

## Research Article

# Transformation of the Education Sector during the COVID-19 Pandemic in Indonesia

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During the new coronavirus disease 2019 (COVID-19) lockdown period, the whole educational system from elementary to tertiary levels has been thrown into chaos in Indonesia and around the world. Online modes used by the College of Administration Puangrimaggalatung for learning as well as semester exams are shown in this research. It hopes that it will be able to make better academic decisions in the future when things get tough. The main goal of this study was to look at the need for an online model in education during the COVID pandemic and how educational institutions can use their existing resources to make formal education online with the help of no face-to-face class and other important things. The paper used quantitative and qualitative methods to examine how lecturers and students thought about online teaching learning modes. It also looked at how online teaching learning modes were put into practice. Moreover, the paper is aimed at providing a comprehensive picture of online teaching and learning activities during the lockdown period and demonstrates how the change management process and online teaching and learning processes were linked in the education system during the COVID-19 outbreak. This will aid in the elimination of academic disruption and ensure that instructional activities and discourses may continue as usual in the educational system.

## 1. Introduction

COVID-19 is a disease caused by the SARS coronavirus 2 (SARS-CoV-2) that originated in China. It has already reached pandemic proportions, affected all continents, and caused millions of deaths. It is primarily spread among individuals through close contact and has already claimed the lives of millions of people. COVID-19 has been referred to as a pandemic because of its intensity and ferocity, and it is also referred to as the most severe global health disaster that has occurred in human society in ages. The emergence of the new coronavirus caused widespread devastation, affecting world economics until social interactions [1, 2]. According to the International Labour Organization (ILO), because of this, 195 million people's works might be lost globally by 2030 [3–5]. The main recommended methods of reducing the impact of this problem is for the countries involved to implement COVID-19 quarantine measures in their countries [6]. Lockdown has been a prominent term

in recent years, and it was something that many people thought about during the corona pandemic. Lockdown is an emergency procedure undertaken by the governments to prevent individuals from leaving residence and stay-at-home orders since March 2020. The coronavirus triggered the first phase of a nationwide lockdown in Indonesia, which began on April 06, 2020, for 14 days. The second started on April 24, 2020, for 28 days; the third on May 23, 2020, for 14 days; the fourth on June 05, 2020, for 14 days; and the fifth on July 05, 2020, for 28 days [7–9]. People's unconstrained resolve to adhere to severe preventive measures such as keeping social distance, following medically prescribed quarantine procedures, and practicing good cleanliness and sanitation would help bring the COVID-19 pandemic under control [10–12].

As of 2017, over 264 million kids were not enrolled in school (UNESCO), and the pandemic exacerbated this already dire situation. Due to the development of the COVID-19 pandemic, there has been a rising trend toward

online learning as schools and colleges have been forced to close their doors for an indeterminate period as the only choice available [13]. As a result, now is the moment to fundamentally rethink, reform, and reinvent our educational system in response to the exceptional demands of the current circumstances. Informal education and nonformal education are also severely harmed by this policy. Although it is often accepted that no educational technique can fully replace formal education at its pinnacle because of the direct connection between the teacher and the students, there is no evidence to support this claim. The COVID-19 problem online changed the paradigm shift from the conventional technique to the current approach to teaching learning, from the personal to the virtual, between seminars and webinars. Although previously regarded as components of informal learning, such as e-learning, distance learning, if the current conditions continue to exist for an extended time, they will eventually displace the formal education. Prominent internet communication sites that would alter the course and direction of the entire education system worldwide in the post-COVID-19 era are Google Classroom. Other popular online communication platforms include Edmodo. Other well-known internet communication tools have that the term “deschooling society” [14–16] is still valid today. The present situation attempts to keep our children out of the conventional formal education while providing them with a chance to thrive on their natural curiosity.

