

Lab Assignment 5

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Problem 1

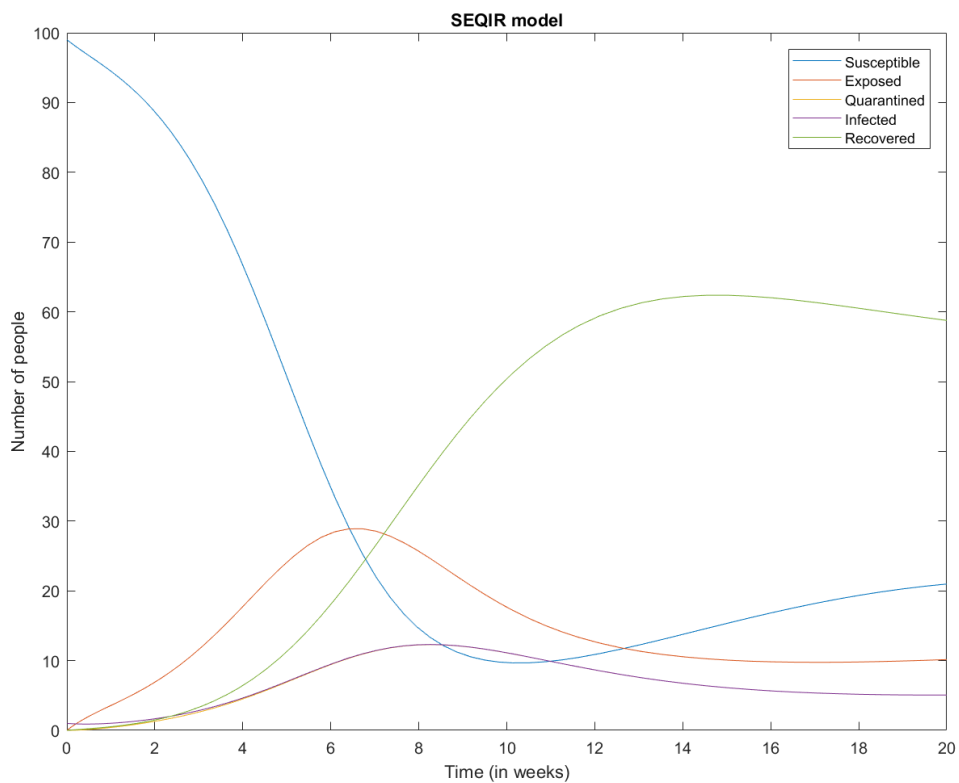


Figure 1: SEQIR model where $q = 0.5$

The quarantine period decreased the maximum number of people exposed (30 with quarantine vs. 40 without) and the number of people infected (10 with vs. 30 without).

In addition, the peak for exposed people happened at 6 weeks with quarantine whereas without it happened at approximately 4 weeks. Likewise, the peak for infected people happened at roughly 8 weeks with quarantine, meanwhile without quarantine it occurred at approximately 6 weeks.

Problem 2

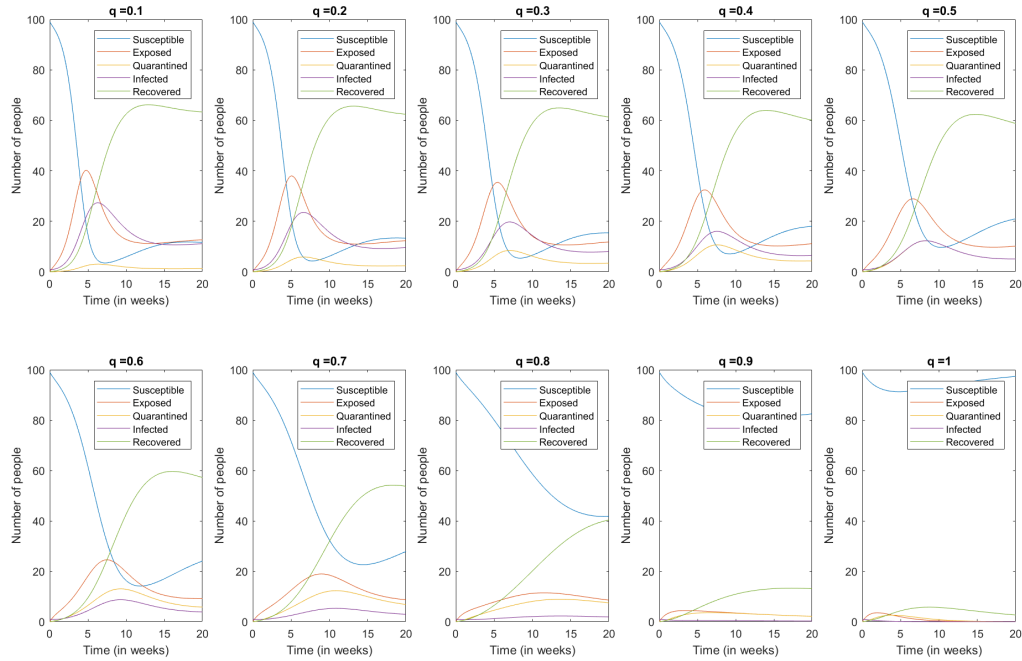


Figure 2: SEQIR models where $0.1 \leq q \leq 1$

I would recommend a value of $q \geq 0.9$ so that the disease ultimately dies out. Any value below, and the disease either takes a long time to die out, or does not (as see with $0.1 \leq q \leq 0.8$)