Blinded interpretation of GLASSY-study results.

Discussion meeting 17. June 2022.

Present: Petter Elstrøm, Ingeborg Hess Elgersma, Arnfinn Helleve[1], Lars Hemkens, Oliver Kacelnik, Atle Fretheim

In advance of the meeting, we shared the blinded results, with one group labelled "Kolera" and the other labelled "Pest":

	kolera (n=1888)	pest (n=1869)	Risk ratio	Risk difference
Confirmed COVID-19 case (b/w day 3-17 after inclusion)	65/1888, 3·4% (2·7% to 4·4%)	68/1869, 3·6% (2·9% to 4·6%)	1·1 (0·76 to 1·5)	0·00196 (-0·00986 to 0·0138)
Self-reported COVID-19 case (<=17 days after inclusion)	214/1888, 11·3% (10·0% to 12·8%)	179/1869, 9·6% (8·3% to 11·0%)	0·84 (0·7 to 1)	-0·0176 (-0·0371 to 0·00198)
Respiratory infection	643/1888, 34·1% (32·0% to 36·2%)	577/1869, 30·9% (28·8% to 33·0%)	0·91 (0·83 to 0·99)	-0·0319 (-0·0618 to -0·00192)
Health care use all cause (self-reported)	87/1888, 4·6% (3·8% to 5·6%)	81/1869, 4·3% (3·5% to 5·4%)	0·94 (0·7 to 1·3)	-0·00274 (-0·016 to 0·0105)
Health care use airway symptoms (self-reported)	20/1888, 1·1% (0·7% to 1·6%)	15/1869, 0·8% (0·5% to 1·3%)	0·76 (0·39 to 1·5)	-0·00257 (-0·00871 to 0·00357)
Health care use injuries (self-reported)	19/1888, 1·0% (0·6% to 1·6%)	24/1869, 1·3% (0·9% to 1·9%)	1·3 (0·7 to 2·3)	0·00278 (-0·00403 to 0·00958)

[1] Arnfinn Helleve was the only one in the group who knew the group allocation.

We also shared the following variables/outcomes to inform our discussion:

	kolera (n=1888)	pest (n=1869)
Used public transport	513 (30·7%)	434 (27·3%)
Female	1259 (66·7%)	1203 (64·4%)
Age at inclusion	46·9 (15·1)	47 (15·1)
Facemask		
Always	134 (8·0%)	182 (11·5%)
Almost always	228 (13·6%)	326 (20·5%)
Often	197 (11·8%)	232 (14·6%)
Sometimes	232 (13·9%)	210 (13·2%)
Almost never	346 (20·7%)	255 (16·1%)
Never	534 (32·0%)	382 (24·1%)
Covid-19 test		
Home test and test station	104 (6·2%)	121 (7·6%)
Only test station	13 (0·8%)	10 (0·6%)
Only home test	806 (48·1%)	802 (50·4%)
No	751 (44·9%)	659 (41·4%)

Data are n (%) or mean (sd).

The group agreed that:

- The main outcome is of little use since the incidence of registry based COVID-19 was low – as expected following the change in national testing policy.
- The two key outcomes are self-reported COVID-19 incidence and self-reported symptoms of respiratory infection. The results for both of these outcomes indicate that the intervention had an effect – negative or positive. The COVID-19 incidence outcome is not statistically significant in the conventional sense, while the respiratory symptoms outcome is statistically significant. The two outcomes point in the same direction.
- If the “Pest”-group is the intervention group, our interpretation is that we have promising results that support our hypothesis, i.e. that recommending use of glasses in public can reduce the spread of respiratory viruses. Since the intervention is simple, low cost, with few negative consequences, our findings (alongside previous observational findings), make this an intervention worth considering, however we would urge the scientific community to conduct further RCTs on this subject.
- If the “Kolera“-group is the intervention group, our interpretation is that our study has yielded evidence indicating that a recommendation to use glasses in public can increase the spread of respiratory viruses, contrary to what we expected. However, we would not recommend issuing a general recommendation or decree on avoidance of using glasses for infection prevention based on these results alone.

- In either case, we are not able to point at the mechanism underlying the findings. The difference in reported face mask use associated with the intervention between the two groups may be a factor, as may other behavioural differences (measured or unmeasured), which may result from the intervention and affect the outcomes.
- The subjective nature of the symptom-based outcome should also be considered in the interpretation of the findings. We acknowledge that symptoms of respiratory infection per se (i.e. supported by a test or not) can have considerable impact on daily life, in particular in a pandemic (e.g. travelling restriction, no school visit etc).