# Covid-19:
# Public Policies and Society's Responses

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## Policy Brief 32

> As States and Municipalities Resume In-person School Activities, Improved Risk-Prevention Protocols are Necessary to Ensure Greater Safety for Students and Education Professionals

## Main Conclusions

- The Return to In-Person Schooling Safety Index (RISSI) seeks to evaluate the public policies and measures adopted for the reopening schools for in-person schooling in Brazil.

- The Federal Government's safety protocol for in-person educational activities in the context of COVID-19 is less stringent than most state and municipal protocols. The Federal Government has failed to comply with its obligation to coordinate, through technical-scientific evidence, the ongoing debate regarding safety protocols for returning to in-person schooling in educational networks.

- Transparency, effectiveness, and efficiency in communication protocols are of utmost importance for the school community and society's general knowledge and safety. Only 56% of state capitals and 49% of states have published guidelines in the form of a structured plan. The corresponding protocols were not published in a single, structured, and transparent document in the remaining cases but instead issued through a series of separate and not always coherent guidelines.

- Safety protocols were significantly more concerned with emphasizing thermometers and cleaning surfaces than with other more effective measures, such as distributing or promoting high-quality masks and requiring testing to identify active cases in schools.

- The use of high-quality masks (PFF2 or N95) is a scientifically proven effective measure for containing the spread of COVID-19. However, only 2 of the 26 capitals (8%) and 1 of the 27 states (4%) distributed these types of masks as part of the reopening efforts for in-person schooling.

- Proper room ventilation in classrooms was not given due priority in protocols. None of the plans analyzed in this policy brief adopted $CO_2$ monitoring in classrooms.

- The subdivision of school classes into pods, in which in-person attendance by cohorts is rotated, reduces classroom occupation and serves as an efficient tool for isolating contacts in an infection outbreak. However, this policy was proposed by only 3 of the 26 state capitals (12%) and 12 of the 27 states (44%).

## Introduction

Since early 2020, discussions about the importance of in-person schooling have compelled governments to issue safety guidelines for students and education professionals undertaking in-person activities in school environments amid the COVID-19 pandemic. In Brazil, the pressure to return to in-person schooling has been further hampered by pedagogical problems underlying remote schooling, aggravated by poor Internet access, which interferes with the scope and quality of off-site andonline classes.

Despite the recently stabilized rate of COVID-19 infections and deaths in Brazil, albeit still at very high levels, questions remain about the safety of returning to in-person schooling amid the current epidemiological situation, marked by intense and uncontrolled community transmission. We, therefore, deem it imperative to evaluate the biosafety protocols developed by different governments levels to ascertain how they advise reducing infection risk.

This policy brief discusses the required measures for a safe return to in-person schooling. It concomitantly analyzes the corresponding protocols introduced by the Federal Government, state governments, and state capitals.[1] Based on recommendations of the World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC), the European Center for Disease Prevention and Control (ECDC), and studies on reopening experiences in other countries, we developed the Return to In-Person Schooling Safety Index (RISSI). The RISSI consists of eight indicators, classified by whether policies can be classified as having medium or high complexity. Medium complexity measures include: guidelines for School Transportation, Social Distancing Mandates, Hygiene, and Remote Schooling. In turn, high complexity measures include: Mask Mandates, Ventilation, Immunization, and Testing policies.

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[1] Although the Federal Government does not have the same obligation as states and municipalities in the provision of education, we consider the protocol devised the Ministry of Education (ME) as an outline of what the Federal Government considers to be a safe reopening. The ME has an important leading proficiency, and for decades has coordinated effective efforts to contain epidemics and promote health in schools. In the states and municipalities, we evaluated policies for the state and municipal public education networks.

We hope the RISSI may serve as a tool for monitoring public policies that were adopted to address the challenges posed by the COVID-19 pandemic and a compass for public managers and political authorities when devising education policies in response to the public health crisis, as long as it persists. Furthermore, the RISSI may also inform members of the school community and civil society about the quality and safety of the guidelines proposed in each location.

# Return to In-Person Schooling Safety Index (RISSI)

To prepare the Return to In-Person Schooling Safety Index (RISSI), we based ourselves on guidelines published by health authorities in several countries for reopening schools and articles that evaluate the impact of in-person schooling on the spread of COVID-19. Our primary reference stems from the recommendations of the US Centers for Disease Control and Prevention.[2] Data collection was primarily based on an analysis of documents published by Brazil's state and municipal education secretariats, such as decrees, ordinances, communications, or the specific document issued to mandate a safety protocol. We also considered news stories in prominent media outlets if they came from official government or secretariat sources. Measures or protocols that are not publicly accessible were not included in the index, even if implemented at any point in time. We consider information transparency and communication as essential elements for the quality and safety of the evaluated public policies.

The index consists of eight indicators: four **Medium Complexity** and four **High Complexity** policies. Measures with medium complexity demand increased expenses and considerable efforts for implementation within the education sector. High complexity measures also demand investments but require additional coordination with other government sectors, such as health departments, for proper implementation. Measures requiring high internal and external coordination are classified as **High Complexity**, while the remaining are classified as **Medium Complexity**.

