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Use of modelling to modify trachoma elimination strategies affected by the COVID-19 pandemic

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Models predict that the negative effects of delayed implementation in trachoma elimination programmes caused by the COVID-19 pandemic will be minimal, except in high prevalence districts where progress may be reversed. During times of change we must stand by our principles of evidence-based decision-making, but also be willing to show flexibility. Slow progress to elimination in high prevalence districts was already a significant challenge to the global programme and mitigation of COVID-related delays with enhanced implementation provides an opportunity to simultaneously address an unprecedented challenge and a pre-existing one.

The global trachoma elimination programme has made huge strides in the last 20 y with a large coalition of countries and partners putting the elimination targets tantalisingly within reach.[1] The COVID-19 pandemic has affected every person on the planet and disrupted service delivery on a scale previously unimaginable. There is clearly anxiety that halting implementation will cause a loss of momentum, or even reverse the trajectory of the programme. The modelling papers by Borlase et al.[2] and Blumberg et al.[3] in this supplement are a very welcome contribution to the literature.

The pandemic has brought novel challenges, but also exposed and amplified pre-existing challenges to trachoma elimination. Three of these are how to (1) enhance implementation activities in high prevalence districts that respond slowly to the normal implementation pressure,[4] (2) resolve the conflict between the allocation of time, money and human resources to conducting surveys rather than implementing control activities[5] and (3) conduct at-scale hygiene promotion programmes. This commentary focuses on the first two of these pre-existing challenges in the context of COVID-19.

The position of the International Trachoma Initiative

The International Trachoma Initiative (ITI) reached out to all the donation-recipient countries directly and published our position in regards to azithromycin supply at the beginning of the pandemic.[6] Our support to country-led trachoma elimination programmes is unwavering and azithromycin is available to countries when they are ready to resume activities. The determination of whether they wish to skip an annual treatment or restart mass drug administration (MDA) rests with the country programme: ITI will support country positions, but not prescribe them.

The availability of donated azithromycin is not the limiting factor in the decision to restart MDA. There is sufficient product currently available and the product pipeline remains robust, although the pandemic has affected all aspects of the supply chain. The Zithromax donation for trachoma elimination is contingent on the country programme demonstrating that there is trachoma to be controlled, that the donated medicine can be managed appropriately, that there is a plan for distribution and that funds are available for the distribution. There may be COVID-19-related challenges for each of the four requirements to qualify for a donation, but we stand by these principles.

Surveys

Trachoma elimination programmes are data-driven and rely on up-to-date prevalence estimates of clinical signs for each district. Impact surveys are a necessary and important measure of programme progress and success. The data ensure that donated product is only offered to those who warrant it because they are at risk of trachoma. The model findings suggest that for most trachoma-endemic districts there is little risk to delaying MDA by a year, so districts due for an impact survey should conduct the survey before continuing MDA. Trachoma surveys are supported by Tropical Data,[7] which has provided an excellent service giving great confidence in decision-making and allowing programme scale-up. Tropical Data and partners are capable of showing flexibility in survey design to minimise risk while maintaining epidemiological rigour. The quandary of deciding when to resume field activities should focus on the context-specific risks associated

with COVID-19 and not on the balance between implementing impact assessments vs interventions.

High prevalence districts

Progress to the elimination goals has been slow in high prevalence districts and enhanced intervention strategies—usually promoting increased frequency of MDA—have been promoted.[8] The models predict skipping MDA in these areas will result in the need to add ≥2 y of implementation for each year skipped, but that this can be mitigated by additional rounds of MDA. The Trachoma Expert Committee that advises ITI is enthusiastic about supporting country mitigation plans as they would also address a pre-existing challenge, and recommends that ITI consider making additional azithromycin available for these districts, pending requests from national programmes.

Districts that have sustained high prevalence of clinical signs of trachoma: trachomatous inflammation follicular in the 1-9 year olds, TF_{1-9} (TF_{1-9}≥30% after an impact survey) or that have had ≥8 rounds of MDA without dropping below the elimination threshold are considered to have 'persistent trachoma'. Most districts with persistent trachoma are in northern Ethiopia, which may experience the greatest benefit from mitigation with enhanced MDA.

A high-burden country perspective

Context

The Ethiopia national trachoma elimination programme is coordinated by the National Trachoma Task Force (NTTF), chaired by the Federal Ministry of Health. The NTTF has representation from the Regional Health Bureaus, implementing partners and donors. Currently, there are 602 districts with TF_{1-9}≥5% in the country that warrant intervention. Of these, 213 (35.4%) have TF_{1-9}≥30%, some of which qualify as having persistent trachoma.[9]

Options for mitigation

Meticulous record-keeping allows multiple definitions to be used to define 'high prevalence' or districts with 'persistent trachoma'. Whatever the criteria to define which districts warrant mitigation, there are other programmatic challenges to consider. The current standard of care for people in trachoma-endemic districts is MDA with azithromycin; with mitigation, the frequency of distribution will increase and this may require approval from the Ethiopian Food and Drug Administration. Additional rounds of MDA not only require more donated azithromycin, but also additional logistics capacity for storage, management and transport by the Regional Pharmaceutical Supply Agencies. The cost implications will need to be borne by donors, implementing partners and government; but financial resources are only one of the resources required, personnel time and community fatigue may pose a greater concern. Community members in persistently endemic districts appreciate MDA and are active consumers of the programme but have also been disrupted by the pandemic. Community members will have to prioritise additional MDA to include it with other delayed activities and their continued active engagement will need to be sought by the implementing partners and Regional Health Bureaus.

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