Covid-19 and the non-state education sector

Anna Riggall, Elnaz Kashefpakdel, Joel Mullan, Kavita Rajagopalan, Peter Sutoris and Astrid Korin

The financial security of schools
Teachers and teacher development
Learning continuity and student wellbeing
Implications for policy and practice
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings at a glance</td>
<td>5</td>
</tr>
<tr>
<td>Executive summary</td>
<td>7</td>
</tr>
<tr>
<td>Impact on school finances</td>
<td>7</td>
</tr>
<tr>
<td>Impact on teachers and teacher development</td>
<td>8</td>
</tr>
<tr>
<td>Learning continuity and student wellbeing</td>
<td>8</td>
</tr>
<tr>
<td>Policy implications</td>
<td>8</td>
</tr>
<tr>
<td>Recommendations</td>
<td>8</td>
</tr>
<tr>
<td>Introduction</td>
<td>9</td>
</tr>
<tr>
<td>What is the non-state sector?</td>
<td>9</td>
</tr>
<tr>
<td>Research questions and methodology</td>
<td>10</td>
</tr>
<tr>
<td>1. The financial security of schools</td>
<td>14</td>
</tr>
<tr>
<td>Background</td>
<td>14</td>
</tr>
<tr>
<td>Findings</td>
<td>14</td>
</tr>
<tr>
<td>How schools have responded to the challenges</td>
<td>15</td>
</tr>
<tr>
<td>Summary and recommendations</td>
<td>17</td>
</tr>
<tr>
<td>2. Teachers and teacher development</td>
<td>18</td>
</tr>
<tr>
<td>Background</td>
<td>18</td>
</tr>
<tr>
<td>Findings</td>
<td>18</td>
</tr>
<tr>
<td>How schools have responded to the challenges</td>
<td>19</td>
</tr>
<tr>
<td>Summary</td>
<td>19</td>
</tr>
<tr>
<td>3. Learning continuity and student wellbeing</td>
<td>21</td>
</tr>
<tr>
<td>Background</td>
<td>21</td>
</tr>
<tr>
<td>Findings</td>
<td>21</td>
</tr>
<tr>
<td>Summary</td>
<td>23</td>
</tr>
<tr>
<td>Implications for policy and practice</td>
<td>25</td>
</tr>
<tr>
<td>References</td>
<td>27</td>
</tr>
</tbody>
</table>
EDUCATION DEVELOPMENT TRUST

Education Development Trust is an international not-for-profit organisation working to improve education outcomes around the world. We seek to improve education – and transitions into work – through expert research on what works, and delivering highly contextualised programmes designed to transform education systems, schools and lives.

Our vision is a world in which all lives are transformed through excellent education. We combine global research and our longstanding expertise with regional knowledge to inform education policy and practice and deliver programmes around the world. Through our work and expertise – which spans from early years education right through to post-school careers – we seek to strengthen education systems, transform teaching and learning, ensure effective transitions into work, and contribute to global responses to key education challenges.

We improve national learning outcomes by informing education policy and putting our knowledge into action in our programmes and consultancy work. We work in varied contexts all over the world, in education systems as diverse as those in Brunei, Kenya, England, Rwanda and Dubai. This often includes challenging environments, hard-to-reach localities and marginalised communities where the need is greatest. In all these locations, we use evidence-based methods to raise education standards, deliver innovation in schools, help teachers to improve their teaching quality, empower educators to effect sustainable and cost-effective transformation in their schools, and reduce disparities in educational outcomes.

We are a trusted partner of governments, academics and multilateral agencies across the globe. Our work helps to drive global understanding of education solutions, and we support global dialogues among international policymakers on education system improvement.

Our expert knowledge, programme design and implementation expertise are also deployed in delivering Ofsted-rated Outstanding careers services in England, and in owning and managing a family of independent schools, in which we put our knowledge about excellent teaching and learning into practice.

To achieve all this, we draw on our programme of public domain research that highlights ‘what works’ in education reform and invest in research and development to create globally leading and innovative methodologies, helping to make government ambitions for better education systems a reality.

Please visit www.educationdevelopmenttrust.com for more information.

GLOBAL SCHOOLS FORUM

Global Schools Forum works to strengthen global education through supporting non-state organisations in developing countries who serve children from low-income backgrounds. We are a membership organisation united by a common vision of a world in which all children can access quality education.

Our network of 64 member organisations spans 51 countries across Africa, Asia and South America, and collectively support 30,000 schools which provide education to over 5 million children.

As the go-to global organisation for the non-state education sector, we work to:
- Create opportunities for our members to collaborate and share expertise, knowledge, and best practices, and connect them to funders, policy makers, and other innovators.
- Support our members to test and scale innovative approaches, and contribute to stronger education ecosystems nationally and globally.
- Protect and enhance the policy, financing, and operational space for non-state education.
- Strengthen the evidence base on non-state education, and promote research uptake.

Please visit www.globalschoolsforum.org for more information.
ACKNOWLEDGEMENTS

We extend our gratitude to all schools and school leaders who took time from their busy schedules to participate in the research.

We would like to extend our thanks to Michael Latham and Dwithiya Raghavan for approaching us with the original idea for this report and driving the development of our early thinking.

We would also like to thank Donvan Ameyia, Dwithiya Raghavan, Modup Adefeso-Olateju, Gbenga Quadri and the researchers at the TEP Centre, for managing the data collection and preliminary analysis in their respective countries.
Findings at a glance

Impact on school finances
- The vast majority of schools surveyed are experiencing financial difficulties.
- Smaller school networks, schools charging low fees and low-enrolment schools are particularly struggling.
- Half of schools surveyed struggled with accessing financial support.
- Very few schools received any government support.
- There was little policy action to help through, for example, grants or ‘soft loans’.

Impact on teachers and teacher development
- Many teachers did not receive their full salary during the pandemic.
- Teacher attrition has been a major challenge, particularly for smaller schools.
- Teachers identified multiple areas where they required support:
  - Assessing learning loss.
  - Guidance on health and hygiene-related aspects of being back in schools while the virus is still circulating.
  - Guidance on remedial activities for all students, particularly those who had limited or no access to learning materials during school closures.
  - Supporting students’ well being and mental health
  - Using technology for teaching.

