



## **Open Labs, Open Minds: Breaking Down Barriers to Innovation and Access to Medicines and Vaccines in the Developing World**

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### **INTRODUCTION: GSK IS CHANGING**

Thank you. It's a great pleasure to be here today. A year ago at Harvard Medical School I set out a new vision for GSK, building on the important work we were doing, but going further.

In that speech I set out how we are changing GSK - making the company more responsive, more flexible and more open. A company actively searching for new ways of working, for new partners. A company willing to take risks, committed to doing all it can to address neglected tropical diseases. A company driven by the values of integrity, transparency and respect for people. A company constantly earning the trust of society, not just by meeting society's expectations, but exceeding them.

Because if you don't have the trust of the societies you serve - you don't have a long term sustainable business model.

To earn that trust you have to be able to change – you have to be flexible, engaged, willing to learn.

It's partly why we created a new volunteering programme - Pulse - last year. Under this programme we will send up to 100 people – key talent – to work for NGOs in poorer communities and societies. These individuals will come back with new ideas, energised and motivated which will help us be better and more effective in the future.

But let's be clear. It only by delivering sustainable financial growth overall, that allows us to be an open, generous company. One in which we can - *sustainably* – address the enormous challenges associated with neglected tropical diseases.

Reinvesting 20% of our profits from the Least Developed Countries back into those same countries – as I set out in my Harvard speech - is sustainable. It gives us the motive to grow our business and gives communities the assurance of a long term funding commitment – not just funding for next year, but the year after that and the one after that. It's a win-win.

This profit is invested in projects to improve healthcare for people living with neglected diseases such as malaria.

Just today we announced four new projects under our Africa Malaria Partnership – working with NGOs in communities in Tanzania, Ghana, Nigeria and Kenya to reduce malaria at the community level.

It would be easy to say the challenges the Least Developed Countries face are too difficult to tackle.

But that is not the sort of company I want GSK to be - nor is it the sort of company our employees want to work for.

I have worked for this company for some 25 years. During that time I have had long stints in Africa and Asia where I have seen what a difference our drugs can make – enabling many millions of people to live longer and healthier lives.

But I believe we can do more to help. However, given the scale of the problem we can only do it in partnership.

So let me give you a flavour of how we are continuing to change and how by adopting a more “Open Innovation” agenda, GSK is adapting its business model to find new solutions to neglected tropical diseases .

### **OPEN LABS, OPEN MINDS – THREE INTERLINKED STRATEGIES**

The most urgent need in the fight against neglected tropical diseases is the need for new and better medicines and vaccines. For that we need to think differently about how we do R&D.

And given the scale of the task we all face, that means finding new ways of industry, academia, NGOs and governments working together.

We are calling this the “Open Innovation” agenda. And it has three parts;

- The first is greater flexibility around intellectual property.
- The second is creating new broad-based partnerships, where researchers have access to our industrial scale expertise, processes, facilities and infrastructure - not just our “know how” or IP.
- Third – and perhaps most interesting – is access to new compounds. Let me explain these three in more detail.

### **Being more flexible with our intellectual property.**

Last year we announced that we would grant access to 800 patents and patent applications – commonly known as a ‘patent pool’ – for researchers working in the field of neglected tropical diseases in the Least Developed Countries.

This was never meant to be a “GSK pool” so I am delighted to say that BIO Ventures for Global Health has agreed to take over the administration of the pool.

When we announced our commitment we should have called it a Proprietary Knowledge Pool because so much more than just patents are included because we also said we would be give access to our general “know how”.

In fact, access to “know how” looks like being the most interesting aspect for other researchers.

Last July, we were excited to announce that Alnylam was the first company join us in adding IP to the pool. Just last week we signed two Memoranda of Understanding – one with the Emory University Institute for Drug Discovery and another with iThemba Pharmaceuticals, a company based in South Africa, working on TB, with financial help from the South African government. Both agreements will give these organisations access to our “know how”.

Sometimes though there is a need for a deeper, more broad-based partnership, where access to our industrial scale expertise, processes, facilities and infrastructure - not just our “know how” - could make a difference to a project

**That is why the second element of our open innovation strategy** is the creation of a new concept called the “Open Lab” which will be part of our dedicated diseases of the developing world research centre in Tres Cantos, Spain.

In the “Open Lab” we will create capacity for up to 60 independent researchers to come and pursue *their own projects* as part of a drug discovery team, allowing them to tap into our expertise, facilities, knowledge and industrial scale infrastructure.

In addition to the resources and benefits-in-kind we are putting into this project, we will also set up a not-for-profit foundation, with seed funding from GSK of \$8 million initially, to help fund these research projects.

