

INTERIM IAP GUIDELINES ON SCHOOL REOPENING (Part 1)

Contributors IAP Task Force on School Reopening and Remote Learning

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Summery document IAP Guidelines on School Reopening and remote learning -1 (dated 30/6/2020)

Nearly 37.5 crore school going students in India are homebound owing to the Covid 19 pandemic. There is a lot of uncertainty and confusion about when and how to start the schools, in all sectors of the stakeholders including the government, school authorities, teachers, parents and the civil society.

Indian Academy of Pediatrics formed a task force to address these issues.

The task force is under the process of framing the guidelines on following four questions :

1. WHEN should the schools open?
2. In WHAT WAYS can the remote learning be imparted?
3. WHAT changes could be made in the curriculum to make it more context specific?
4. When the schools reopen, HOW to proceed to safeguard the health?

Since the first question, 'WHEN should the schools open' is the pressing need of the hour at this point of time, the interim guidelines for the same are brought out by priority.

WHO released a document on '**School related Public Health measures**' on May 20, 2020 which guides us on points to consider before the schools reopen:

1. Current understanding about COVID-19 transmission and severity in children

2. Local situation and epidemiology of COVID-19 where the school(s) are located

3. School setting and ability to maintain COVID-19 prevention and control measures

Accordingly following scientific and research based data was probed and analysed:

1. Epidemiological properties of Covid 19: There are studies which adequately conclude that socialization, including school reopening, increases chances of spread of infection. Various parameters like R_0 (number of new susceptible persons infected by an infected individual), doubling time (time taken to double the number of positive cases in a given area), percentage of asymptomatic yet infective patients (which the young children are more likely to be) were looked into as a tool to know more about the spread of the disease. Since the virus is very new, it was observed that there is a lack of complete scientific understanding on many epidemiological parameters.
2. Current Indian statistics: Government and other authentic sites were accessed to know the trend of the disease. It was found out that new patients are being diagnosed in the increasing number each day. The number of diagnostic tests being conducted daily are as yet inadequate as per the international norms. Hence, it was concluded that the picture we get may be rather far from real.

3. Mathematical models: Various mathematical models predicting the probability of the impact of socialization on health care facilities were researched. Most of them predict a high load once schools reopen.
4. Guidelines given various international agencies: Guidelines by WHO, UNICEF, CDC and other international agencies were studied. It appears that the protocols laid down by them are very difficult to implement in our resource poor community and schools.
5. Unwillingness of the stakeholders, specially parents (as revealed by surveys and petitions) was taken cognisance of.

Guidelines:

With this scientific background and considering the difficulties in implementing the global guidelines in our set up, Indian Academy of Pediatrics, task force on reopening of schools and remote learning, would like to put up following guidelines, in view of the health of students and the society as a whole:

1. School reopening for any students, children and adolescents up to 18 years is not advisable till 15th of August 2020. It should not be contemplated till further guidelines are released. IAP will review the situation in the last week of July and release fresh recommendations.

2. Till then schools should start planning the modalities of reopening and functioning following reopening.

3. In the meantime, the schools may reopen for staff and teachers (allowing only those who are at low risk in terms of age and co morbidities) taking care of all the social distancing norms, to facilitate remote learning, nutritional and psychosocial support and planning the curriculum ahead.

**IAP Interim guidelines on reopening of schools
and remote learning: 1 dated 28/6/20**

Addressal to Q. 1: when to reopen the schools

Introduction and scope of the problem:

There are estimated 37.5 crore school students in India. (Confirmed data available from the ministry of Human Resource Development (MHRD) is till 2015-2016 which states the number of students from 1-12th standard to be 26.50 crore.^[i]

When to reopen the schools in the Covid pandemic is a big question that everyone who cares for children and their wellbeing, is facing today. It has been amply demonstrated by various studies including a systematic review of 48 published studies by Cai et al, that Covid 19 poses very low risk to the physical health of the children as compared to adults.^[ii]

Although, we are required to keep the schools closed, the isolation from the social world has its impact on the children, and the problems are emerging with each passing day. A rapid review of 65 studies on effects of social distancing and isolation in children says that, the children and adolescents are more likely to suffer from anxiety, depression and post-traumatic stress disorder during and after Covid 19 epidemic.^[iii, iv]