Learning continuity and student wellbeing
There is a mixed picture in terms of access to learning while schools were closed. Over half of students were able to keep learning in most schools in the GSF and India samples, but only 11 Nigerian schools and three Kenyan schools surveyed were able to keep learning going among more than half of their students.

School priorities for re-opening
- Health education: staying safe and maintain good hygiene.
- Academic catch-up and remedial activities.
- Parental engagement.
- Essential skills development.
- Social and emotional support.
Number of schools/operators experiencing financial difficulties

NIGERIA: 58/65
KENYA: 48/64
INDIA: 34/38
GSF: 17/22

NIGERIA: 43/65
KENYA: 27/64
INDIA: 17/38
GSF: 16/22

NIGERIA: 3/65
KENYA: 0/64
INDIA: 4/38
GSF: 5/22

NIGERIA: 56/65
KENYA: 42/64
INDIA: 25/38
GSF: 12/22

NIGERIA: 24/65
KENYA: 29/64
INDIA: 16/38
GSF: 10/22
This study examines the impact of Covid-19 and associated restrictions on the non-state school sector in low- and middle-income countries (LMICs). Drawing on a survey of GSF member organisations across 17 countries, and surveys and in-depth remote interviews with schools in India, Nigeria and Kenya, we explore how schools were impacted by the pandemic and the ways in which they coped with the disruption. We highlight areas for policy intervention and areas for potential peer learning and scaling up of best practices.

This summary focuses on the areas of disruption. For case studies of creative, agile and innovative responses by schools, see relevant boxes in each chapter of the report.

Impact on school finances
Our survey shows that schools across all three countries have experienced significant financial difficulties because of the pandemic. This has been the case for all three categories of non-state schools surveyed (NGO, low-fee non-state schools, and community). Approximately half of the schools surveyed struggled to access financial support to help them cope with these difficulties. The cost of using new modes of learning has further added to financial distress, especially for smaller schools.

The effect of school closures has not been uniform. Smaller schools, networks with fewer schools, schools with lower enrolment, and schools that charge lower fees have reported the greatest impact on their income. Schools with stable student enrolment and greater ability among caregivers to pay fees were more likely to recover. Being part of networks, alliances, or groups can provide schools with some degree of protection and access to valuable resources when crisis strikes.

Most schools relied on existing reserves, loans, and parental and community donations. Very few schools in the survey indicated that they have received stimulus packages from the government.
Impact on teachers and teacher development
Many teachers did not receive their full salary during the pandemic. 28 (of 33) schools in India, 20 (of 59) schools in Nigeria, 36 (of 47) schools in Kenya and 12 (of 22) GSF member organisations reported either pay cuts or no salary payments during the period of disruption caused by the pandemic. These cuts were more likely to affect smaller schools.

The pandemic led to teacher attrition, with smaller schools most affected. Some schools were forced to lay off staff, others saw teachers leave. In total, 16 schools in India, 24 schools in Nigeria, and 29 in Kenya reported losing teachers. It remains to be seen whether teachers will return to schools after the pandemic or whether this will have longer-term implications for the teaching workforce in LMICs.

Teacher development activities have been very significantly disrupted by the pandemic – 60% of GSF member respondents indicated that teacher development has been affected. The rapid shift to remote forms of learning added to the need for professional development for staff, but this additional need coincided with severe restrictions to schools’ ability to support staff and continue or add provision of professional development activities.

Learning continuity and student wellbeing
A very significant amount of instruction time has been lost because of the pandemic. At the time of our data collection in April 2021, schools estimated that this ranged from five to nearly eight months. Schools were generally not prepared to shift rapidly to remote education delivery, with the exception of several higher-fee schools.

The picture is mixed when it comes to learners’ access to education while schools were closed (See Table 6 for more detail). While most respondents to the survey of GSF member organisations and among our Indian sample reported that over half of their students did have some access to learning, this was not the case everywhere. Only three schools in Kenya and 11 schools in Nigeria reported that over half of their students had access to learning. Distribution of printed learning materials and the use of mobile phones and laptops, where available, were the most common methods employed by schools in their attempts to adapt to remote learning. Disadvantaged students were affected most, in that they were the least like to access remote learning provision.

Policy implications
Governments have a clear interest in ensuring the non-state sector does not shrink, now more than ever. If financial difficulties were to lead to large-scale permanent closures of non-state schools, the displacement of large numbers of pupils into the government sector would be highly disruptive.

Recommendations
1. Governments and development partners should focus on the availability of financial support for the non-state education sector, including through subsidised loans and credit.

2. Governments and development partners should support educational recovery in the non-state sector, including through the inclusion of non-state schools in remedial programmes aimed at mitigating learning loss.

3. Governments and development partners should also build the longer-term resilience of the non-state education sector, particularly among smaller networks of schools and standalone schools.

4. Governments in receipt of donor funding, especially from multilateral funds, should indicate in their Education Recovery Plans how disadvantaged students in non-state schools will benefit from the investment and how they are targeted in planning.
Introduction

The non-state sector plays an important role in the delivery of education providing the only meaningful option for children’s learning in many parts of the world, particularly in low-income countries where government-run systems are often overwhelmed and unable to keep up with the demand for education.

Since the beginning of the Covid-19 pandemic in early 2020, the non-state sector has been heavily affected by lockdowns, school closures and the wider impact of the pandemic on economies and societies. Yet, to date, relatively little has been published about how non-state schools have responded to these challenges.

In this report, Education Development Trust and Global Schools Forum have worked together to contribute towards filling this gap. Our goal was both to understand the impact of pandemic-related challenges and to investigate examples of creative practices schools used to adapt to the new situation. In doing so, we aimed to highlight the areas in which intervention is needed to help sustain the sector, and with it, the learning of millions of children who rely on it, as well as areas in which the non-state sector can provide inspiration to other educational providers, including governments and state agencies.

As Box 1 illustrates, not only does the non-state sector cater to hundreds of millions of children in low-income countries, but the sector’s share in overall education provision has been increasing in recent years. If the pandemic were to result in large-scale closures of non-state schools, the education of many vulnerable children would be at risk.

