made their eradication effort successful and allowed them to maintain their malaria-free status. In Europe and North America there has been a continuous flow of imported cases, but the infrastructure has been strong enough to resist any further spread. It is true that there has been considerable socio-economic development

in these countries, which has made conditions less suitable for the spread of malaria. However, it would be a mistake to think that we cannot control malaria until endemic countries become rich. Much can be done now and, even in the last decade, there has been a decline in the malaria problem in many endemic countries, which may be due to general changes in the socioeconomic arena, for example, improvement in housing, and this should be investigated.

■ What were the main factors that meant that the last attempt at global malaria eradication did not succeed?

In my view, a major problem with the last eradication attempt was that the strategy was too rigid and could not adapt to the unexpected. It is essential that future strategies are flexible and able to adapt to changing conditions or new discoveries.

Past programs assumed that one set of interventions was suitable for all regions and did not account for considerable sociocultural barriers. Future programs must include adaptation to and incorporation of different communities. In addition, strengthening of surveillance and epidemiological information, and the recognition of the need for research into all areas (from the biology of the parasite to development of new tools) is needed for the sustained improvement of the situation. We should have a usable vaccine in the relatively near future, and we will certainly have better drugs. In the past the research and development of new drugs was generally the product of war. World War I, World War II and the Vietnam war each led to the investment needed for the development of important new synthetic drugs. Now that we have the continuous motivation of demand from the endemic countries, we can have continued research into drugs and vaccines.

■ Is eradication a feasible goal?

It is a worthy goal to pursue. Global eradication, the total elimination of the malaria parasite, might take some time, and may even be impossible. However, it is feasible to work towards local elimination and prevention of re-establishment. Then, eventually, country by country, we could expect to see eradication. The issue of global warming may affect our plans, but for the moment we have to be hopeful that things will change for the better.

■ What trends do you expect to see over the next 10 years in malaria control and treatment?

I think that it is logical to expect that we will have better tools: vaccines, diagnostics, better drugs, and so on. I also think that we need better infrastructure in order to deliver those tools, and better understanding on the part of affected communities so that they will accept and even demand those tools. I am hopeful that the future will be better than the past, and that we are now entering a new stage in malaria control.

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