Within each category, we evaluated a set of pertinent policies to ensure the biosafety of students and education professionals, as specified by the CDC guidelines for schools. There are a total of nineteen indicators. When assigning scores to each policy in the protocols, we assigned half of the total score if the measures were proposed only as recommendations and not mandated. We updated our data collection to track the policies contained in the protocols effective from January 1 to June 21, 2021.[3]

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2 The recommendations specified by the CDC in the "Operational Strategy for K-12 Schools through Phased Prevention" available at https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/transmission_k_12_schools.html, by the American Academy of Pediatrics in the report "COVID-19 Guidance for Safe Schools" and the document published by the European Centre for Disease Prevention and Control, "COVID-19 in children and the role of school settings in transmission – first update. "https://www.ecdc.europa.eu/en/publications-data/children-and-school-settings-covid-19-transmission. We also looked into several studies published by public health specialists including: Jones E, Young A, Clevenger K, Salimifard P, Wu E, Lahaie Luna M, Lahvis M, Lang J, Bliss M, Azimi P, Cedeno-Laurent J, Wilson C, Segule MN, Keshavarz Z, Chin W, Dedesko S, Parikh S, Vallarino J, Allen J. "Healthy Schools: Risk Reduction Strategies for Reopening Schools. Harvard T.H. Chan School of Public Health Healthy Buildings program. November, 2020." and studies focused on policies that contribute to the increased risk of infection. For example, Gurdasani, D., Alwan, N.A., Greenhalgh, T., Hyde, Z., Johnson, L., McKee, M., Michie, S., Prather, K.A., Rasmussen, S.D., Reicher, S. and Roderick, P., 2021. School reopening without robust COVID-19 mitigation risks accelerating the pandemic. The Lancet, 397(10280), pp.1177-1178 and Honein, M.A., Barrios, L.C. and Brooks, J.T., 2021. Data and policy to guide opening schools safely to limit the spread of SARS-CoV-2 infection. JAMA, 325(9), pp.823-824.

3  We opted to restrict our analysis of the protocols in effect in the first semester of 2021, as most states and capitals did not resume in-person schooling in 2020, while in 2021 the vast majority of schools have already returned or plan to return to on-site schooling, and therefore need to develop specific protocols.

It is essential to remember that the RISSI does not evaluate the implementation or results of policies for resuming in-person schooling. The index directs attention to assess whether the extent to which the protocol addresses each of the eight crucial policies that we have identified as critical for safe on-site school reopening. Undeniably, the progress from policy formulation to implementation demands infrastructure and costs, and some states are better poised than others to face these challenges.

**Table 1:** The 8 policies in the Return to In-Person Schooling Safety Index (RISSI)

| Classification | Category | Indicators |
|---|---|---|
| **Medium Complexity** | **Transportation** | Changes in school hours to avoid peak hours in transportationation<br>Specific protocols for school Transportation |
| | **Social Distancing** | Classroom occupancy limit<br>Limited interaction between classrooms<br>Physical distance between desks and students |
| | **Hygiene** | Provision of hygiene materials<br>Mandatory sanitation standards |
| | **Remote Education** | Remote Education Plans (REP) Index |
| **High Complexity** | **Masks** | Mandatory use of face masks<br>Distribution of masks<br>Awareness-raising campaign for the correct use of masks<br>Specified use of filtering face masks |
| | **Ventilation** | Open windows and/or regular cleaning of filters<br>Outdoor classes in open environments<br>$CO_2$ monitoring<br>Safety measures for High-Risk Activities |
| | **Vaccination** | Vaccination of education professionals |
| | **Testing** | Type of Testing<br>Contact Isolation |

The **Medium Complexity** policies consist of **Transportation, Social Distancing, Hygiene**, and **Remote Schooling**.[4] In the first area, Transportation, we considered specific school transportation guidelines (such as hygiene and ventilation inside the vehicle, among others) and whether efforts were made to adjust school hours to avoid peak hours in public transportation.

As for **Social Distancing**, we evaluated social distancing measures for educational institutions and whether the protocol adopted: physical distancing mandates between students (in lines, desks, recess, etc.); classroom occupancy limits (50% of occupancy or other limitations); and limited interaction between classrooms or possible creation of pods or bubbles. Pods refer to the sub-groups when classrooms are split into smaller divisions that do not physically interact and attend school during different hours and days.

The third medium complexity category is **Hygiene**. We reviewed guidelines regarding mandating the availability of hygiene materials (hand sanitizer, among others) and policies mandating hand hygiene practices, both by students and education professionals.

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**4** Even though remote schooling is a considerably complex measure, as it was already adopted in 2020 in most states and capitals, and because it is only indirectly related to biosafety in the school environment, we classified it as a medium complexity measure.