This study provides an initial glimpse of the pandemic’s impact in a small selection of geographies but is not intended to be exhaustive. There is a clear need for a systematic study of the pandemic’s impact on and mitigation strategies implemented by non-state schools. Such research would assist in:

- Identifying regional variation in pandemic impacts, helping to pinpoint geographical areas particularly vulnerable to school closures.
- Facilitating peer learning among non-state education providers (and potentially between the non-state and government sectors) centred on best practices in mitigating the impact of the pandemic.

BOX 1: The significance of the non-state sector

At the peak of the Covid-19 pandemic, school closures disrupted the education of approximately 1.5 billion students in over 190 countries – one in four of whom were enrolled in private (non-state) schools.1

Globally, the enrolment in non-state schools has risen from 184 million learners in 2000 to 280 million in 2019. In Sub-Saharan Africa, non-state schools accounted for 14.4% of primary enrolments, while in South Asia, they accounted for 37%.2

Given the significant volume of enrolment that the non-state sector accounts for in many LMICs, it is important to include these schools alongside government schools in any consideration of the impacts of the pandemic on education systems.

What is the non-state sector?

While the non-state sector is frequently associated in public imagination with fee-charging schools for the privileged, the reality is a lot more complex. The sector encompasses many schools run by not-for-profit organisations and philanthropists, as well as communities and religious groups. Particularly in the context of low-income countries, even for-profit fee-charging schools often do not resemble the affluent non-state schools common in high-income countries.

Attending a non-state school is not a sign of privilege in many parts of the world, and such schools often cater to some of the most marginalised and economically deprived families.

---

1 Based on combining UNESCO UIS data on school enrolment (public and private) with UNESCO data on school closures up to December 2020. Estimates are based on enrolment in 187 countries (out of 197) facing full school closures at any given time and for which data on enrolment was also available. 2 Ibid.
As a recent UNICEF report pointed out:

“Defining private schools is not straightforward; UNESCO defines them as any school that is not operated by the government but is controlled and managed, whether for profit or not, by a private body (e.g. community, foundation, faith-based organization, NGO, private proprietor or private enterprise). Other terms for private schools are non-state, non-government, and non-public.” – Alam & Tiwari, (2021:2)

Primarily, in this study we have been interested in non-state school networks and schools that charge low fees or no fees at all, as these schools cater to large numbers of students, and often serve areas with few government schools. If such schools were to close permanently, it would negatively impact the state sector and net enrolment.

For the purposes of analysis, in this study, we categorised the surveyed schools into three types: NGO schools, low fee-paying schools (LFPS) and community schools (as seen in Figure 4). Such categorisation is, however, not always straightforward; for example, a school might be managed by an NGO, charge low fees and operate as a community school all at the same time. In a cross-country study, the task of categorising non-state schools is further complicated by differences between the countries surveyed and the different language that schools in different parts of the world use to talk about their financial and legal status. Much of the report’s analysis therefore presents aggregate findings based on data from all the surveyed schools regardless of their category.

**Research questions and methodology**

In this study, we focused on three key areas, which correspond to the three main sections of the report:

1. **The impact of the pandemic on school finances**
2. **The impact on teachers and teacher development**
3. **Learning continuity and student safety.**

Each of these three areas illuminate the extent of disrupted learning in non-state schools because of the pandemic. We did not collect data on learning outcomes as these are not likely to manifest for many years into the future. However, we know from previous research that when school finances are disrupted, teachers overworked, teacher development compromised, and continuity and safety diminished, learning outcomes suffer.

**FIGURE 1:** Typology of state and non-state providers

Source: Adapted from Alam & Tiwari (2021) who cite Steer et al. (2015) as inspiration for the typology
While our choice of countries is not meant to be representative of worldwide trends, it enables a comparison between two regions with the most significant numbers of economically vulnerable children – South Asia and Sub-Saharan Africa. We chose the three countries in part because of pre-existing networks by Education Development Trust and Global Schools Forum that enabled us to collect data quickly and effectively and in part because all three countries have a significant presence of the non-state sector in their education systems (as illustrated by the statistics in Box 2).
BOX 2: Non-state education in case study countries

The non-state sector plays a key role in education provision in each of the participating countries where further data was gathered. In 2019, according to government statistics, 16% of primary school learners attended private institutions, up by 2% since 2017, despite a decline in the number of enrolled students overall (in all schools).³

INDIA

According to government statistics, India has over 410,000 non-state schools, which equates to 26% of all schools – although their true number is likely to be much higher. Recent household surveys indicate that just under half of enrolled learners are educated in privately managed schools, and one third of these are from the poorest 40% of the population.⁴ Analysis by Central Square Foundation showed that the proportion of students attending non-state schools has grown over the last 25 years, from 29% in 1993 to almost 45% in 2019.⁵ This growth has been in both urban and rural areas, with the rise in enrolment in non-state schools in rural areas going from 4% in 1993 to 26% in 2018. The percentage of private schools (as a proportion of all schools) in each state is on an average between 15 and 20%, the highest being 47% in Delhi and lowest being 3% in the state of Jharkhand.⁶

NIGERIA

Of the 5.5 million children enrolled in primary school, 2.1 million are receiving education in low-fee schools.⁷ A recent report suggests that non-state schools cater predominantly to economically disadvantaged communities, as more than 70% of students enrolled in these schools pay less than INR 1,000 (USD$14) per month in fees and 45% of them pay less than INR 500 (USD$7) per month.⁸

As in other countries, the picture is not uniform across the country. In Lagos State, nearly two-thirds of school children from the poorest households attend non-state schools. Lagos has the smallest number of public schools by a wide margin, with non-state actors providing the bulk of education provision to a rapidly expanding population.⁹ According to other sources, there are only 1,685 public schools against a total of over 18,000 schools.¹⁰

KENYA

Demand for private education in Kenya, especially in the densely populated urban areas, has been growing since 2003, when the government introduced free primary education. Enrolment increased from 6.1 million in 2002 to 7.2 million in 2003,¹¹ but rapid expansion stretched resources and impacted on quality, thereby driving a market for low-cost private education.¹² There are a diverse range of non-state institutions operating in Kenya, including low-cost non-state schools located in urban informal settlements, formal private academies in middle- and high-income urban areas and exclusive non-state schools offering foreign curricula such as the General Certificate of Secondary Education.¹³ Low-cost non-state schools account for the bigger proportion of non-state provision.

