# Opportunities for the generation of randomised evidence about intervention efficacy during the deployment of an approved candidate vaccine

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## Speed of vaccine deployment

Vaccination speed will, at least initially, be limited by the amount of candidate vaccine available, and by the availability of appropriate teams and logistics

**“Ring vaccination” (as in the elimination of smallpox, and in Ebola control) will be an essential strategy**

“Ring vaccination” identifies cases, then promptly identifies and vaccinates only the recent contacts of each case (defined however is locally appropriate)

Identifying contacts reliably requires good, careful fieldwork, but, overall, ring vaccination requires fewer resources, and far less vaccine, than mass vaccination

Mass vaccination is inefficient & impracticable

# Practicalities of randomisation during deployment

A key requirement is that randomisation should not interfere with ordinary vaccination.

Nothing extra should be added to what the vaccinators have to do with each individual.

## Practicable strategy: cluster randomisation

Vaccination teams will have to deal with several dozen different outbreaks scattered over a large area.

It would therefore be practicable to randomise at the outset the order in which those areas will be visited

Later, compare outcomes in areas visited early and late.

**Little extra data required from fieldworkers**

Age, sex and date of symptom onset of all cases identified when vaccination team visits;

Age, sex and date of vaccination of all contacts;

Dates of onset of all cases identified when the team returns to give the second dose of vaccine
(and to vaccinate the contacts of any new cases)

**Wherever it's practicable to randomise in rollout, give randomisation a chance to work its magic**

If large numbers are randomised, the magic of randomisation* always yields trustworthy evidence; so-called "real-world" evidence may well not do so.

* Reference: The Magic of Randomization vs the Myth of Real-World Evidence
*NEJM* 2020; **382:** 674