Lastly, we also evaluated policies adopted for **Remote Schooling**. Most protocols limited the percentage of students attending in-person classes to 30 to 70% or less of the classroom, depending on the regional risk classification. Given that schools are required to continue to offer off-site, online educational programs, governments should continue to develop guidelines for remote schooling in continuation of programs developed and launched in 2020. Hence, we incorporated the Remote Education Policy (REP) Index, developed by the Solidarity Research Network in 2020,[5] as one of the 8 areas coded in the RISSI. The REP values are for the programs in effect in 2021.

Among the **High Complexity** measures, the **Masks** category focuses on the mandatory use and distribution of masks. We reviewed if the protocols mandated the use of masks in educational institutions, if masks were distributed to education professionals and/or students and the existence of campaigns promoting their correct use (posters, leaflets, among others). Lastly, we examined whether the protocols specified the purchase of filtered masks (N95, PFF-2) according to the recommendations of biosafety experts.

In the **Ventilation** category, we evaluated whether the protocols instructed the opening of windows for natural ventilation in classrooms or regular cleaning of air conditioning filters. We also analyzed whether the protocols recommended outdoor classes in open environments and $CO_2$ monitoring in indoor environments.[6] Lastly, we evaluated whether high-risk activities, such as physical education and singing classes, were prohibited or required to be practiced at a distance to reduce the risk of infection.

As for **Vaccination**, the highest score means education professionals are prioritized, without exceptions, as a priority group to receive SARS-CoV-2 vaccines. The score is partial in case of restrictions by age, professional, or regional groups.

In the **Testing** category, a maximum score indicates active testing of asymptomatic cases or contact tracing. A partial score indicates that protocols only mandate that symptomatic individuals be tested, while the lowest non-null score indicates that symptomatic individuals were merely referred to health centers. As the whole purpose of testing is to detect potentially infectious cases, we only considered RT-PCR, RT-LAMP, and antigen[7] tests. Scores increased if the policy encompassed both professionals and students. Furthermore, the score is also high if the protocol predicts contact isolation or the creation of bubbles in case of confirmed SARS-Cov-2 infections.

We calculated the **RISSI** by adding the scores of each category, assigning weight 1 to **Medium Complexity** categories and weight 2 to **High Complexity** categories. The score was then re-scaled so that the index varies between 0 and 100. The databases, available on GitHub,[8] provided the data for each state analyzed in this study and will be updated periodically throughout 2021.

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[5] Barberia, Lorena G.; Cantarelli, Luiz; e Schmalz, Pedro H. S. "An evaluation of remote public education programs in Brazilian states and capitals during the COVID-19 pandemic." Available at: http://fgvclear.org/site/wp-content/uploads/remote-learning -in-the-covid-19-pandemic-v-1-0-portuguese-diagramado-1.pdf. Barberia, L.G., Cantarelli, L. e Schmalz, P.H.S., 2020.

[6] Ministry of Health. National Health Surveillance Agency. Resolution - RE nº 9, dated January 16, 2003. Technical guideline prepared by a technical advisory group regarding the reference standards for indoor air quality in artificially air-conditioned environments for public and collective use. Brasília, 2003. Available at: https://bvsms.saude.gov.br/bvs/saudelegis/anvisa/2003/rdc0009_16 _01_2003.html

[7] We excluded testing policies based on seroprevalance tests to detect previously infected individuals for evaluating their return to in-person activities.

[8] For the dataset and codebook, see https://github.com/cgrtbrfed

# The Quality of Reopening Protocols
# for In-Person Schooling in Brazil

Figure 1 shows all Brazilian states sorted according to their RISSI values. The gray lines present the average score for all states and the score attributed to the Federal Government plan for comparison purposes. The figure reveals that only three states scored values lower than the Federal Government, namely, Rio de Janeiro, Roraima, and Amapá. By the end of our data collection period for this report, only Rio de Janeiro had returned to in-person schooling.