For example, Lederman [17] correctly asserted that due to the COVID-19 dilemma, both lecturers and students had found themselves in a position where they have been driven to embrace academic digitalization as the habit of the online education process. Assisting of digital intelligence [18], lecturers can incorporate students’ digital skills that are on the verge of becoming vulnerable to cyber risk into educational opportunities that will prepare them for future endeavors. This is especially important in this epidemic where students are entirely reliant on online learning. The coronavirus alters life [19–21], and it has posed a long-term danger to our educational institutions, ranging from kindergarten to tertiary level. It has aggravated the education process day after day. Besides charitable contributions, several participants intended to turn their entrepreneurial abilities into lucrative business ventures due to their participation. Furthermore, Bhattarai [22] highlighted the issue of English language teachers’ online experience amidst COVID-19. To identify the experience, the teachers’ unstructured interviews and informal conversations were taken as data through inductive approach. The results of the study asserted that this sudden shift motivated the teachers as an opportunity for enhancing their teaching online language skills but they realized that the classes did not remain interactive as face-to-face classes.

In his idea of change, Lewin [23] developed the 3-step procedure (unfreezing, changing, and refreezing), which describe the fundamental any modification procedure. For any new changes, both forces are held accountable. The unfreezing of conventional teaching learning happened due to unanticipated situations arising of COVID-19, which resulted in the move to online learning due to conventional

learning uncertainty form of instruction. In today’s situation, it is nearly impossible to attend classes traditionally amidst the COVID-19 outbreak. Maintaining social distance is of importance; hence, internet teaching method has unquestionably become a necessity, bringing both an organization and an individual out of their hibernation. The unfreezing stage gave a chance for the system and stakeholder motivation and preparedness to be reawakened [24].

Furthermore, the online teaching model provides a sense of psychological protection to the learning community throughout the moment when COVID-19 is ailing them. The second phase involves altering the method. There are only two possibilities left: either to embrace online mode that has been successfully implemented other institutes abroad or to develop one’s own. The hunt is constantly finding a more practical model that it can execute. Change is not an occurrence here but rather a live process that occurs when inconsistency. A new mentality and an outlook [25] are required for any measurable change at the organizational levels to support the transition phase in the online teaching modality. Educators [26, 27] advocated that it must build resilience into educational. They also identified 3 trends that they believe will be seen in future alterations: public-private partnerships in education educational partnerships and the digital divide.

One year of online learning teaching has resulted in a new paradigm, with online learning growing popularity to the point that it will be nearly permanent even after the pandemic, which caused the country to refreeze. Incorporating technology into the education process is unavoidable want to teach students in ways that they will feel comfortable with and enable them to meet the technology demands in industrial revolution era 4.0. Specifically, this research was carried out at College of Administration Puangrimaggatung, which is in the Ambon City of and has been accredited with a ‘B’ grade by the National Accreditation Board for Higher Education (BAN-PT) in 2016 and is ranked 53 by Science and Technology Index (SINTA) in 2021.

## 2. Literature Review

*2.1. Indonesian Government Programs and Policies on HEI Online Learning.* The Indonesian government began seriously considering this issue, emphasizing information and communications technology (ICT) and the use of online as a component of the education process at the college level. Furthermore, it is evident in the preparation of the proposed education policy for 2020, which has been hailed as a technologically efficient action in the face of the pandemic. SPADA Indonesia (Indonesian Online Learning System) is a program or Learning Management System (LMS) platform developed by the Directorate General of Learning and Student Affairs, Ministry of Research, Technology and Higher Education, offering online teaching learning in distinct quadrants. This is a set channel devoted to telecasting educational programs daily. Independent Learning Independent Campus (MBKM) is an online professional development program introduced by the Ministry of Education and Culture (MEC) on January 23, 2020 and delivered via the

SPADA platform. Yet, another government project was the Science and Technology Index (SINTA), which produced high-quality, interactive e-content across all disciplines as part of the Ministry of Education and Culture (MEC). SINTA was launched on August 17, 2017, which resources research for lecturer educators, research scholars, and colleges via an online platform.

According to the Ministry of Education and Culture, the MEC has taken seriously and has taken proactive steps to break the impasse in finishing courses and exams in currently running semesters and issuing an academic calendar circular. In addition, it has become essential for all Indonesian institutions to complete 85 percent of their curriculum using online modes and 15 percent through face-to-face engagement with students [28, 29]. Managing teaching learning circumstances in the post-COVID-19 epidemic educational environment would be difficult if online platforms were not used to their full extent. After witnessing the dreadful monster that is the COVID-19, it can be predicted that students will face various educational difficulties in the future, including outstanding education, training, lab work, library visits, peer tutoring, and research. As a result, the most likely answer to the educational problems since COVID-19 is to preserve the balance programs (blended mode).

