

Future of esophageal cancer genomic research in Africa. Source: Simba et al 2022³

Implications

Why is funding EC genomics research important?

Genomics is an invaluable approach in providing information that could be used to predict cancer risk through biomarker discovery, screen asymptomatic individuals, diagnose more accurately and develop targeted treatments. Without adequate financial investment, we will remain far from being able to implement genomic medicine for EC in Africa. This means the EC will remain a health burden in high incidence areas. Funding for EC genomic research will allow for more studies on EC, create a critical mass of African bioinformaticians, and health professionals well versed in genomic medicine.

African genomes in genomic medicine

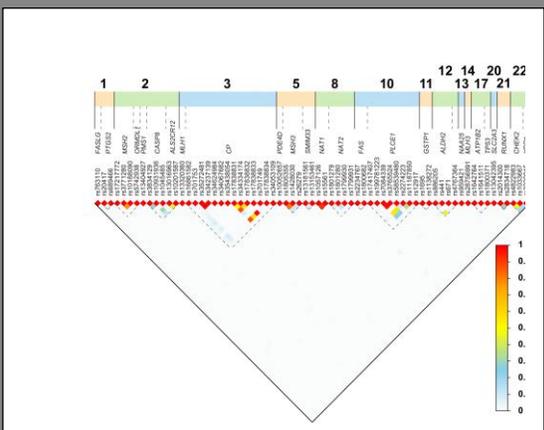
It is important to note that African genomes harbor the most genetic diversity and variation, and yet are the least genetically characterized. Genetic variants of medical relevance therefore remain unknown. For EC this impedes progress on applying genomics in understanding cancer development, tailored screening, and therapeutic interventions, promoting health equity and ultimately reducing the burden of EC in the African Esophageal Cancer corridor.

What are the benefits?

Furthering genomic medicine in Africa requires leveraging existing infrastructure, collaborations learning from the extensive experience of current genomic medicine implementations in other countries. The BMBF can partner with existing collaborations currently working of EC research in Africa mainly under the AfrECC consortium umbrella. \$USD 2 million is needed to support this research for 5 years. Funding will also address the health disparities that currently existing due to Esophageal Cancer genomic medicine lagging in Africa. This is line with the BMGF commitment to tackle inequities in the world. This is therefore an opportunity for the BMBF to use genomics as a tool to address health disparities in EC, bring long awaited answers to this EC hotspot region and reduce the EC disease burden.

Key Findings

- 1 There is lack of genomic studies on Esophageal Cancer in African populations
- 2 The majority of the existing studies are not generalisable and difficult to ascertain true effect.
- 3 There is a lack of financial investment needed to further genomic medicine research and capacity building on Esophageal Cancer in high incidence areas of Africa



Linkage disequilibrium plot showing the number (n=77) of DNA variants (SNPs) investigated in African studies. Simba. Source: Simba et al 2019²

References

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