Although our sample (Figure 4) is too small to provide a comprehensive overview of the impact of the pandemic, it does give an indication of how the sector is faring. Our report highlights the importance of further research into the non-state sector’s situation.

Finally, it is also important to note that the non-state sector faces significant precarity even in non-pandemic times. A lack of stable, predictable government funding, vulnerability to market shocks and changes in the purchasing power of parents, lack of access to credit, and, in some cases, lack of formal recognition, all add to the sector’s precarious situation across a wide range of geographies. In our research instruments and interviews, we tried to account for this by focusing specifically on the impacts of the pandemic – the ways in which the pandemic has further exacerbated any pre-existing precarity the schools might have faced.

**FIGURE 4:** Participating schools by type in our survey

<table>
<thead>
<tr>
<th>NIGERIA</th>
<th>COMMUNITY SCHOOL</th>
<th>NGO SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW FEE-PAYING SCHOOLS</td>
<td>COMMUNITY SCHOOL</td>
<td>NGO SCHOOL</td>
</tr>
<tr>
<td>🟢 35/65</td>
<td>🟢 28/65</td>
<td>🟢 1/65</td>
</tr>
<tr>
<td>🟢 25/64</td>
<td>🟢 36/64</td>
<td>🟢 3/64</td>
</tr>
<tr>
<td>🟢 21/38</td>
<td>🟢 16/38</td>
<td>🟢 1/38</td>
</tr>
<tr>
<td>🟢 6/22</td>
<td>🟢 9/22</td>
<td>🟢 7/22</td>
</tr>
</tbody>
</table>

GSF MEMBERS
1. The financial security of schools

Background
For many non-state school networks and schools, the main or only source of revenue is tuition fees, which are often very low as a result of marginalised families’ limited purchasing power. The economic position of parents and carers was negatively impacted by the economic shock that swiftly followed the onset of the pandemic, with many adults losing jobs and having their livelihoods impacted by national lockdowns and curfews. Even when there is no crisis, it is common for low-fee schools to operate with very limited financial resources. With schools closed for protracted periods of time and parents unable to pay fees, non-state schools’ financial vulnerability has in many cases been further compounded by other financial obligations such as loan repayments, rent and bills.

Findings
Our survey showed that schools across all three countries have experienced significant financial difficulties because of the pandemic. This has been the case for all three categories of non-state schools surveyed (NGO, LFPS and community schools).

The vast majority of schools and school networks in our sample – in India, 31 schools (out of 38), in Nigeria, 35 (out of 65) and in Kenya, 53 (out of 64) – reported experiencing increased financial difficulties as a result of the pandemic. These difficulties were reported to be a result of parents’ inability to pay fees, the costs associated with providing remote education, and additional costs of adhering to new safety measures required for school reopening. This finding was echoed by schools responding to the GSF member survey, among which 17 (out of a total of 22 – of which 19 were run on a not-for-profit basis) reported that the pandemic had negatively impacted their cash flow and income.

Approximately half of the schools struggled with accessing financial support to help them cope with these difficulties (Figure 5). This is consistent with GSF’s survey of its member organisations; out of 22 respondents, seven schools or school networks indicated that they had no or almost no access to financial support and a further ten indicated they had insufficient access.

Our findings suggest that financial support only had a very limited impact on non-state schools serving the poor and were likely accessible only by well-established institutions. This is a pattern that had emerged prior to the pandemic, with many low-fee or no-fee schools in low-income countries unable to access credit due to their lack of collateral, credit history or required legal structure. In other words, it appears that the pandemic might have contributed further to educational inequalities, as the non-state schools that had already faced significant financial challenges before the pandemic continued to be excluded from accessing financial support at a time when they needed it the most.

The cost of using new modes of learning has further added to financial distress, especially for smaller schools. When asked about the drivers of financial strain half (N=11) of those responding to the GSF member survey reported the

FIGURE 5: Schools struggling to access financial support

Note: N is based on the number of responses to the question and may differ from the total N for each country

The schools had partially recovered fee arrears, with a similar proportion stating they had not recovered any fees at all. These findings further underline that not only was the sector as a whole hit hard by the onset of Covid-19, but that the schools which had been already in financial distress before the pandemic were hit the hardest.

How schools have responded to the challenges

The schools and school chains in our surveys reported that they coped with financial challenges through a variety of approaches. For many schools, this was extremely difficult, with income from fees completely disrupted. The situation for small schools and small school chains has proven particularly precarious.

Most schools relied on existing reserves, loans, and parental and community donations. While this finding suggests that the schools are often enmeshed in their communities and can count on their communities’ support at time of crisis, this needs to be put in the context of the economic devastation caused by the pandemic across many low- and middle-income countries. Even in non-pandemic times, parents of children attending low-fee non-state schools often have little disposable income, and their ability to help has been further constrained during the pandemic.

Very few schools in the survey indicated that they had received stimulus packages from the government—5 (of 22) GSF members, 4 (of 38) in India, 3 (of 65) in Nigeria and no schools in Kenya—to tackle their shortages in finance. None of the surveyed schools in Kenya have received state support.

Given this very limited support, many schools set about securing the funding they needed to keep going through other innovative and creative means (see Box 3).
BOX 3: School strategies to counter financial pressures during the pandemic

**INDIA – LEVERAGING A CLOSE RELATIONSHIP WITH THE COMMUNITY**
An English-medium, low-cost non-state school in Maharashtra, India set out to minimise the impact of school closures on student learning and student safety by leveraging its relationship with the surrounding community. Soon after schools were closed due to the pandemic, the teachers (including Teach for India fellows) spoke to parents to understand their circumstances, specifically with respect to their financial needs, their domestic situation and the availability of devices for children to use to attend online lessons. The school then reached out to various external organisations, primarily the Rotary Club of Khadki, to raise funds and resources required to support the community. In addition to providing resource support in terms of devices and food rations, the teachers also invested time and energy in communicating frequently and building relationships with the parents and children, even during vacation times. It has also inspired parents who are financially secure to support other students by donating books, through the ‘Parents as Partners’ initiative.