*2.2. Online Education in HEIs.* Various obstacles have been encountered in the education system resulting from the COVID-19. Before the outbreak of this epidemic, online education was thought to be limited to the instruction given by Indonesia's open institutions. On the other hand, the online system has become a considerable task, and stakeholders are not possibly prepared to deal with the educational reforms because they are not tech-wise competent to deal with the current situation. As a result, to ensure an effective shift in educational practice (in this example, the transition from conventional teaching-learning techniques to online methods), it is necessary to consider the consequences of change.

The educational system's shared vision recognized that lecturers and students are inspired to modify an online model to meet the current academic demands of the pandemic. From lecturers to students, everyone was well-versed in using apps like Instagram, which made it easier for them to use online models like ZOOM and Google Meet. We do not need to rush out and buy new technology. We already have some essential educational programs like Google Classroom and a more user-friendly video conferencing tool downloadable for free and straightforward use [30]. Most stakeholders had cell phones, but only a tiny percentage had laptops necessary for the online model.

The central and provincial administrations unanimously agreed that online education should be implemented nationwide. Different national, regional, and college-level lecturers' and students' associations expressed support for online teaching learning modalities vision, with a variety of points of view, because of their curiosity to try out new technology. It was decided on a plan after considering our preparation for digitization mode, the need for change in this COVID-

19, and the resource availability for adopting digitization mode, among other factors. Following a plan, lecturers prepared and trained to get familiar with the technology necessary for employing digitization modes.

### 3. Method

The researchers used mixed approaches to investigate stakeholders' perspectives of the online education process at HEIs during a lockdown. This research is restricted to the College of Administration Puangrimaggalutung.

*3.1. Population and Sample.* The study's population included all lecturers and students at the College of Administration in Puangrimaggalutung. Quantitatively investigated, four lecturers (a professor, an associate professor, an assistant professor, and one lecturer) and 148 students (74 postgraduate students and 74 undergraduate students) were chosen as samples using disproportional stratified sampling. So, 148 students took part in a survey to examine their attitudes about online teaching learning (Table 1 & Table 2).

Furthermore, 10 lecturers (five male and five female) and ten students (five male and five female) were chosen for interviewing methods using a purposive sampling design [31] to collect qualitative data about their attitudes toward the online modes. All respondents are enduring teaching staff of Indonesian nationality who live off-campus. Similarly, all student respondents are enrolled in a conventional instruction mode and are Indonesian nationals who live off-campus.

*3.2. Collection of Data.* For the quantitative study, the researchers created 2 questionnaires to evaluate lecturers and students independently on the online mode. An interview format has developed the lockdown to solicit opinions and specific information from lecturers and students. Their perspectives, experiences, and thoughts on the continuing digitization process were collected for qualitative study. The second part entailed gathering lecturers' and students' perspectives on the benefits and drawbacks of the digitization model. The researcher acquired data in the third stage using semistructured interviews. By responding to the questionnaire, all sample respondents provided their full cooperation. During the interviews, valuable comments and ideas were received. Using descriptive statistics and qualitative content analysis, data collected from multiple sources were evaluated.

### 4. Result

*4.1. Findings Relating to Goal One.* Percentage analyses were used in a survey to disclose the various online modes used by lecturers and students throughout the lockdown time.

Table 3 depicts the various digitization modes employed by lecturers and students throughout the COVID-19 lockdown period. Following the suspension of the conventional online process due to the Indonesian government's enforced lockdown, the Ministry of Education and Culture has established its own LMS. All lecturers were obliged to check in to the LMS and post the study aids requested by the students

TABLE 1: Age and gender of lecturer's responses are shown.

Designation Gender		Lecturer		Assistant professor		Associate professor		Professor	
		Male	Female	Male	Female	Male	Female	Male	Female
Age	>30	12	4	4	1	—	1	1	—
Range	31-40	4	3	2	—	—	—	—	—
	41-50	4	1	3	1	—	—	—	—
	51-60	4	—	—	—	—	—	—	—
	>60	—	—	—	—	—	—	—	—

TABLE 2: Age and gender of student's responses are shown.

