



**Unlocking the Medicines of
Tomorrow through Collaborations**

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Unlocking the Medicines of tomorrow through Collaborations

It is my privilege to address you as the Chairperson of GSK India, a company with a rich legacy of over ninety years of serving the unmet and under-served healthcare needs of the country.

Since taking over as Chairperson in April 2019, it has been a busy yet wonderful period of getting to know the entity and brand GSK first-hand. Close interactions with fellow Board members and the senior management have made me appreciate even better the high calibre and principled team at the helm, their vision for the Company and the future they envisage for the Indian healthcare industry.

As you are aware, we have a rich legacy of helping change the burden and impact of disease through innovation and performance. We participate in a broad spectrum of the healthcare market, from prevention through vaccines to high end therapeutic treatments with strong life cycle management in Pharma. Portfolios in each of these businesses have innovative and established products with leading position in major therapy areas, whether it is anti-infectives, dermatology or vaccines.

We no doubt operate, in a challenging and fast-changing industry, however GSK offers an opportunity to capture value and drive performance by applying science to impact human health. In 2018, we restructured our

portfolio, giving us an ability to invest in future growth and yield shareholder returns. Recent performance has demonstrated that our business is growing despite the headwinds.

Since it's only been a few months as Chairperson, I thought I should share with you some of the exciting work being undertaken by GSK plc to unlock the medicines of tomorrow through collaborations.

Advancing genomic research and improve drug discovery

In what promises to be an exciting approach to improve drug discovery, GSK plc has entered into a five-year collaboration with the University of California to establish a state-of-the-art laboratory for CRISPR technologies, the Laboratory for Genomics Research (LGR). The new laboratory will explore how gene mutations cause disease and develop new technologies using CRISPR to rapidly accelerate the discovery of new medicines.

The LGR is the brainchild of Professor Jennifer Doudna, University of California Berkeley (UCB), a co-inventor of CRISPR technology and Howard Hughes Medical Institute (HHMI) Investigator; Professor Jonathan Weissman, University of California San Francisco (UCSF), a pioneer of CRISPR screening technology and HHMI Investigator; and Dr Hal Barron, Chief Scientific Officer and President, R&D, GSK plc.

With the recent explosion of information from human genetics, scientists need powerful tools to understand why small changes in a person's genetic make-up can increase the risk of diseases, an area of science called functional genomics. The most powerful tool in functional genomics, CRISPR, allows this to be done at a scale once thought impossible. Through this research, scientists can discover and develop novel therapies that have a higher likelihood of becoming medicines [1]

The LGR represents a novel hybrid model that brings together industrial and academic researchers under a single roof working on projects both together and independently. The outputs of those research projects will be focused on technologies, new drug targets and biological mechanisms that will foster both academic and industrial advances.

The new laboratory will also be a resource for investigators at both University of California and Howard Hughes Medical Institute campuses, who can access and use its technology to answer their own biomedical or other biological questions, and to develop new tools that explore how genes work.

In keeping with UC's public mission, the tools that are developed in the lab will be described in published papers, subject to intellectual property provisions, and will be available for use

by other academic and non-profit labs.

References : [1] Nelson et al (2015) The support of human genetic evidence for approved drug indications <https://www.nature.com/articles/ng.3314>

Leveraging genetic insights for the development of novel medicines

Equally exciting is the 23andMe exclusive four-year collaboration that GSK plc has entered into to focus on research and development of innovative new medicines and potential cures, using human genetics as the basis for discovery. The collaboration will combine 23andMe's large-scale genetic resources and advanced data science skills, with the scientific and medical knowledge and commercialisation expertise of GSK. The goal of the collaboration is to gather insights and discover novel drug targets driving disease progression and develop therapies for serious unmet medical needs based on those discoveries.

With over 5 million customers, 23andMe offers those with an interest in genetics the opportunity to learn more about their personal genetic profile. 23andMe customers can also choose to participate in research and contribute their information to a unique and dynamic database, which is now the world's largest genetic and phenotypic resource.

GSK brings extensive drug discovery and development capabilities across a broad range

of diseases and modalities, including small molecule, biopharmaceuticals and cell and gene therapies. It will apply its world-class technologies, including access to additional data sources, in-house target validation and genetics expertise, and utilise its manufacturing, commercial operations and scale to support partner activities across research and development.