**NIGERIA – MOBILISING PHILANTHROPIC SUPPORT TO PREVENT SCHOOL CLOSURE**
In Nigeria, a nursery and primary school faced a drop in the numbers of enrolled students upon reopening, which affected its financial solvency. This coincided with requirements to meet safety standards for reopening which would require investment in infrastructure. To survive, the school had to source external funding via friends, families, and donors to ensure that it met the requirements to reopen swiftly. The quick thinking and resourcefulness of the owner – seeking financial intervention from students’ and teachers’ connections – was considered beneficial to the students and the school for reopening. It not only helped the school make adequate safety and hygiene preparations, and enabled it to restart operations and retain more students, but also helped it to retain parents’ confidence.

**KENYA – POOLING RESOURCES TO FACE ADVERSITY**
The survey work in Kenyan schools showed that ‘table banking’, a strategy in which community members pool their savings to take out future loans, was often used within our sample. Headteachers stated that they anticipated challenges in collecting fees and considering that most of the schools could not access credit from financial institutions, they embraced table banking. This involved working with neighbouring schools to pool together resources, which allowed more vulnerable schools (often with low enrolment) to access credit. Within schools, parents were mobilised to form table banking groups with a view to ensuring they had access to credit to cover school fees in preparation for school reopening. Teachers – many of whose salaries were not paid during school closures – were also encouraged to join table banking groups to help them access medium- or long-term credit to meet their needs.

The story of a primary school located in an informal settlement in the Mombasa region illustrates how this has worked in practice. After the school struggled to pay teacher salaries, the school owner, headteacher and teachers held a meeting to address the financial position of the school. The team agreed to reduce the school’s profit margin so they could continue to pay teachers. At the same time, teachers also resolved to start a ‘merry-go-round’ or table banking group. They saved five percent of their salaries, so that at the end of the month, the accumulated savings could either be loaned out to members or deposited in their school accounts as savings. The school had also taken measures to protect its future financial security by opening an emergency account in which it saves five percent of the fees collected to mitigate against potential future shocks.
payment plans. This support should be easily accessible and sufficient to cover operational costs and other financial obligations, such as current and accrued teacher salaries, as well as rent and provision of learning materials for students.

Belonging to a professional organisation appears to have helped some schools access financial support from governments and banks. Schools and school chains may therefore wish to consider the safety net that such membership could provide in future crises.

Summary and recommendations

Our data has made it clear that the non-state sector is highly vulnerable to financial shock and disruption. Governments, financial institutions and donor partners need to make financial support available for schools during a crisis. This can include loans, grants, and support funds.

Commercial banks and microfinance banks have a particularly important role to play, by increasing access to soft loans and overdraft and credit facilities with flexible

Community and Health Volunteer and a senior coach issuing tutorials to learners in Mombasa county in Kenya during the pandemic
2. Teachers and teacher development

Background
Our second area of focus concerned teachers and teacher development. In our surveys and interviews, we asked questions about the security of teachers’ employment, movement of teachers out of the profession or school, payment of salaries and benefits, migration away from school locations, the provision of professional development (linked to remote education provision and school reopening), and motivation.

We know from previously published research that some non-state schools were unable to keep paying staff salaries while schools were closed and that some teachers faced highly challenging financial situations as a result. A survey of low-cost non-state schools by Opportunity Edufinance found that the majority (74%) of teachers in non-state schools in Kenya had not received their salaries during the pandemic. The figures were reportedly even higher (91%) in the Dominican Republic, Ethiopia, Ghana, Nigeria Senegal, Uganda and Zambia.\(^\text{16}\)

Given the adverse financial situation in many schools and consequent disruption to teacher salaries, we hypothesised that the pandemic would have a detrimental effect on the professional development of teachers. Continuous professional development for teachers is key to quality education delivery. During the pandemic, this need was multiplied in schools that relied on EdTech in their shift to remote learning and in which teachers may not have had prior experiences with remote delivery of education.\(^\text{17}\) For these reasons, the professional development of teachers was another key theme we focused on in this study.

Findings
Many teachers were not paid their full salary during the pandemic. Our findings echoed the conclusions reached by prior studies and pointed to a large impact of the schools’ precarious financial situation on teacher salaries. 28 (of 33) schools in India, 20 (of 59) schools in Nigeria, 36 (of 47) schools in Kenya and 12 (of 22) GSF member organisations reported either pay cuts or no salary payments during the period of disruption caused by the pandemic. Where salaries continued to be paid, they were rarely paid in full. Among Kenyan schools reporting a cut in pay (as opposed to non-payment), this equated to a pay cut of up to 30% in approximately two-thirds of schools.

These cuts were more likely to affect smaller schools. This is consistent with our finding about the vulnerability of such schools to financial shock. The data from Nigeria showed that small (<100 students) and medium-sized (<101-500 students) schools were most affected (see Table 3). The picture was similar in India and Kenya. Larger schools in India (more than 500 students) reported that, on average, 40% of their teachers either had their pay cut or did not receive any pay at all, as compared to 67% of teachers from smaller schools (1-500 students). In Kenya, only one school with more than 450 students reported non-payment of salaries, in contrast to 15 smaller schools.

<table>
<thead>
<tr>
<th>Size of school</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (1-100 students)</td>
<td>28</td>
</tr>
<tr>
<td>Medium (101-500 students)</td>
<td>25</td>
</tr>
<tr>
<td>Large (501-700 students)</td>
<td>3</td>
</tr>
<tr>
<td>N=59</td>
<td></td>
</tr>
</tbody>
</table>

The pandemic led to teacher attrition, with smaller and more financially vulnerable schools most affected. Some schools were forced to lay off staff, others saw teachers leave: in total, 16 schools in India, 24 schools in Nigeria, and 29 in Kenya reported losing teachers. The data from Nigeria showed that small (<100 students) and medium-sized (<101-500 students) schools were most affected (see Table 4), while in India, just under half of the smaller schools in the sample (7 out of 16) had to lay off teachers because of the pandemic. In Kenya, meanwhile, only four large schools (with more than 450 students) reporting losing any staff during the pandemic. Teacher attrition was also an issue across GSF member school networks. Ten (of 22) schools and school chains responding to the GSF member survey reported losing between one and twenty teachers.