Gender		Postgraduate students		Undergraduate students	
		Male	Female	Male	Female
No. of students		37	37	37	37
Age range	21-25	5	3	24	25
	26-30	20	14	8	10
	31-40	10	15	3	2
	36-40	2	5	2	—

TABLE 3: Online teaching techniques adopted by lecturers and students.

No	Online teaching and learning modalities	Lecturers utilizing online teaching	Students utilizing online learning
1	SPADA	90	50
2	Google Classroom	62	57
3	Zoom	74	69
4	Google Meet	23	34
5	Webinar	45	40
6	YouTube	68	70
7	Facebook	56	65
8	WhatsApp	88	90
9	Telegram	75	80
10	Phone conversation	16	10
11	E-mail	43	50

and answer their questions in the forum. Consequently, it was a popular digital education method among lecturers, with almost all of the lecturers in the College of Public Administration Puangrimaggalatung using it, but the proportion of students using it was slightly lower (50%) because of internet connectivity's accessibility. Interestingly, despite having a range of digital modalities of teaching learning, practically all lecturers and students used WhatsApp, Telegram, and Phone for interactions in the classroom, assignment submission, clarification of problems, and class exam administration. There were 62 percent of lecturers utilizing Google Classroom, 74 percent using Zoom, and 23 percent using the Google Meet internet platform. Still, only 69 percent and 34 percent of recipients were detected. Forty-five percent of lecturers used Webinars as an online

teaching tool. Forty percent of students used Webinars to broaden their knowledge as an online way of learning. Sixty-eight percent of lecturers filmed their lectures on YouTube as online mode teaching, while seventy percent of students viewed presentations videos from all sources on YouTube.

Zoom, YouTube, and Facebook have all confessed to being used for learning purposes. In terms of imparting and receiving information, 16 percent of lecturers used phone conversations to engage educationally with their pupils. Nonetheless, students are cautious about contacting their lecturers, with just 10% doing so. Some lecturers (90 percent) expressed a strong desire to use a new technical tool for online lessons, such as the SPADA application from the Ministry of Education and Culture; SPADA is a government-run educational platform devoted to teaching learning material at least 24 hours a day.

*4.2. Findings Relating to Goal Two.* According to some of the lecturers, the college took the correct choice at the appropriate moment to include all stakeholders in the online teaching learning model, which is dependent on a shift in mentality for organizational leaders and educators to adapt to technology-based teaching.

The Puangrimaggalatung College of Public Administration was cooperative in adopting the digital model. This form of teaching is beneficial during the COVID-19 period, and it may be controlled as an education transition. Most lecturers believe that college students will be more motivated if they are persuaded that the online style of instruction has more benefits, particularly during the lockdown time. Furthermore, self-motivation may work, and it will do so gradually. The current pandemic scenario has wreaked havoc on practically every aspect of life, yet it is a gift in disguise. It was discovered that the college is handling it capably in the current setting due to encouragement, excellent knowledge, computer skills, communication ability, and clarity of expression. Additional skills discovered to manage the digital process included virtual classroom, tools available with user-friendly features.

The college administration has offered professional growth training for the SPADA portal. It was discovered that stakeholders' patience, including students and academics, would help a lot toward easing the transition. The essential tactics discovered in developing a digital classroom were encouraging students and teamwork. Most lecturers began by developing study e-materials according to the curriculum, attending online courses according to the timetable, and

finally uploading study materials. Some lecturers indicated that they had prepared modules for each unit that needed to be taught, following the upload of that module. Few lecturers have recorded their video lectures and published them to WhatsApp groups and the YouTube platform for students who were unable to attend courses due to unforeseen circumstances and provide equitable access to learning.

In terms of students' perceptions of a digital model, they believed that the digital process throughout COVID-19 kept them in touch with their studies. Because they were not used to studying on cellphones and computers, several students reported a lack of interest and attentiveness during online lessons. As a result, they thought it was important to acquire soft skills, particularly listening abilities, as early as feasible. Most student responses said that logging in with a specific id and password on the Google Classroom discussion forum required a reliable internet connection. In digital mode, students would first test their Google Classroom dashboard for any information, announcements, study material, assignments, and project activities submitted by lecturers. According to the pupils, the average time spent on internet activities was 4 hours per day. Students reported using 1.0–1.5 GB of data per day as part of their low-cost prepaid plan. Fortunately, the Ministry of Education and Culture provides data package help during online courses.

