



A Vector Control Research Alliance

NAS report on gene drive offers important guidance for successful development of new technologies

Target Malaria welcomes the recently published report by the National Academy of Sciences on the use of gene drive. It offers an important contribution to the current debate by outlining clearly the potential and challenges, as well as the path ahead to successfully develop and test gene drive-based technologies.

The report accurately notes that current research on gene drive is at an early stage, and so definite decisions about release cannot yet be made. While scientists have been thinking about the potential of gene drive for some time, it is only recently that we have seen proof of principle experiments for specific applications of the technology. Such progress has been led by several teams, including those who are part of Target Malaria.

Based on current progress, no product based on gene drive technology will be ready for use in less than 5 years. This gives us time to consider the important questions outlined by the NAS report on regulations, risk assessment, and engagement. We need this time, and the pace of discovery does not need to be seen as dictating the pace at which the technology may be put to use.

It is however crucial to recognize that while the report notes that we do not currently have sufficient information to make a decision on use, the report also presents a clear pathway to reach a point where a decision will be possible. Research is progressing and the questions being asked of us can be answered.

The recommendations outlined in the report offer clear and tangible guidance and benchmarks for assessing research projects using gene-drive. Target Malaria is already addressing most of the recommendations made by the report and we will continue to improve our practices to meet these recommendations.

From our perspective, one of the most important messages from the report is that each application of gene drive technology will need to be assessed individually for its potential benefits and risks. One size does not fit all because gene drive is a tool that can be applied in many ways to many different issues. In some cases, its application may be deemed desirable and positive, in others it might not. This is a key message that should be the starting point for a constructive dialogue about how to regulate and use gene drive-based technologies, and will help ensure we have a discussion that is balanced and not built on fear.

Target Malaria also particularly welcomes the emphasis placed on a staged approach to testing and the importance of engagement. Engagement needs to go hand-in-hand with the research process to be meaningful. Proceeding stage by stage allows researchers to work with stakeholders in a manner that builds trust and offers an opportunity for them to participate in decision-making about how the research proceeds. Seeing this embedded in the recommendations is very positive.

Overall, the NAS report clearly outlines both the tremendous potential of the tools that could be created and the challenges we face in realising this potential. It will provide a useful basis for guiding researchers while pointing out the areas where more work is needed to be able to satisfactorily assess gene-drive based technologies.