

## 1 Todos for RAs:

Please leave the tasks. Feel free to add comments in a color of your choosing.

1. Look for more sources on work rapid tests. (e.g.: <https://www.bmas.de/DE/Service/Publikationen/Forschungsberichte/forschungsberichte.html>)
2. Search for data on (non-) compliance after rapid tests became mandatory in German firms. Both employer compliance to offer tests as well as employee compliance in actually testing themselves would be valuable.
3. Go over the references below and for those that are newspaper articles or other media article and replace them with press releases or other public communications from the federal states. (e.g. BayrischerRundfunk2021)
4. Many references are still just links (I put them in footnotes). Again, if they are not official documents, look if you can find a press release or other public communication to use instead and add it to the references and put in a citation instead of the footnote.
5. Find sources how many rapid tests were done by teachers in NRW, Baden-Württemberg and Bavaria before March 17.
6. Search <https://www.corona-datenplattform.de/> for data on the usage of rapid tests.

## 2 The Text

In our model, there are five reasons why rapid tests are done:

1. someone plans to have work contacts
2. someone is an employee of an educational facility or a school pupil
3. a household member has tested positive or developed symptoms
4. someone has developed symptoms but has not received a PCR test
5. someone plans to participate in a weekly non-work meeting

## 2.1 work rapid tests

For work contacts, we know from the COSMO study (Betsch et al., 2021, 20th/21st of April) that 60% of workers who receive a test offer by their employer regularly use it. We assume this share to be time constant.

In addition, there are some surveys that allow us to trace the expansion of employers who offer tests to their employees. Mid march, 20% of employers offered tests to their employees (DIHK, 2021). In the second half of March, 23% of employees reported being offered weekly rapid tests by their employer (Ahlers, Lübker, and Jung, 2021). This share increased to 60% until the first days of April Fernsehen, 2021.

**ToDo: Find the survey that the ZDF is citing here**

Until mid April 70% of workers were expected to receive a weekly test offer (ÄrzteZeitung, 2021). However, according to surveys conducted in mid April (Betsch et al., 2021), less than two thirds of individuals with work contacts receive a test offer. Starting on April 19th employers were required by law to provide two weekly tests to their employees (Bundesanzeiger, 2021). We assume that compliance is incomplete and only 80% of employers actually offer tests.

## 2.2 educ rapid tests

We assume that employees in educational facilities start getting tested in 2021 and that by March 1st 30% of them are tested weekly. The share increases to 90% for the week before Easter. At that time both Bavaria (Bayrischer Rundfunk, 2021) and Baden-Württemberg (Ministerium für Kultus, Jugend und Sport Baden Württemberg, 2021) were offering tests to teachers and North-Rhine Westphalia<sup>1</sup> Deutsche Presse Agentur, 2021 and Lower Saxony (Sueddeutsche Zeitung, 2021b) were already testing students and tests for students and teachers were already mandatory in Saxony (Sueddeutsche Zeitung, 2021a). After Easter we assume that 95% of teachers get tested twice per week.

Tests for students started later<sup>2</sup> (Ministerium für Kultus, Jugend und Sport Baden Württemberg, 2021) so we assume that they only start in February and only 10% of students get tested by March 1st. Relying on the same sources as above we approximate that by the week before Easter this share had increased to 40%.<sup>3</sup>

---

<sup>1</sup><https://www.land.nrw/de/pressemitteilung/umfassende-informationen-fuer-die-schulen-zu-corona-selbsttests-fu>

<sup>2</sup><https://www.land.nrw/de/pressemitteilung/umfassende-informationen-fuer-die-schulen-zu-corona-selbsttests-fu>

<sup>3</sup><https://www.land.nrw/de/pressemitteilung/umfassende-informationen-fuer-die-schulen-zu-corona-selbsttests-fu>

After Easter the share of students receiving twice weekly tests is set to 75%. This is based on tests becoming mandatory in Bavaria after Easter break<sup>4</sup> and on the 19th in Baden-Württemberg<sup>6</sup>.

## 2.3 private rapid tests

To limit our degrees of freedom, we only have one parameter that governs how many individuals do a rapid test because of any of the private demand reasons (own symptoms but no PCR test, planned weekly leisure meeting or a symptomatic or positively tested household member).

We assume that there is no private rapid test demand until March when both the citizens' tests and rapid tests for lay people started to become available<sup>7</sup> and other access to rapid tests was very limited.

According to the COSMO study<sup>8</sup> 63% would have been willing to take a test in the round of 23rd of February 2021 when an acquaintance would have tested positive. Since this is only asking for willingness not actual behavior and the demand when meeting with friends is very likely lower, we take this as the upper bound of private rapid test demand which is reached on May 4th. To cover that many people are likely to have sought and done their first rapid test before the Easter holidays to meet friends or family, we let the share of individuals doing rapid tests in that time increase more rapidly than before and after. By end of March 25% of individuals would do a rapid test due to a private reason.

---

<sup>4</sup><https://bit.ly/3nz5fXS>, in North-Rhine Westphalia on April 12th<sup>5</sup>, <https://bit.ly/2QHilX3>

<sup>6</sup><https://bit.ly/3vuetaD>, <https://bit.ly/3vuetaD>

<sup>7</sup><https://bit.ly/3ehmGcj>, <https://bit.ly/3xJCIn8>

<sup>8</sup><https://bit.ly/2QSFAGr>