The closure of schools is likely to seriously affect not only the education and psychosocial health, but also the nutrition of large number of children. According to the MHRD data, about 12 crore children benefited from Mid-Day Meal program (MDM) across 11.35 Lakh schools across the country.^[v]

Risk assessment:

Assessing the risk that school reopening may have on the transmission of the pandemic faces a key challenge, as the role of children in COVID-19 spread is not yet well understood. Current evidence from household studies and contact tracing investigations suggest that children are as likely to be infected by COVID-19 as adults, but are more likely to be either asymptomatic or mildly symptomatic. This may explain the very small percentage (<5%) of children in COVID-19 confirmed cases worldwide. Their role in acting as source of infection remains unclear.^{[[vi]]}

A study published in the Lancet on epidemiology and transmission of Covid 19 done in Shenzhen, China, found that the attack rate does not differ significantly by age. On an average 7% of close contacts become infected. Around 80% of these contacts show symptoms and 3% of infections manifest as severe disease at the initial assessment.

This also means that there are about 20% asymptomatic positive cases, who pose a very high risk of spreading the infection, once the schools open their gates.^[vii]

Hence, the decision regarding opening of schools is a crucial balance, which is quite difficult to achieve.

Stakeholders' dilemma:

Regardless of official school closure or other distancing policies, unofficial student and staff absenteeism (whether due to illness or precautionary) can be very high during epidemics. Staff absenteeism can lead to forced local school closures. Latest surveys report that around 20% school staff is not ready to join back their duties.^[viii] In this event, there will be an increase the burden of managing and supervising more number of children per teacher as they resume duties. This will further skew the existing student

teacher ratio. Following social distancing norms will be more difficult with suboptimal supervision, increasing the risk of spread of infection.

Parents are not yet mentally prepared to send their children to school. In different online surveys, large number of parents have expressed their apprehensions on reopening of schools. In a Bengaluru based study, 80% parents said, they will not send their wards to the schools in next three months, or unless there is a vaccine.^[ix]

A petition on change.org, a popular petition website, started by a group called Parents Association urges the Union minister of human resource development to continue the current academic session in the e-learning mode. The petition has nearly 4,20,000 signatories from all over the country till June 2/2020.^[x]

Global advisories and guidelines:

Global Education Coalition comprising of UNESCO, UNICEF and WFP advises policy makers to assess the benefits of classroom-based instruction compared to remote learning, and the risk factors related to reopening of schools, while keeping in mind the inconclusive evidence around the infection risks related to school attendance. They emphasize safe operations, wellness and protection, compensating learning and involving the marginalized as the guiding principles. Policy reforms and adequate funding are the primary areas to look into.^[xi]

UNESCO guidelines in its framework for opening of schools, advises analysis of following situations:

A. What is the capacity of the school to maintain safe school operations to mitigate risks, such as social distancing (i.e. size of classroom compared to number of students); water, sanitisation and hygiene facilities and practices?

B. What is the level of exposure between the school population and higher-risk groups, such as the elderly and those with underlying medical conditions? If exposure is high, can sufficient mitigation efforts be taken?

C. How does the school population travel to and from school?

D. What are the community-related risk factors considering epidemiological factors, public health and health-care capacities, population density and adherence to social distancing and good hygiene practices?^[xii]

The Centre for Disease Control, USA, has issued guidelines for reopening of schools. They have asked 3 questions, the answers to which need to be affirmative before we consider calling our children to schools.^[xiii] These questions are:

1. Will reopening be consistent with applicable state and local orders?
2. Is the school ready to protect children and employees at higher risk for severe illness?
3. Are you able to screen students and employees upon arrival for symptoms and history of exposure?

