Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.
### eTable 1. Trachoma Outcomes From Conjunctival Photography

The community-level numbers of trachomatous inflammation—follicular (TF) and trachomatous inflammation—intense (TI) are shown for each community at each monitoring visit, as well as the total number of children with a gradable photograph.

|      | **Month 0** |       | **Month 12** |       | **Month 24** |       |
|------|-------------|-------|--------------|-------|--------------|-------|
|      | TF | TI | Total | TF | TI | Total | TF | TI | Total |
| **Grappe** |   |   |     |     |     |       |     |     |       |
| Placebo |   |   |     |     |     |       |     |     |       |
| 1    | 0  | 0  | 40  | 0   | 1  | 40     | 1   | 1   | 40     |
| 2    | 0  | 0  | 24  | 0   | 0  | 28     | 0   | 0   | 30     |
| 3    | 0  | 0  | 38  | 0   | 0  | 28     | 0   | 0   | 42     |
| 4    | 0  | 0  | 40  | 0   | 0  | 41     | 0   | 0   | 41     |
| 5    | 2  | 1  | 37  | 0   | 0  | 38     | 0   | 0   | 40     |
| 6    | 0  | 0  | 38  | 0   | 0  | 35     | 1   | 0   | 41     |
| 7    | 0  | 0  | 22  | 0   | 0  | 19     | 0   | 0   | 24     |
| 8    | 0  | 0  | 40  | 0   | 0  | 40     | 0   | 0   | 42     |
| 9    | 2  | 1  | 40  | 0   | 0  | 40     | 2   | 4   | 43     |
| 10   | 0  | 0  | 40  | 0   | 0  | 40     | 0   | 0   | 39     |
| 11   | 0  | 0  | 40  | 0   | 1  | 40     | 1   | 0   | 40     |
| 12   | 0  | 0  | 39  | 0   | 0  | 40     | 0   | 0   | 41     |
| 13   | 0  | 0  | 40  | 0   | 0  | 39     | 0   | 0   | 41     |
| 14   | 1  | 0  | 39  | 0   | 0  | 40     | 0   | 0   | 41     |
| 15   | 0  | 0  | 38  | 0   | 0  | 40     | 0   | 0   | 41     |
| **Azithromycin** |   |   |     |     |     |       |     |     |       |
| 16   | 0  | 0  | 40  | 0   | 0  | 40     | 0   | 0   | 42     |
| 17   | 0  | 0  | 26  | 0   | 0  | 38     | 0   | 0   | 34     |
| 18   | 2  | 1  | 39  | 0   | 0  | 39     | 0   | 0   | 39     |
| 19   | 0  | 0  | 32  | 0   | 0  | 23     | 0   | 0   | 20     |
| 20   | 4  | 2  | 40  | 2   | 1  | 35     | 0   | 0   | 39     |
| 21   | 0  | 0  | 30  | 0   | 0  | 42     | 1   | 0   | 40     |
| 22   | 0  | 0  | 40  | 0   | 0  | 39     | 0   | 0   | 39     |
| 23   | 0  | 0  | 39  | 1   | 0  | 39     | 0   | 0   | 40     |
| 24   | 0  | 0  | 40  | 0   | 0  | 39     | 0   | 0   | 42     |
| 25   | 2  | 0  | 40  | 0   | 0  | 41     | 0   | 0   | 39     |
| 26   | 1  | 0  | 26  | 0   | 0  | 30     | 0   | 0   | 40     |
| 27   | 2  | 1  | 44  | 0   | 1  | 39     | 0   | 0   | 42     |
| 28   | 0  | 0  | 22  | 0   | 0  | 34     | 0   | 0   | 23     |
| 29   | 0  | 0  | 38  | 0   | 0  | 40     | 0   | 0   | 42     |
| 30   | 0  | 0  | 40  | 0   | 0  | 40     | 0   | 0   | 39     |
eTable 2. Analyses Adjusted for Cluster Population

Poisson regressions were performed comparing counts from the azithromycin and placebo arms at month 24, adjusted for baseline prevalence and baseline cluster population, and incorporating the number of children with test results as an offset.

| Study visit | Incidence rate ratio (95%CI) | P-value |
|-------------|------------------------------|---------|
| TF          | 0.21 (0.009-1.72)            | 0.21    |
| TI          | a                            | 0.99    |
| pgp3        | 1.22 (0.14–8.87)             | 0.84    |
| CT694       | 0.66 (0.26–1.61)             | 0.37    |

\(^a\) Invalid estimates in Poisson regression due to complete separation. A linear regression of community-level prevalence data was performed as a sensitivity analysis, which found the prevalence of TI was 0.7 percentage points lower in the azithromycin-treated communities (95%CI -2.1 to 0.7); \(P=0.33\)
**eTable 3. Community-Level Chlamydia Serology Outcomes**