**Figure 1:** Mean State RISSI Scores (Protocol in effect on June 21, 2021)
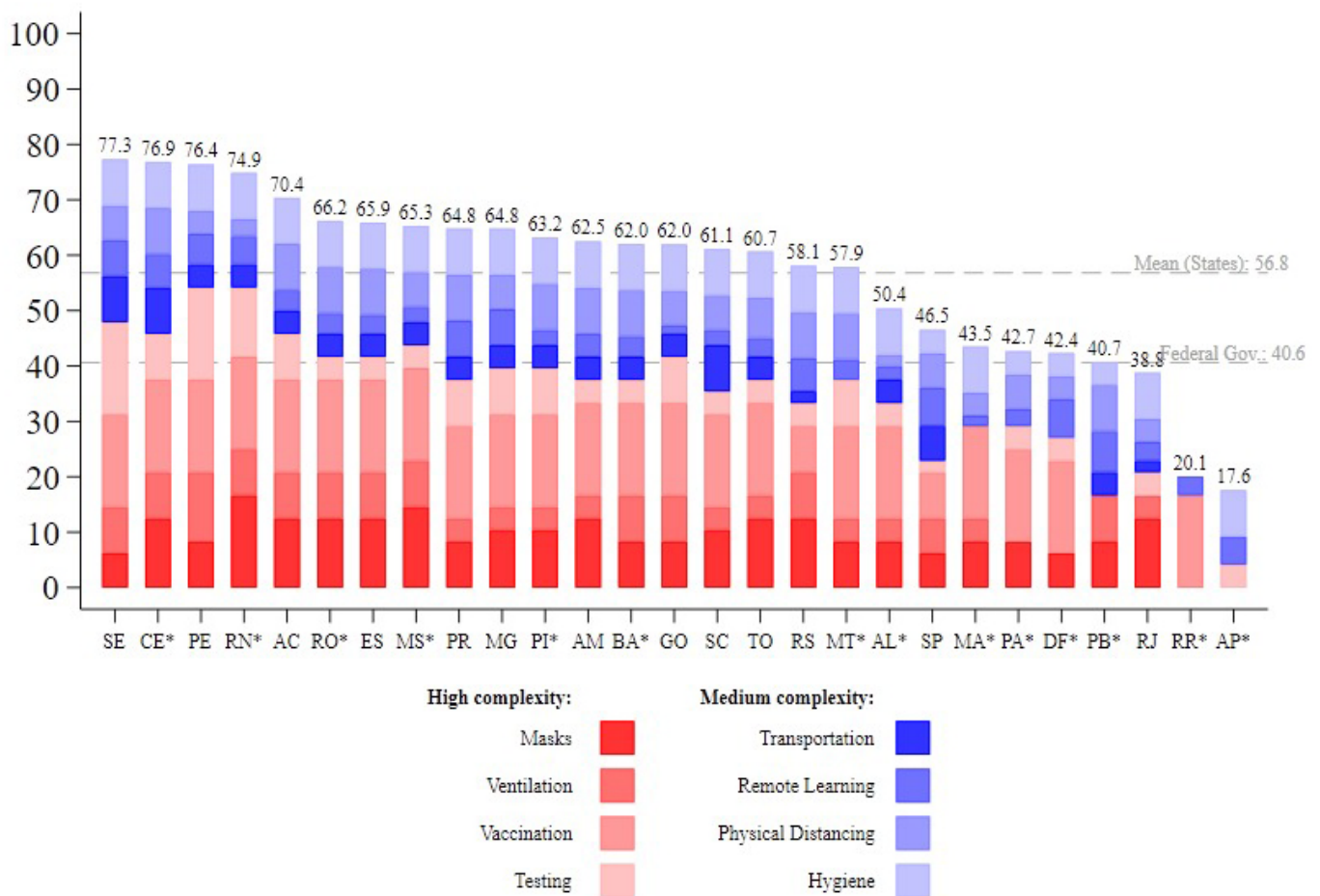


Circa half of the states effectively returned to in-person school activities (14 out of 27). We define in-person return as the existence of an executive mandate to resume school activities. Our definition does not exclude specific cases where strikes or court decisions prevented the return to in-person schooling. Conversely, some states continue to operate entirely via a remote schooling model up to now in 2021. Admittedly, a comparison that does not consider whether or not schools have reopened could be problematic. For this reason, we used an asterisk symbol for states that did not reopen schools in the figures. Interestingly, some states that have not reopened schools still rank at the top, such as Ceará, Rio Grande do Norte, and Rondônia. Conversely, except for Rio de Janeiro, the bottom positions in the ranking all belong to states that have not reopened schools. A simple mean difference test suggests that the average score of states that did not reopen schools is statistically lower than the average score of states that opted to reopen.

With a score of 77.3, the state of Sergipe occupies the top of the ranking, closely followed by Ceará, Pernambuco, and Rio Grande do Norte, all located in the Northeast region. If we divide the states into quartiles, four are in the northeastern region from the six states in the top quartile. Nonetheless, it is not possible to infer the existence of a regional pattern in the distribution of the RISSI since the lower quartile includes two northeastern states, namely, Paraíba and Maranhão. It should be noted, however, that these states have not yet resumed in-person school activities.

Similarly, Figure 2 details the mean scores for state capitals. The dashed gray lines show the average score of all state capitals and the score attributed to the plan presented by the Federal Government. The figure shows that protocols in eight capitals scored lower than the Federal Government. The average for all 26 capitals is 47.9, while the average for the state plans is 56.8. However, some protocols in capitals scored as high as the best-ranking state protocols.