Teacher development activities have been very significantly disrupted by the pandemic. Overall, 60 percent of GSF member organisations indicated that teacher development

\(^{16}\) Opportunity Edufinance (2020) cited in Alam & Tiwari (2021) \(^{17}\) Page et al., (2021)
For some of the case study schools in Nigeria and Kenya, the context was quite different. In these schools, school leaders focused primarily on mitigating the effects of financial pressures caused by the disruption to the provision of teacher salaries. Several school leaders interviewed for this research were first and foremost focused on helping their staff to make ends meet and avoiding longer-term staff attrition caused by teachers leaving the profession for economic reasons. For example, in Nigeria, the provision of food donations, subsidies or vouchers were the most cited mechanisms used to maintain teacher attendance and engagement while schools were closed (N=16).

In the interviews conducted with the five case study schools selected from the schools surveyed, participants told us about the practices employed to support teachers (Box 4). Many of these were highly creative and demonstrated the resilience of these schools.

The rapid shift to remote forms of learning added to the need for professional development for staff. This additional need coincided with severe limits to schools’ ability to support staff and continue or add to professional development activity for staff.

How schools have responded to the challenges

Some schools have managed to continue to support teachers, including by providing professional development opportunities. As shown in Table 5, the most common activities to support teachers included providing education and training (GSF member and India surveys), providing support for blended learning (India), and providing counselling and mental health support (Kenya).

In some cases, there was also a call for more training in the use of technology for teaching, as blended learning is likely to continue in some areas after school reopening.

Summary

Teachers’ job security and income security were fragile during the period of school closures. The provision of salaries was disrupted across our sample, with many schools unable to pay their teachers at all during the pandemic. This has contributed to teacher attrition.

Small and medium-sized schools were most affected in their ability to retain teachers and counter teacher attrition.
The need for teacher support and professional development in response to sudden shifts to remote education coincided with a period in which schools were less able to provide the support required. Despite these challenges, some schools were dedicated to providing continuous support to teachers – not just with professional development but also with more fundamental livelihood security.

The case study material reflects some extraordinary and thoughtful approaches to supporting teachers at zero cost, with a focus on pedagogy, use of technology, and wellbeing. However, this was not the case across all the countries included in the survey. The case studies in Nigeria and Kenya highlighted the need for school leaders to focus on immediate financial challenges facing teachers, as well as taking action to secure the long-term retention of staff.

**BOX 4: Schools’ strategies to support teachers during pandemic-induced disruption**

**INDIA – HELPING TEACHERS ADAPT TO BLENDED LEARNING**
A school in Karnataka, India took a focused approach to supporting teachers through the sudden transition to online and blended learning delivery. The school principal organised structured classroom observations and weekly teacher professional development sessions. These digital classroom observations were conducted by the school leader and by peers and feedback was provided to teachers on areas for improvement. Based on the areas identified through observation, weekly professional development sessions were conducted, and this cycle was repeated continuously. The teachers also formed groups to read literature about remote learning pedagogy and identified ways that they could incorporate what they learned in their teaching.

**NIGERIA – SELLING UNNECESSARY MATERIAL TO ASSIST TEACHERS FINANCIALLY**
A school in Nigeria took action to help teachers financially, but this action had the added benefit of helping to support their morale as well. With almost no funds available to the school, paying salaries was a challenge. To cushion teachers from the economic challenges triggered by the pandemic, the school decided to sell some materials that were not needed and utilise the proceeds to provide the teachers and other staff members with financial assistance. Additionally, the teachers who could access WhatsApp were asked to join a forum in which the school owner shared motivational messages and insights to ‘inspire hope and productivity’.

**KENYA – SUPPORTING TEACHER ENTREPRENEURSHIP**
A school in Kibera, Nairobi, Kenya received an offer for two teachers to learn how to make liquid soap: ‘Our school received a request letter to host the soap-making training which was granted. […] two of our teachers were trained for free’. The director was happy to accept the request as she saw this as an opportunity to empower her staff to generate income to counter the financial crisis. The two teachers were able to make liquid soap for their own use at home as well as for business purposes.
3. Learning continuity and student wellbeing

Background
The third area of focus in this study was learning continuity, student safety and wellbeing.

Non-state schools, especially low-fee non-state schools, have struggled to provide remote learning support during school closures. Low-cost non-state schools faced significant challenges in ensuring continuity of learning due to poor access to technology in the populations they serve, as well as their students being burdened with other responsibilities, which made it difficult to keep them engaged in the learning process.\(^{18}\)

At the time of writing, the extent of learning loss or instructional loss is not known with any degree of certainty, although more actual data (as opposed to projections) is starting to emerge.\(^{19}\) The figures so far indicate both learning loss and instructional loss are high and likely to be highest for girls, older children and those experiencing any dimension of disadvantage.

Findings
A very significant amount of instruction time has been lost because of the pandemic. At the time of our data collection in April 2021, schools estimated that this ranged from five to nearly eight months. The schools in India reported an average of five months’ loss of instruction time, while estimated averages were even higher in Kenya (7.8 months on average) and Nigeria (six months).

Except for a few higher-fee schools, schools were not prepared to shift rapidly to remote education delivery. In India, schools in the higher fee brackets (>USD$50) reported being very prepared and claimed to have adapted reasonably well to remote education delivery. The story was different for those in the lower fee bracket (between USD$1-$25), with most reporting that they were being poorly prepared. In Nigeria and Kenya, the majority of our sample (N=42 and N=38, respectively) reported not being well prepared for the shift to remote education delivery.

Distribution of printed learning materials and the use of mobile phones and laptops, where available, were the most common methods employed by schools in their attempts to adapt to remote learning. Responses to the GSF member survey showed that the most frequently used modes of supporting remote learning were printed materials distributed to children (N=17) and mobile phone-based learning (N=14). In Kenya, the most cited methods were also the distribution of paper-based materials (N=11), and the use of mobile phones (N=9). Five schools (all not-for-profit) also encouraged community-based learning groups. In our Nigerian sample, the most frequently mentioned means of providing remote education were through mobile phones (N=24) and in-person meetings at the school, when this was allowed (N=20). Ten schools reported they used laptops and eight mentioned print materials. Ten schools reported they were not able to do anything to ensure learning continuity, with small numbers also saying they had to rely on state-provided TV (N=5) and radio (N=4) education programmes. The most cited methods of remote education provision in India were mobile phones (N=29) and laptops (N=12). Indian schools also used offline distributed materials, and some indicated that they had follow-up calls with students to ensure their engagement with learning.