The community-level numbers of pgp3 and CT694 seropositivity are shown for each community at each monitoring visit, as well as the total number of children with a dried blood spot.

| Grappe      | Month 0 |                              | Month 12 |                              | Month 24 |                              |
|-------------|---------|------------------------------|----------|------------------------------|----------|------------------------------|
|             | pgp3    | CT694 | Total | pgp3    | CT694 | Total | pgp3    | CT694 | Total |
| Placebo     |         |       |       |         |       |       |         |       |       |
| 1           | 0       | 3     | 37    | 0       | 1     | 36    | 1       | 0     | 34    |
| 2           | 0       | 0     | 23    | 0       | 0     | 26    | 0       | 1     | 27    |
| 3           | 0       | 1     | 33    | 0       | 1     | 27    | 1       | 1     | 32    |
| 4           | 0       | 1     | 39    | 0       | 0     | 38    | 0       | 0     | 34    |
| 5           | 1       | 0     | 33    | 0       | 1     | 35    | 1       | 1     | 36    |
| 6           | 0       | 1     | 34    | 1       | 0     | 32    | 0       | 3     | 39    |
| 7           | 0       | 1     | 18    | 0       | 1     | 18    | 0       | 1     | 21    |
| 8           | 0       | 2     | 35    | 0       | 3     | 36    | 0       | 1     | 36    |
| 9           | 0       | 2     | 34    | 1       | 1     | 38    | 0       | 0     | 36    |
| 10          | 0       | 1     | 37    | 0       | 3     | 34    | 0       | 0     | 38    |
| 11          | 0       | 2     | 37    | 0       | 0     | 37    | 0       | 2     | 38    |
| 12          | 0       | 0     | 34    | 0       | 1     | 38    | 0       | 1     | 33    |
| 13          | 1       | 0     | 38    | 0       | 0     | 35    | 0       | 0     | 35    |
| 14          | 1       | 1     | 38    | 0       | 3     | 37    | 0       | 3     | 35    |
| 15          | 0       | 1     | 33    | 0       | 2     | 35    | 0       | 1     | 36    |
| Azithromycin|         |       |       |         |       |       |         |       |       |
| 16          | 1       | 2     | 36    | 0       | 1     | 38    | 0       | 0     | 35    |
| 17          | 0       | 0     | 20    | 0       | 0     | 30    | 0       | 0     | 25    |
| 18          | 0       | 1     | 32    | 0       | 2     | 34    | 0       | 1     | 32    |
| 19          | 1       | 0     | 28    | 0       | 1     | 24    | 0       | 1     | 20    |
| 20          | 0       | 2     | 36    | 0       | 1     | 33    | 1       | 3     | 34    |
| 21          | 0       | 0     | 29    | 0       | 0     | 39    | 0       | 0     | 32    |
| 22          | 0       | 0     | 35    | 0       | 0     | 39    | 0       | 2     | 31    |
| 23          | 0       | 2     | 37    | 0       | 1     | 38    | 0       | 1     | 32    |
| 24          | 0       | 0     | 40    | 0       | 0     | 38    | 1       | 0     | 36    |
| 25          | 1       | 1     | 35    | 0       | 0     | 36    | 0       | 0     | 35    |
| 26          | 0       | 1     | 25    | 0       | 0     | 14    | 0       | 0     | 35    |
| 27          | 0       | 0     | 39    | 0       | 0     | 34    | 0       | 1     | 37    |
| 28          | 0       | 0     | 30    | 0       | 1     | 26    | 0       | 0     | 20    |
| 29          | 0       | 3     | 34    | 0       | 1     | 38    | 0       | 0     | 37    |
| 30          | 0       | 2     | 37    | 0       | 0     | 37    | 0       | 0     | 36    |
eTable 4. CT694 Seroprevalence Outcomes

The mean CT694 seroprevalence across the 15 communities per arm is shown for the baseline and month 24 study visits.

| Study visit | Azithromycin   | Placebo       |
|-------------|----------------|---------------|
| Month 0     | 2.7% (1.3–4.2%)| 3.2% (2.0–4.5%)|
| Month 24    | 1.9% (0.7–3.5%)| 3.0% (1.7–4.4%)|

Month 24 incidence rate ratio, adjusted for baseline: 0.64, 95%CI 0.27-1.43; permutation $P = 0.33$. 
eFigure. Distribution of Chlamydia Antibody Responses

Histograms depict the distribution of antibody responses to the pgp3 (panel A) and CT694 (panel B) chlamydia antigens. The red vertical lines represent seropositivity thresholds.