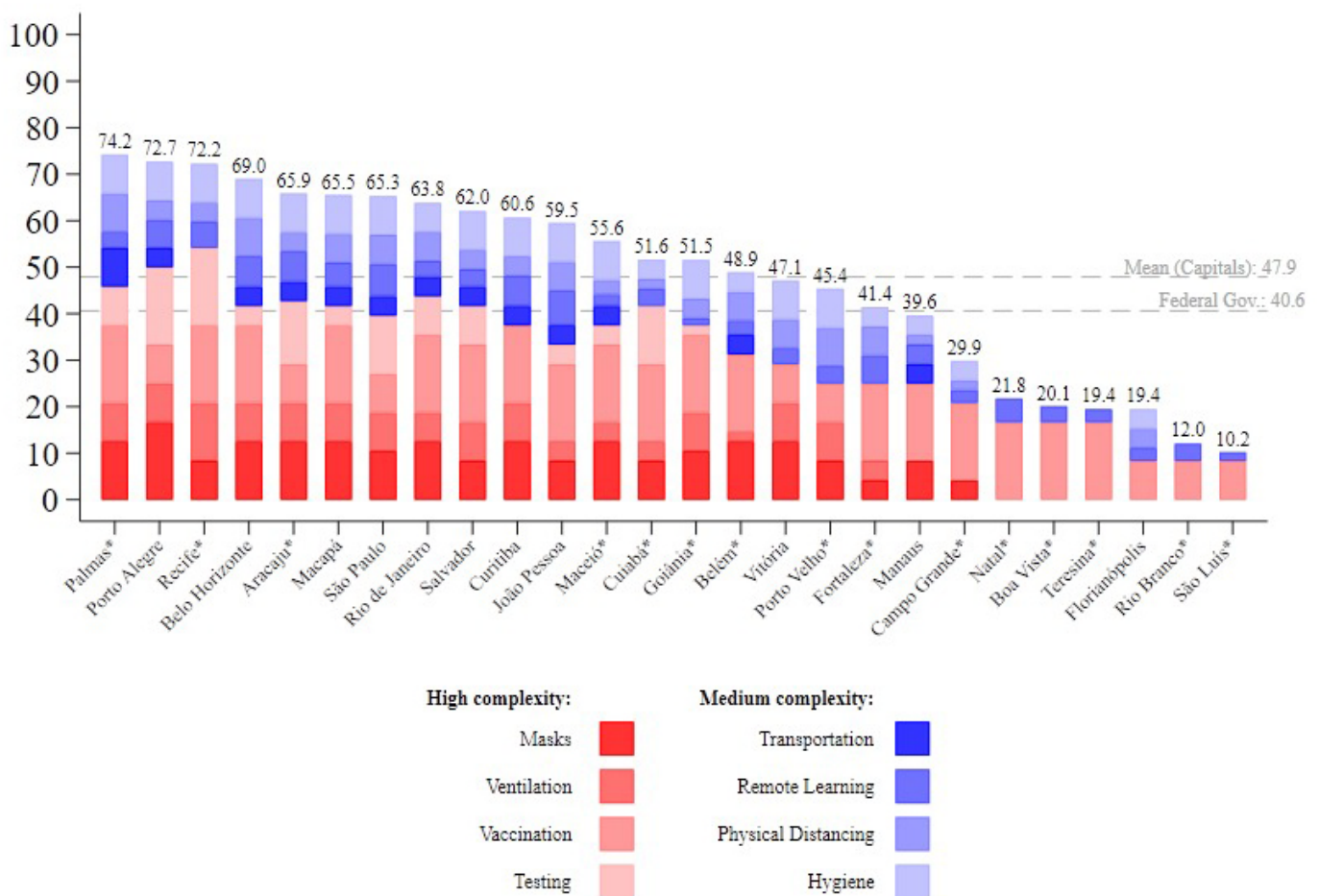**Figure 2:** Mean State Capital RISSI Scores (Protocol in effect on June 21, 2021)



Figure 2 suggests no correlation between the RISSI score of the states and their respective capitals.[9] The city of Fortaleza – which occupies the eighteenth position among capitals – sharply deviates from the state of Ceará, ranked second among states. It is interesting to note that both state and capital have not resumed in-person schooling activities in this case. At the opposite end, we find Rio de Janeiro: the capital ranks eighth, while the state of Rio de Janeiro has the twenty-fifth worst plan, and, in both cases, in-person school activities have returned.

