List of interventions as discussed with Chamsy

Important note: after discussing with Chamsy, we have decided that all people whose symptoms are severe enough to require hospitalization (H) will be taken out of the camp, either to the hospital or to community isolation beds (CIB)–currently the WHO is setting up 1500 CIB, but that could be ramped up to a maximum of 10,000 if we use all the empty schools and other empty buildings.

- Therefore, for the purpose of our model, beta_H will be set to zero (it would even make sense to abolish the R/D and D compartments).
- Both models will be run until we reach herd immunity in the orange zone.
- Chamsy wants to measure 2 outcomes:

1. As discussed previously, how many people would enter the H compartment.
2. How long it will take for the disease to enter the green zone (starting from one infected individual in the orange zone).

1 Null model: well-mixed population (the whole camp is an orange zone as described previously)

2 Intervention: green and orange zones

2.1 Who are the people shielded in the green zone?

- Elderly people (50+), comorbid and non-comorbid
- Adults (13-50) with comorbidities **AND** some family members if an arrangement cannot be found for the kids.
  We have decided to establish the rule that no more than 20% of the camp can be shielded (otherwise it would be impossible to reach immunity).
  In a camp of 2000 people, we estimated that 119 are elderly and 125 are adult comorbid. Hence, up to 156 healthy adults (spouses of comorbids) and kids (of comorbids) can be shielded with them. Among those 156 healthy people, we arbitrarily estimated that 70 would be adult spouses and 86 would be children.

2.2 Contacts between people in the green zone and in the orange zone

- We assume that people in the green zone are self-sufficient and do not require carers (adults with comorbidities and their healthy spouses could take on the role of carers without having to leave the green zone at any time).

- Family meetings can happen in the neutral zone. Every shielded person would be allowed to see family members once a week. Those family members would be checked for temperature and symptoms, so they should only belong to one of the following compartments: susceptible (S), exposed (E), presymptomatic (P) and asymptomatic (A). Everyone in these neutral zones would be required to wear a mask and stay 1.5 meters apart. The neutral zone would be an open tent. Assuming a small fraction of non-compliance, we estimated that the transmission rates in the neutral zone would be 20% of the normal transmission rate.
  We want to test two different rules for the maximum number of family members a person in the green zone would be allowed to see at a time (once a week): 2 and 10 (we could add intermediate numbers if it feels useful).