For some schools, the remote education offer was holistic, including topics beyond traditional academic subjects. For example, a school in Hyderabad, India, made sure that students received academic inputs through online classes, but also included extra-curricular activities like art, music, dance, sports, and yoga in their schedule. One session per week of each of the extra-curricular activities was conducted for the primary students and one session every alternate week for the middle and secondary school students. Some of these activities enabled students to express themselves through writing or drawing if they were reluctant to speak. The school reported that this broke the monotony of academic study for students, while also helping them to internalise learning more efficiently.

There is a mixed picture of learners’ access to education during school closures (see Table 6). While most respondents to the survey of GSF member organisations and among the Indian sample reported that over half of their students did have some access to learning, in Kenya only

---

\(^{18}\) Alam and Tiwari, (2021)  \(^{19}\) Ndaruhtuse (2021)
those with low parental engagement were more likely to experience learning loss.

The extent to which schools were able to support student wellbeing during the closures was mixed. In Nigeria, 23 schools (of 65) reported they were not able to support student wellbeing at home. NGO-run schools were not able to provide any support at all, while faith-based schools reported much greater success in this area. The support took the form of regular calls from teachers or school leaders (N=42), teacher training to support wellbeing of students (N=27), and mental health support for learners (N=18). In Kenya, the most commonly reported way of ensuring students' safety and wellbeing was through guidance and counselling (39 of 64). Schools with low enrolment were more likely to offer support than those with high enrolment.

Schools and school chains were highly aware of the increased need to support student wellbeing at the time of reopening. Most respondents in the GSF member survey talked about the need for a focus on health education and

### FIGURE 6: Pupils most affected by learning loss according to our survey

<table>
<thead>
<tr>
<th>Category</th>
<th>Nigeria (N=60*)</th>
<th>Kenya (N=60*)</th>
<th>India (N=31*)</th>
<th>GSF members (N=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with low parental engagement</td>
<td>20</td>
<td>22</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Students without access to devices</td>
<td>16</td>
<td>21</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Students in rural areas</td>
<td>19</td>
<td>22</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Students with disabilities</td>
<td>8</td>
<td>8</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Students with lower grades</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Girls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Students in urban areas</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*Number of responses to question

Disadvantaged students were most affected. As shown in Figure 6, survey respondents in all three countries reported that students with no access to digital devices and

### TABLE 6: Number of students with access to learning during school closures

<table>
<thead>
<tr>
<th>Access to Learning</th>
<th>Nigeria (N=60*)</th>
<th>Kenya (N=60*)</th>
<th>India (N=31*)</th>
<th>GSF members (N=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-25%</td>
<td>21</td>
<td>33</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>26-50%</td>
<td>14</td>
<td>22</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>51-75%</td>
<td>3</td>
<td>2</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>More than 75%</td>
<td>8</td>
<td>1</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

*Number of responses to question
educating their students on how to stay safe and maintain good hygiene (N=14). They were also keen to prioritise methods to help students catch up academically, including through remedial activities like small group tutoring (N=15) and acceleration curricula (N=13). Other non-academic priority areas included a focus on parental engagement (N=13), skills development (N=10) and social and emotional support (N=10). The data from Nigeria and Kenya was similar, with parental engagement activities emerging as the top priority overall, followed by health awareness, remedial education, accelerated curricula and targeted social and emotional support (see Figure 7).

In interviews, representatives from schools in India, Nigeria and Kenya explained how they responded to the challenge of shifting to remote education and how they made this a success (see Box 5).

Summary
Non-state schools in our samples reported using similar methods for delivering remote education to those have been reported for public schools. Many non-state schools experienced difficulties in reaching their learner communities through digital routes, often because families did not have access to smartphones, tablets or laptops, and relied instead on low-tech and no-tech options. Although some schools were clearly well set up with digital and technological resources, this was far from the case across the board. In most cases, schools were not well prepared for the challenges that came with lockdowns and school closures. As a result, many students in the non-state sector did not have access to learning opportunities while schools were closed.

Where schools were able to keep learning activity going, there appears to be a pattern in which smaller schools and school chains, and lower-fee schools in particular, found the transition to remote education and learning continuity harder than their larger or higher-fee counterparts. Marginalised student groups were therefore more likely to lose out on instructional time.

In spite of this, individual schools also demonstrated remarkable agility and out-of-the-box thinking in helping their students learn during the pandemic. While the sector overall seems to have been underprepared for the challenges that come with remote learning, there are also pockets of innovation that are worth studying in greater depth to explore the potential for their replication as best practices across the non-state sector and beyond.

**FIGURE 7: Key priorities after school reopening**
Box 5: Schools’ strategies for supporting student wellbeing in a time of disruption

**INDIA – BRINGING SCHOOL NETWORKS AND NGOS INTO THE PICTURE**
A school leader in Delhi, India reached out to and partnered with a local NGO to support the school in the provision of teacher capacity building, student learning and student wellbeing and safety measures. The school was involved in a national network for independent schools which the principal had co-founded. The involvement in this network provided a platform to access support from other organisations which led to the provision of free support to teachers on curriculum, online pedagogy and co-curricular subjects, as well as physical resources like textbooks and even a language app. The support accessed through these channels ensured learning continuity for students and simultaneously provided training for staff. In turn, this helped with teacher retention.

**NIGERIA – CLUSTERING STUDENTS BY LOCATION AND HELPING THEM LEARN BY PHONE**
A nursery and primary school in Oyo State, Nigeria adopted a telephone call approach to remote provision. Students living close to one another were grouped to learn together. They would be instructed to meet at a certain location, usually a fellow student’s house, for lessons, during which a call would be placed by a teacher or tutor to the parent’s phone at that location. Lessons were carried out in this way at least once per week, and exercises were administered by the tutor at the end of each class to evaluate the students.

