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Reply

1. We explicitly stated in our paper that we have assumed that the chance of one of the two stool samples being negative is independent of the result in the other while calculating the 'false negatives'. Cases of polio may be misclassified as 'non-polio AFP' because culture techniques are not perfect, methods used for collection, storage and transport of stool samples are sub-optimal, and viral shedding is not continuous. The fact that the excretion of virus in the stool is intermittent adds credence to our assumption of the independence between two stool specimens.

   However, we agree with the correspondents that 'if a child is truly a case of polio, then the chances of getting virus grown on both the samples is more'. Our assumption of independence of the two samples is, therefore, likely to underestimate (rather than overestimate) the number of polio cases misclassified as non-polio AFP. Dasgupta and Chaturvedi are concerned that our estimates put the number of polio higher than the 'officially notified' figure. Their methodology would in fact, erode the credibility of the official figure even more!

2. We agree that where two stool samples are sent for the culture of polio virus it increases the sensitivity of the test. We were concerned that many children had only sent in one sample for testing and in these children the sensitivity of the test is decreased. Inclusion of the '24,771 cases when both tests were negative' in a two by two analysis is necessary if one is interested in calculating the sensitivity, specificity etc., which was not our aim. We tried to derive the true number of polio cases in the community, by estimating the 'missed' cases.

3. We agree that it is not feasible to estimate the sensitivity of the yield of polio virus from the stool collected during AFP surveillance in its current form because no gold standard is used for the purpose. However we have our reservations about the proxy markers and here too there is no gold standard estimates for the correspondent to make this claim!

We are as concerned as the correspondents, to ensure that polio is eradicated from our country at the earliest. However, effective program planning needs accurate data and not 'feel good figures'. We undertook the present exercise only to allow a more realistic post intervention figure to emerge. It is not perfect, but is a conservative estimate. The method suggested by the correspondents would have yielded higher estimates.

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