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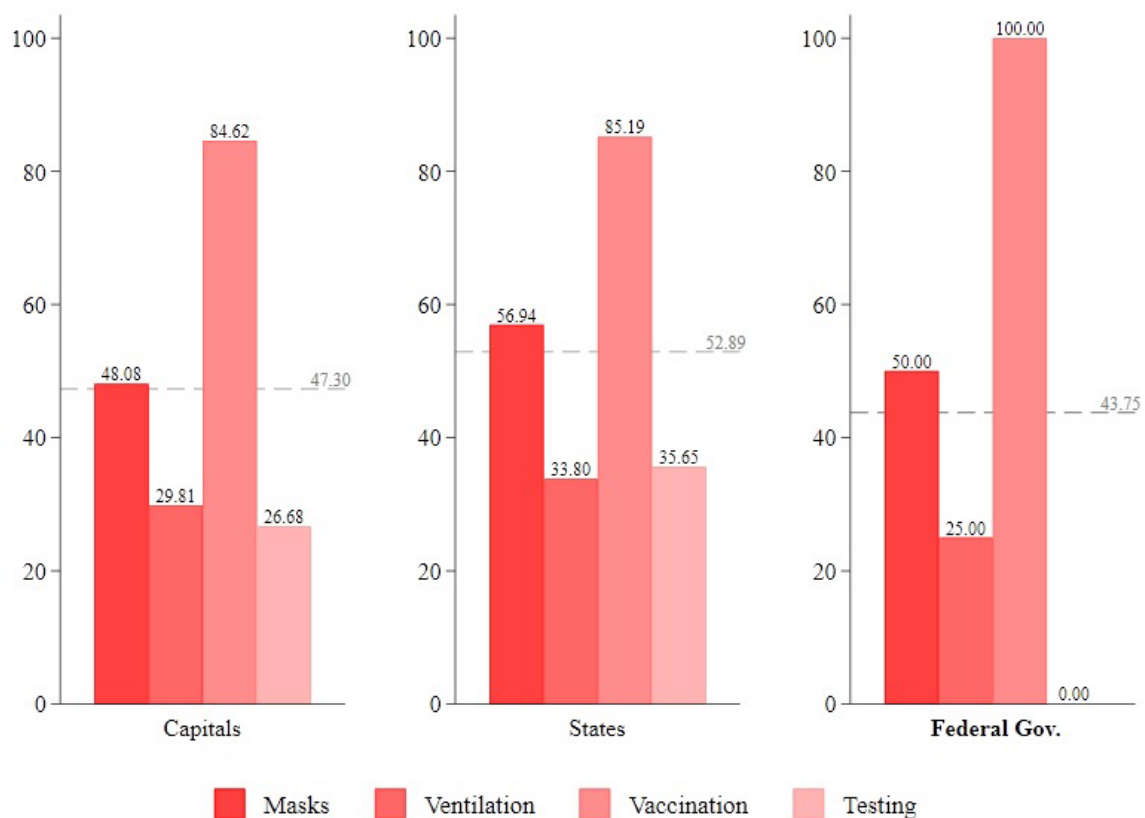[9] The Pearson correlation statistic is r = 0.0491 and the p-value = 0.8077.

On the other hand, the decision of the capitals to reopen correlates with the decision of the states to reopen.[10] Only Macapá (AP), João Pessoa (PB), and Salvador (BA) reopened schools counter to the decisions of their respective states. We find the opposite situation in Acre, Pernambuco, Tocantins, Sergipe, and Goiás – states that resumed in-person school activities while their respective capitals have not reopened schools for on-site education.

As for the reopening of schools, 15 capitals have not returned to in-person schooling in 2021 in their municipal educational networks. Once again, a mean difference test reveals that the average RISSI of the capitals that did not reopen schools is lower than the average RISSI of those who opted for reopening in-person school activities.

## The Main Problems in the Reopening Protocols of the States and State Capitals

Figure 3 shows the performance of capitals, states, and the Federal Government among the four High Complexity categories. For each category, the score varies between 0 and 100. The RISSI revealed that state and municipal protocols had less robust proposals for Ventilation and Testing in these categories, as these two categories scored the lowest averages among the High Complexity measures. With the inclusion of teachers as a priority group in the National Immunization Plan (NIP) in May 2021, the Vaccination category received high marks, raising individual and overall averages.

**Figure 3:** Mean Scores for High Complexity Measures for State Capitals, States, and the Federal Government (Protocol in effect on June 21, 2021)
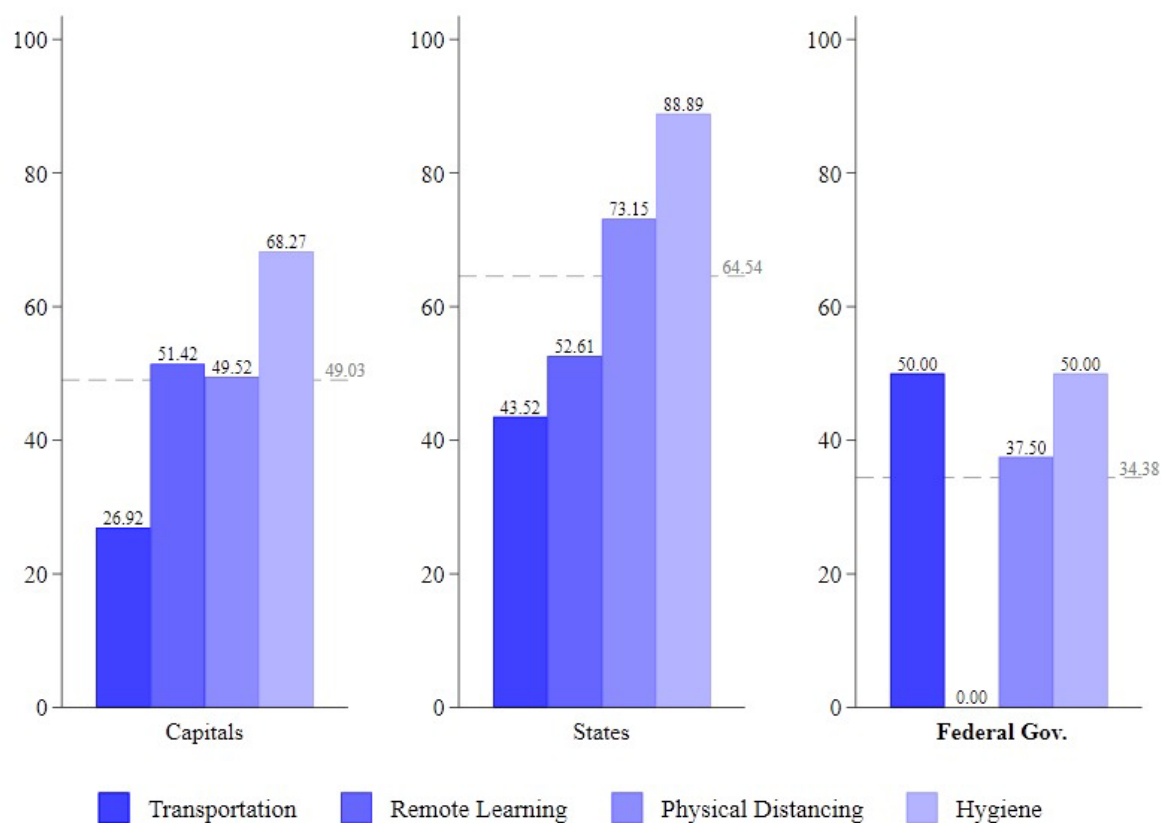