Students found the films provided by professors to be intriguing since they could watch them again, stop them, and take notes as required. Students reacted well to the comprehension of online lessons in terms of conceptual knowledge and conversation activities. "With effective internet access," some students said, "Zoom is the easiest and most suitable approach to talk with instructors." Students said that lecturers should use voice calls to foster friendship and educate the atmosphere of groups, applications, or any application. Expanding ICT resources will be supported realistically to better manage this kind of crisis. As several of the students have said, the most important teaching skill that needs improvement is making learning tailored for the students even though it occurs online. This adaptation will progressively improve with time.

*4.3. Findings Relating to Goal Three.* The most difficult aspect of online education was the inconsistent network connection. The connection is more steady if the students' videos and audios are turned off, but that manner of teaching seems to teach to a blank wall. Furthermore, it was felt that some of the pupils lacked the necessary resources to participate online. As a result, the issues with online education were both technological and ideological. The majority of the concerns were connected to students and their answers to the necessities of online education, such as an uninterrupted power supply and intermittent signal troubles. Among the key issues identified by lecturers were a lack of knowledge, a lack of opportunities for meaningful contact, a lack of opportunities for creative instruction, and mechanical class behavior. It was discovered that lecturers could not interpret the expressions and moods of their pupils, making it impossible to adjust the teaching style. Some lecturers were caught off guard since they did not know if the students

had turned on the computer for the sake of the name, were actively there at the time, or were sitting someplace; they had no idea about involvement.

It was discovered that the bulk of students come from rural places of Bone Regency with low socioeconomic family circumstances; thus, they required the laptop for online schooling but could not because they did not own a PC or laptop. It found no phones to be sufficiently effective in participating in digital classes. Furthermore, students were experiencing financial difficulties at home throughout the lockdown time. Because the online model in pandemic was a new experience for both lecturers and students, they highlighted the tense position. They did, however, commend the Ministry of Education and Culture's efforts on quotas and subsidies for pandemic services for the students' well-being.

Online teaching is an interesting notion for Indonesian lecturers in general. Initially, participation was low, but as time went on, the race gathered pace, and students felt comfortable attending online sessions. The lecturers claimed that the schedule of online lectures occasionally conflicted with other lecturers due to not adhering to the timetable as in traditional sessions. Furthermore, lecturers acknowledged that they could not entirely address students' questions and satisfy students' satisfaction levels due to the many obstacles they experienced in the early stages of the online model.

## 5. Discussion

The study offers a range of viewpoints on the digital model's issues today. New insights emerge from analyzing lecturers' and students' perspectives of the latest fad. Three key stakeholders, notably the government, academics, and students, began collaborating to benefit from the shift. It was discovered that the College's endeavor for a digital model of instruction began with orders from the Ministry of Education and Culture of Indonesia. China's government showed the same willingness under the "Leaving Classes Without Stopping Learning" policy to maintain conventional online model activities throughout COVID-19 uncertainty [32].

At the lockdown started, lecturers planned to utilize WhatsApp and their phones to teach. However, when the lockdown duration was steadily prolonged, WhatsApp and phone became insufficient. SPADA training was provided to lecturers, and they were forced to teach. To broaden their education exposure and knowledge, lecturers and students began installing digital learning systems like Zoom, Google Classroom, and YouTube. Again, numerous digital resources, like Zoom, Facebook, and YouTube, were used to meet the needs of both lecturers and students. Even though the transition was ongoing, most lecturers continued to use WhatsApp and Telegram as a medium of online curricular transaction. Some lecturers provided legible lecture handouts; the argument was simple: lecturers used WhatsApp and Telegram in their daily lives. It was also convenient for students to use. Furthermore, lecturers agreed that they were mostly reliant on WhatsApp/Telegram rather than publishing and obtaining study guides on Google Classroom because of the sluggish internet connection.

After the end of face-to-face lessons, students faced many obstacles, including financial strain and adapting to everyday life at home [33], to overcome the negative isolation's side effects. There were compatibility concerns concerning two-way engagement since students were returned to their hometown, which was situated in isolated rural settings with no 4G internet access or broadband services and no continuous power supply. Sahu [34] research findings advocated proper quotas and scholarships services to maintain the finance of students in this pandemic, which supports our findings that quotas and scholarships services are needed for the well-being of students and thus provided by the Ministry of Education and Culture to overcome their finance.