The important thing here is that we are not generating the ideas or the projects to work on, rather we are letting universities, not-for-profit partnerships, research institutes, come to us with their projects, and getting them to set out what they think we can do to help *them*. We will soon announce the first two organisations that will come to the “Open Lab”.

The process of drug discovery is one that involves small scientific understandings to build up a story – of how an enzyme might be critical to a disease developing or why one chemical might prevent that enzyme.

What anyone in the field of neglected tropical diseases will tell you is that we need more of these scientific discoveries – and we need new leads.

**That is why the third element of our open innovation strategy is perhaps the most interesting.** This element involves opening up access to our compounds. Malaria remains a huge challenge – and it’s a disease area we, GSK, have extensive expertise.

So we have spent the last 12 months screening two million molecules in our compound library for reactions to the malaria parasite *P. falciparum*, the deadliest form of malaria found primarily in sub-Saharan Africa. This exercise has yielded more than 13,500 ‘hits’ that inhibited the parasite.

It took 5 people working in a special biohazard unit a year to screen the 2 million compounds in our library because it had to be done by hand, given the dangers of working with such a deadly parasite. Normally a screening can be automated and takes 8-10 weeks. This exercise was on a totally different scale.

Today I am pleased to announce that we are committing to make these 13,500 compounds, their chemical structures and associated assay data, freely available to the public on leading scientific websites.

We hope this will encourage further research by the scientific community on the compounds and bring more brilliant minds to bear on this challenging problem.

We believe that we are the first company to make such comprehensive data available.

Taken together - making the compounds available, granting access to our patents and know-how and creating the "Open Lab" - our aim is to encourage new discoveries and encourage others to work with us in the same spirit of open innovation.

## **THE WORLD'S FIRST MALARIA VACCINE**

Let me conclude on a different but related issue and talk about the importance of vaccines in the developing countries. GSK is one of the world's largest suppliers of vaccines. Eighty per cent of all the vaccine we produce goes to developing countries.

Forty percent of all the vaccine we produce is supplied to GAVI. And over the past year, we became the first company to have WHO prequalified vaccines for pneumococcal disease, rotavirus and H1N1 pandemic flu.

Pneumococcal disease is a great example of partnership. GSK is likely to be the first company to supply the \$1.5 billion Advanced Market Commitment (AMC). The AMC is the largest financing mechanism ever designed for a single vaccine and will dramatically increase sustainable access to pneumococcal vaccines with prices at a fraction of the cost paid by industrialised nations.

We are also – importantly - on the cusp of completing the world's first malaria vaccine, which is now in pivotal Phase 3 trials in seven African countries. Of course we don't actually have a registered vaccine yet, and we are in no way taking anything for granted.

But that doesn't mean we shouldn't be thinking now about how we ensure this vaccine – should it make it - gets to all those that could benefit from it.

Each time we have a new vaccine we try to ensure the widest possible access by using tiered pricing – where the poorest countries pay the least. As a result, vaccines in the world's poorest countries are typically a fifth – or less - of the price in industrialised countries.

So far GSK has invested \$300 million in R&D for this vaccine. Our partner, PATH Malaria Vaccine Initiative (MVI), has invested a further \$200 million.

The dilemma we face is this: unlike virtually every other vaccine there is no rich market for our potential malaria vaccine – tiered pricing simply doesn't apply.

So we cannot apply our normal model. It's a unique problem and requires a unique solution. One that is sustainable and incorporates responsible pricing.

Let me describe the principles of how we will price this vaccine.

First, it must be sustainable to allow for continued investment in high quality manufacture and follow on R&D.

Second, we must also ensure that we do not do anything which would discourage other companies from entering into this field. If we set a precedent of not-for-profit we could discourage others from doing research into malaria or other neglected tropical diseases.

We want to avoid that. But we want to be responsible too. That's why what we will do is set a price which covers our costs and generates a *small* return.

A small return, all of which will be ploughed back into R&D for next-generation malaria vaccines and vaccines against other neglected diseases.

In addition to this price commitment we are also committed to donating at least 12.5 million doses of vaccine to PATH.

Whatever the price, what we need is a partnership with donors and recipient countries to ensure access to all those that could benefit. We should be looking now to build on the fine example of the AMC for pneumococcal vaccination.

## **CONCLUSION**

GSK is ready and willing to play its part in tackling global public health problems. Whether we're sharing our compound library or making the world's first malaria vaccine accessible, our goal is the same - to find tailor-made targeted solutions to specific problems. One size really doesn't fit all. We are evolving, becoming more open, and finding new ways of working with others. This is our "open innovation" agenda. Thank you for listening.