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10 The Pearson correlation statistic is r = 0.4079 and the p-value = 0.0347.

Due to the lack of testing guidelines, the Federal Government scored the lowest average among the three government levels with an overall average score of 43.75. Conversely, the Federal Government's proposal for Vaccination scored the maximum value thanks to the NIP, a feat not replicated by the capitals or states. Aside from Vaccination, the states scored higher in all variables than state capitals and the Federal Government.

Similar to Figure 3, Figure 4 below breaks down the capitals, states, and the Federal Government for the Medium Complexity variables. The protocols visibly emphasized hygiene measures, such as surface cleaning, running counter to the most recent protocols published by global health authorities. We reiterate that this is an airborne virus,[11] and therefore protocols should primarily focus on proper ventilation of indoor environments and high-quality mask mandates.

Once again, the Federal Government registered the worst performance: the average score for the medium complexity items was 34.38, further hampered by the lack of any proposal to guarantee the provision of Remote Schooling. The only category in which the totality of states does not surpass capitals and the Federal Government is Transportation. The capitals, in turn, registered a lower average compared to Federal Government in two variables: Transportation and Hygiene.

**Figure 4**: Mean Scores for Medium Complexity Measures for State Capitals, States and the Federal Government (Protocol in effect on June 21, 2021)

# Final Considerations

As the COVID-19 pandemic advanced throughout 2020, Brazilian states and municipalities implemented policies to contain the sanitary crisis as early as March. One of the first measures was the closure of educational establishments for in-person schooling. The long-term restrictions on in-person instruction made it necessary to develop remote schooling programs. However, as revealed by a previous study published by the Solidarity Research Network, according to the Remote Education Policy (REP) Index, state and municipal programs for remote education were not very comprehensive in access and knowledge transmission and student supervision, and coverage. The State Court of Accounts of São Paulo (TCE-SP) found that less than 20% of state schools in São Paulo students accessed the online classes app for over two hours in 2020.

In this policy brief, we introduced the Return to In-Person Schooling Safety Index (RISSI) to inform society about the quality of the protocols promulgated by the states and state capitals and to help identify public policy improvements for returning to in-person schooling amid the COVID-19 pandemic.

The public debate regarding the return to in-person school activities began as early as 2020 and continues in 2021. Ideally, in light of international experiences, the protocols should include multidimensional plans to address sensitive issues – Transportation, Social Distancing, Hygiene, Remote Schooling, Masks, Ventilation, Vaccination, and Testing, the eight dimensions of the RISSI. In short, the protocols should ensure the right to education without neglecting prevention measures against COVID-19.

Even though the Federal Government presented a protocol in October 2020, the document failed to provide coordinated measures for implementing and standardizing biosafety policies across the federation. Consequently, the plans of states and capitals were extremely heterogenous: to a greater or lesser degree, the protocols either failed to address measures on all eight fronts of the RISSI or did not contain sufficiently stringent measures.

The eight critical categories of the RISSI serve as a guide for public managers as to which public policy dimensions warrant particular attention. The majority of protocols promulgated by the states and capitals gave greater attention to policies, such as temperature measurement of students and professionals, that are comparatively ineffective measures as the vast majority of infection cases either do not have fever symptoms or have symptoms that are not correctly measured as demonstrated by Malawi et al. (2021).[12] In our judgment, the investment directed at acquiring thermometers could have been better employed in more effective measures, such as distributing higher quality masks, active testing policies, or $CO_2$ monitoring in indoor environments.