**KENYA – PROVIDING BOTH AN ONLINE AND AN OFFLINE OPTION FOR STUDENTS**
In Kenya, a Kibera (Nairobi)-based school opted to use a WhatsApp platform for grade 8 pupils, through which notes and revision materials were shared. Parents who did not own a smartphone and were unable to access the platform were asked to collect hard-copy materials for their children from the school on Thursdays and Fridays. The school also gave out homework tasks every week. The school leader commented: ‘We have homework books for all the grades which have all the subjects and weekly work. We gave all of them when they were going home. We also made summarised notes for our candidates which we sent them to them.’ The headteacher also contacted parents to inform them of lessons that were being aired on radio and television, designed to help the learners prepare for their upcoming Kenya Certificate of Primary Education (KCPE) examination, and to encourage them to allow their children to follow these broadcasts.

**OUTPERFORMING LAST YEAR’S RESULTS DESPITE THE DISRUPTIONS CAUSED BY THE PANDEMIC**
Another school in the same region relied on paper-based material distribution to keep students learning. The materials were delivered to the learners in their households by the school, which also reported having engaged parents in one-on-one discussions on how they could help their children to catch up on learning. Discussion groups comprised of a small number of pupils were also formed by the school leader, who reporting conducting door-to-door follow-ups to motivate the pupils to continue learning. According to the school leader: ‘We provided revision materials and ensured that the pupils were discussing them in small groups. I made door-to-door visits, and I can tell you the 2020 KCPE results were better compared to 2019 results. Last year [2020] we had a mean score of 238.38 and in 2019 we had 272.38.’
Implications for policy and practice

There are a number of clear considerations for education policymakers arising from the findings of this study.

Firstly, governments have a clear interest in ensuring the non-state sector does not shrink, now more than ever. If financial difficulties were to lead to large-scale permanent closures of non-state schools, the displacement of large numbers of pupils into the government sector would be highly disruptive. Public systems, already facing huge challenges in addressing learning loss among existing students, would need to absorb displaced students. This would negatively impact the quality of schooling available – which is already poor in many state-run education systems in low-income countries.

Moreover, any permanent school closures in rural and remote areas, where few alternatives are available, may result in a need for children to transfer to schools further afield, which will likely further disincentivise children (and their families) from continuing their education. In many contexts, the sheer scale of the non-state sector means it would be extremely challenging to create sufficient new public capacity in the required timescales, leading to an increase in the number of students out of school.

Secondly, there is a need for focus on the availability of financial support for the non-state education sector. Around the world, governments have extended business support (whether through grants or loans) to viable enterprises whose cashflow and business models have been damaged by lockdowns and social distancing requirements instituted in response to the pandemic. Support on similar terms should be offered to non-state schools as a way of preserving educational capacity. Relatively few of the schools surveyed reported receiving financial support from a government – just six of 22 GSF members, four of 38 Indian schools, three of 65 Nigerian schools and no Kenyan schools.

Where existing government loans for low-fee paying schools are available, governments must ensure that these are easily accessible to the schools most in need. Financial institutions should also be encouraged and supported to maintain and increase access to credit and low-interest loans with flexible repayment for formal and informal low-fee paying schools. There should also be exploration of whether risk-sharing models underwritten by government or philanthropic funders could ease the difficulties faced by such schools in obtaining financing.
Thirdly, there is a need to support educational recovery in the non-state sector. This report has highlighted that, like in government schools, learners in the non-state sector have lost significant amounts of instruction time, with survey respondents estimating learning loss between five and eight months as of April 2021. There will be a particular need to support schools in engaging and assisting those who were scheduled to graduate their primary or secondary cycles in 2020 and 2021, in supporting transitions into secondary or further education, or in supporting access to remedial education programmes.

Governments and philanthropic funders should support educational recovery through including the non-state sector in catch-up programmes, teacher professional development opportunities (in areas such as remote and online pedagogy), and efforts to build the capacity of education systems to deal with future crises. For example, when governments receive GPE funding and create educational recovery plans, they should be expected to show how disadvantaged students in non-state schools will benefit from the investment and how they are targeted in planning.

Finally, there is a need to build the longer-term resilience of the non-state education sector, particularly among smaller networks of schools and standalone schools.

Smaller chains and smaller schools appear to be more vulnerable to disruption and need specific attention to ensure they survive and can develop greater resilience in the future. For these schools to develop a greater degree of resilience, they are likely to require support from wider stakeholders to build reserves, access to loans and credit (in all forms), the creation of comprehensive school development plans, and the fostering more effective school networks.

Our data suggests that being part of networks, alliances, or groups can provide schools with some degree of protection and access to valuable resources when crisis strikes. Such networks appear to be able to increase schools’ ability to access training for teachers for remote learning, learning resources, support for marginalised and disadvantaged learners and their families, and financial support for staff.

Reflecting more widely, the good news is that the educational support needed by the sector is largely familiar territory for policymakers. With the non-state sector closely connected to public education system and with many similarities between the struggles facing both state and non-state schools in education recovery, it is important that government extends advice, guidance, and initiative to the non-state sector, or at least the most vulnerable parts of it, wherever possible.

In many ways the needs of the non-state education sector, according to our data, are the same as those of the public schools. Echoes of the conclusions drawn in previous reports by Education Development Trust are evident.20 For example:

- Issues concerning equity are visible and there is a need for purposeful attention to ensure learning is available to all.
- We recognise the importance of school leaders in navigating this difficulty effectively. This reinforces the idea that school leadership matters – in times of crisis and as we move forward to recovery.
- The data also shows how interconnected issues of wellbeing and teaching and learning processes are. The interview materials in particular highlight how solutions for remote teaching, safeguarding and ensuring student wellbeing are interconnected.
- The data suggests that lack of access to technology and/or internet connectivity was a key factor in many students’ inability to access learning during school closures. While technological solutions are important, no-tech safety nets are also needed, and paper-based materials are vital for many. Continuing to think creatively about the use of both tech and no-tech solutions remains important as the pandemic eases and schools reopen more securely.
- Parental engagement (or lack thereof) emerged as another key factor in access to learning in a time of disruption. Creatively considering how parental and community engagement can be harnessed to support learning recovery in the non-state sector is as important as it is in public schools.

While the needs of the non-state sector might be the same as those in the public sector, the level of attention and support the non-state schools has received during the pandemic is concerning. A response is needed urgently.

---

20 McAleavy et al. (2021) and Fitzpatrick, Korin & Riggall (2021)
References