The qualitative results reflect [35] conclusions that make attempts to give free-to-access digital educational materials to students so that they may use their time most effectively during a lockdown. "Many classroom lecturers now seek to comprehend the intricacies of first time using distant learning and seek educational information online," according to [36], which supports the government's perception of providing free access to digital resources. According to Zayabalaradjane [37], flexible learning is a learner-centered strategy that provides students with various learning options to enlighten outcomes relevant and engaging. It taught us that in a circumstance like COVID-19, a pressing necessity is to extend and maintain online education.

Lecturers used to get frequent student feedback regarding the benefits and drawbacks of digital teaching transactions. The College of Public Administration Puangrimaggalatung used its official website to regularly keep students up to date. Students and lecturers are kept up to date on tests and academic activities through the college's online chat group. This supports [38] observation that even if attempts were made to engage with students via specific digital tools employing digital platforms, and the experience might be agonizing if some fundamental aspects are not configured in advance. Online education has been adopted as a feasible alternative well within its constraints as a time-suited gap technique for satisfying the needs of the COVID-19 pandemic. As of today, it has proven effective in recent student performance evaluations. It is debatable if it will be effective in the future. It may take some time to understand how the frantic efforts of the digital model fit the requirement of a net balance of collective repercussions.

## 6. Conclusion and Implications

In Third World policy paralysis when dealing with the sudden educational, economic, and administration shift during a pandemic, especially, developing nations would suffer. The most since they are already running out of money [39]. However, everyone must learn to deal with the current problem since it is just the beginning; in the long term, no college can afford to neglect digital change in their institutions. Digital education's complexity necessitates the development of multimodal ways to course content goals for improved learning outcomes. Following this pandemic, a few actions

should be taken to design a curriculum that accurately represents the changes in students' learning experiences.

More importantly, online and digital learning provide teachers with a more efficient means of delivering lessons to students in a variety of settings. Online learning includes a variety of materials such as videos, PDFs, and podcasts, and instructors may include any or all of these resources into their lesson plans as needed. Teachers can become more effective instructors by expanding the scope of their lesson plans beyond conventional learning to include online resources as well as classroom activities. Additionally, online education provides the flexibility for students to take courses from any place of their choosing. As a result, rather than being constrained by physical limits, schools may reach out to a more comprehensive network of pupils. Extra features include the ability to record online lectures and archive them for future reference. Learners will be able to obtain the learning materials at a time that is convenient for them. As a result, online learning provides students with the convenience of learning at their own pace and from any location. Online learning also has the benefit of lowering the overall cost of education. When compared to traditional schooling, online education is far more economical. This is due to the fact that online learning eliminates the cost points associated with student transportation, student meals, and, most notably, real estate. Aside from that, all of the course or study materials are made accessible online, resulting in a paperless learning environment that is more economical while also being more environmentally friendly. Furthermore, because online classes can be completed from the comfort of one's own home or any other location of one's choosing, there are fewer chances that students will miss out on important information. Additionally, every student has a unique learning journey as well as a unique learning style. Some students like to study visually, while others prefer to learn via listening to lectures. In a similar vein, some kids excel in the classroom, while others are solitary students who are easily influenced by huge groups of pupils. The online learning system, with its diverse range of choices and materials, may be tailored in a variety of ways to meet individual needs. It is the most effective method of creating an excellent educational environment that is tailored to the individual requirements of each learner.

Furthermore, online learning allows both the instructor and the learner to establish their own learning speed, with the extra flexibility of creating a plan that works for everybody's schedule. Therefore, using an online educational platform leads to better balance between work and research, with no need to give anything up in the process. Maintaining a solid work-study balance becomes simpler while students are studying online since students learn important time management skills. The presence of a shared agenda between the student and the instructor might also encourage both parties to embrace extra responsibilities and exercise more autonomy. Finally, as earlier mentioned, being able to establish students' own study speed may be really beneficial. Online education, on the other hand, is adaptable to the specific needs and abilities of each individual student enrolled. The size of online courses is often less than the size

of traditional classes. One learner at a time is often allowed on online learning platforms, which in nearly all situations allows for better contact and feedback between students and their instructor.

## Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that they have no competing interests.

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