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[12] Malawi, I., Alsohabani, T., Aleidan, M., Al shahrani , N., Karairi, A., Mzahim, B., Bin Nafisah, S. (2021). Wrist and Forehead Temperature Measurement as Screening Methods During the COVID-19 Pandemic. *The Journal of Medicine, Law Public Health*, 1(2), 26–30. Available at: https://doi.org/10.52609/jmlph.v1i2.12. Accessed on: July 7, 2021.

# Policy Recommendations

Figure 5 shows some of the policies with the worst scores on the index, thus raising concern and calling for further efforts to improve these areas. We list below the leading public policy recommendations from our analysis in this policy brief:

- Government authorities must continuously improve and fine-tune the protocols for reopening in-person school activities. Furthermore, plans should include all measures summarized in a single, public document to allow for easier understanding and a greater chance of implementation.

- Remote schooling, an essential prerequisite policy for implementing hybrid education models, demands further attention from all public administration authorities, especially in expanding internet access.

- PFF2 masks should be widely distributed in public schools and among vulnerable populations. While PFF2 masks can be reused as long as they remain intact and properly sealed, they should be stored in a ventilated environment for at least three days. Masks should be distributed to all students, staff members, and teachers.

- Protocols should privilege proper air renewal and ventilation. Protocols could also include guidelines for $CO_2$ monitoring inside classrooms and other indoor schooling environments.

- Protocols must specify guidelines for RT-PCR, RT-LAMP, or antigen testing for education professionals, staff, and students.

- Protocols should implement more restrictive measures for contact between different classrooms and specify guidelines for collective activities among students. The creation of pods is an effective measure.

- Educational networks must draft reports to closely monitor the implementation and impact of reopening schools for in-person schooling.
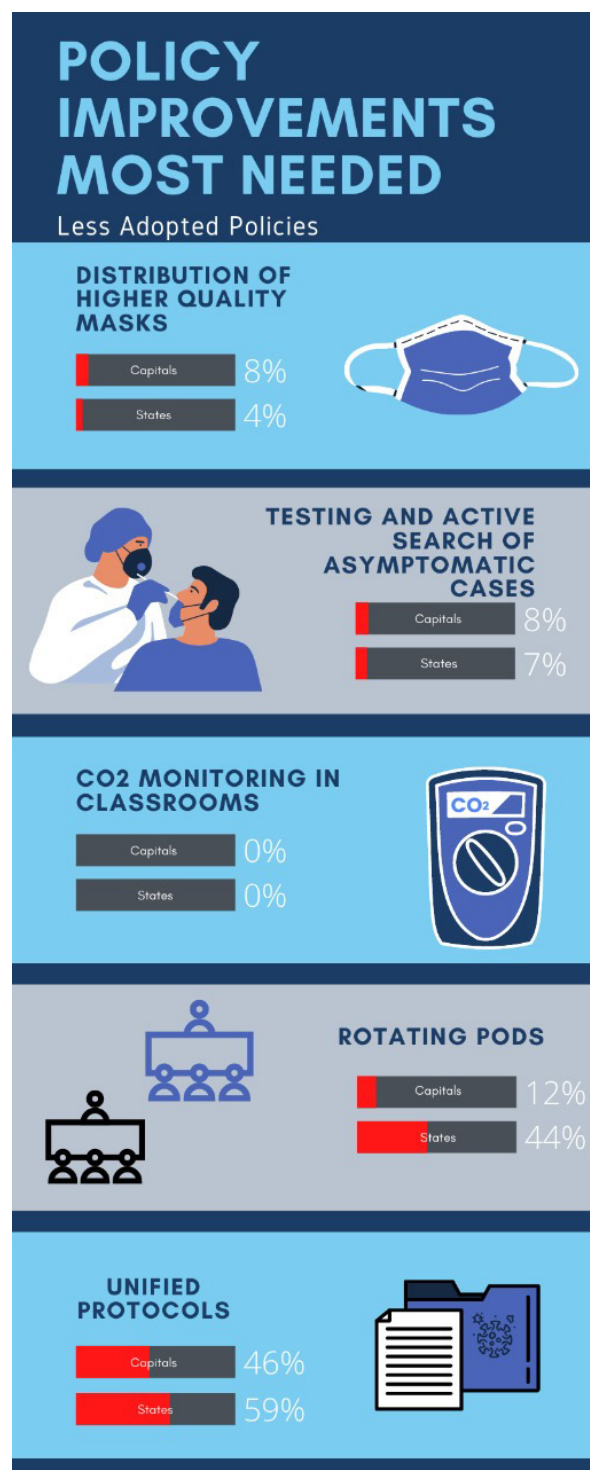


**Figure 5:** Sensitive Points in the Reopening of Schools for In-Person Schooling

## ABOUT

We are over 100 researchers, actively engaged in the task of improving the quality of public policies within federal, state, and municipal governments as they seek to act amidst the Covid-19 crisis to save lives. We dedicate our energies towards rigorous data collection, devising substantial information, formulating indicators, and elaborating models and analyses to monitor and identify pathways for public policies and review the responses presented by the population.

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