Together, GSK and 23andMe will focus on translating genetic and phenotypic data into R&D activities that will:

- Improve target selection to allow safer, more effective ‘precision’ medicines to be discovered. Genetic data can significantly improve our understanding of diseases, their pathways and mechanisms, supporting the design and development of more targeted medicines. Use of genetic data in selecting drug targets can increase both the probability of success in a particular indication and avoid unwanted safety risks.
- Support identification of patient subgroups that are more likely to respond to targeted treatments. Scale is critical for the detection of genetic effects in smaller subsets of diseases and patients. With over 80% of 23andMe’s customer base consenting to participate in research, their aggregate and de-identified data could help enable the discovery of a significant number of novel associations from a diverse range

of people, which would not otherwise be possible.

- Allow more effective identification and recruitment of patients for clinical studies. The ability to identify and invite patients with a particular disease, and in some cases, specific genetic subgroups, to participate in studies that are relevant to them could significantly shorten recruitment and reduce clinical development timelines, allowing medicines to be delivered to patients more efficiently.

TESARO acquisition - an oncology focused biopharmaceutical company

In January this year, GSK plc acquired TESARO, Inc. an oncology-focused company based in Waltham, Massachusetts, for an aggregate cash consideration of approximately \$5.1 billion (£4.0 billion). The transaction, significantly strengthens GSK's pharmaceutical business, accelerating the build of GSK's pipeline and commercial capability in oncology.

TESARO is a commercial-stage biopharmaceutical company, with a major marketed product, Zejula (niraparib), an oral poly ADP ribose polymerase (PARP) inhibitor currently approved for use in ovarian cancer. PARP inhibitors are transforming the treatment of ovarian cancer, notably demonstrating marked clinical benefit in patients with and without germline mutations in a BRCA gene (gBRCA). Zejula is currently approved in the US and

Europe as a treatment for adult patients with recurrent ovarian cancer who are in response to platinum-based chemotherapy, regardless of BRCA mutation or biomarker status.

Clinical trials to assess the use of Zejula in “all-comers” patient populations, as a monotherapy and in combinations, for the significantly larger opportunity of first line maintenance treatment of ovarian cancer are also underway. These ongoing trials are evaluating the potential benefit of Zejula in patients who carry gBRCA mutations as well as the larger population of patients without gBRCA mutations whose tumours are HRD-positive and HRD-negative. Results from the first of these studies, PRIMA, are expected to be available in the second half of 2019.

GSK also believes PARP inhibitors offer significant opportunities for use in the treatment of multiple cancer types. In addition to ovarian cancer, Zejula is currently being investigated for use as a possible treatment in lung, breast and prostate cancer, both as a monotherapy and in combination with other medicines, including with TESARO’s own anti-PD-1 antibody (dostarlimab, formerly known as TSR-042).

In addition to Zejula and dostarlimab, TESARO has several oncology assets in its pipeline including antibodies directed against TIM-3 and LAG-3 targets.

Global Health partnership

Closer home, GSK India is also making significant headway in addressing some of the

biggest challenges affecting children and young people in the developing world.

The single-dose tafenoquine for the radical cure (prevention of relapse) of Plasmodium vivax (P. vivax) malaria, was approved by Australian Therapeutics Good Administration (TGA). Two positive phase III studies of tafenoquine were also published in The New England Journal of Medicine.

We have filed for regulatory approvals for tafenoquine in India as well, given the burden of this disease in our country. Working with our partner, Medicines for Malaria Venture, our intent is to drive patient access by providing tafenoquine at an affordable price as part of global efforts to eradicate malaria.

Conclusion

With acceleration in science and technology, most notably perhaps in genomics, we should all expect a shift in the way our industry operates. By using digital, data and analytics in the way we develop medicines and vaccines and interact with patients and HCPs, GSK is poised to take on this rapidly evolving future of healthcare.

We will continue to remain focused on adding value for all our stakeholders and I feel incredibly privileged to lead the next chapter of GSK India, alongside the rest of the Board.

I want to sign off by expressing my deep gratitude to Mr. Deepak Parekh, my predecessor, who served as Chairman and Director of GSK India

for more than 20 years. His visionary leadership has played an invaluable role in the growth and success of the Company and I know that the Board and the management will miss his guidance.

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