Interim guidance for prevention of control of Covid 19, by WHO, UNICEF and IFRC, issued in March 2020 are as follows:^[xiv]

1. Sick students, teachers and other staff should not come to school
2. Schools should enforce regular hand washing with safe water and soap, alcohol rub/hand sanitizer or chlorine solution and, at a minimum, daily disinfection and cleaning of school surfaces
3. Schools should provide water, sanitation and waste management facilities and follow environmental cleaning and decontamination procedures
4. Schools should promote social distancing (a term applied to certain actions that are taken to slow down the spread of a highly contagious disease, including limiting large groups of people coming together)

WHO released a document on school related Public health measures on May 20, 2020 which guides us on points to consider before the schools reopen:^[xv]

- Current understanding about COVID-19 transmission and severity in children

- Local situation and epidemiology of COVID-19 where the school(s) are located
- School setting and ability to maintain COVID-19 prevention and control measures

Epidemiological considerations in Indian Context:

Some of the scientific and epidemiological parameters that would guide us to answer this critical question in the Indian context, are probed and deliberated.

A Chinese study on social mixing by Prem et al states that non-pharmaceutical interventions based on sustained physical distancing, including school closures, have a strong potential to reduce the magnitude of the epidemic peak of COVID-19 and lead to a smaller number of overall cases. Lowering and flattening of the epidemic peak is particularly important, as this reduces the acute pressure on the health-care system. Premature and sudden lifting of interventions could lead to an earlier secondary peak, which could be flattened by relaxing the interventions gradually.^[xvi]

Many studies have tried to address the problem by applying various mathematical models. They foresee and advice a plan for 18 months of dynamic NPIs (Non Pharmacological Interventions) with alternate suppressions of social mixing and relaxations to reduce the death rate and ICU admissions significantly. One of the suggestions quoted is a continuous, yearlong suppression strategy to reduce overall attack rates significantly. Howsoever effective, implementation (and socioeconomic sustenance) of such stringent measure could be challenged by its detrimental impacts on population well-being and livelihood.^[xvii]

Although keeping the schools completely closed for this big period needs to be addressed through these models, it appears quite clear, that schools may have to go on an open/closed/open/closed strategy. This would be still more

confusing for the students, parents and the teachers alike, and preparing for such a scenario is much more difficult.

Another Indian study from AIIMS, (under publication) states that to avoid a resurgence in cases, a dynamic relaxation approach guided by regional monitoring of effective reproduction numbers should be employed. This relaxation should be farther from the peak of active cases as feasible. This implies that the school, the local administrative authorities and the health personnel need to work in congruence, once the schools reopen.^[xviii]

Asymptomatic infections could be a considerable challenge once the schools open as socialisation among children is bound to increase the same. Increased detection will play an increasingly pivotal role in keeping an eye on the local epidemiology. The amount of testing will dictate the effect of resumption of socioeconomic activities. Testing capacity needs to be scaled up as a priority.

But as of now, we do not see adequately increasing number of testing in India.

- A cumulative total of 75,60,782 samples have been tested up to 24 June 2020.
- Number of samples 2,07,871 tested on 24 June 2020 (ICMR , 25/6/20)

The proposed number of diagnostic tests to be done in India per day after restarting socialisation was 1000000 ^[xix]

Though the tests are increasing, 'growth rate' of testing has plateaued in India.^[xx]

COVID-19 tests per 1,000 people performed per day are reported as on 25/5/20 to be only 0.14 in India compared to 1.63 in US.^[xxi]

The inadequate number of tests gives a false picture of the current status of the disease in the society. Missing out on positive asymptomatic school children would be highly detrimental.

According to WHO, positivity rate (of total tests performed) of less than 5 %, for two weeks, indicates that the epidemic is under control. India has shot

up from this value (during the period of lockdown) to 8%, as on 18/6/20. In some states, this value is even higher. This is a clear indication that we are far from achieving control over the spread of Covid 19.

R_0 , or the number of persons an infected person transmits the infection to, is a sensitive indicator of predicting the spread of the disease. Epidemiologist George Mac Donald put forth that, “if R_0 is less than 1, the disease will die out in a population, because on average an infectious person will transmit to fewer than one other susceptible person. On the other hand, if R_0 is greater than 1, the disease will spread.”^[xxii]

The overall value of R_0 for India has been holding steady at 1.22 since 21 May 2020.^[xxiii]

A stable value of R_0 less than one should be considered ideal, a state for control over transmission, before allowing further socialisation.^[xxiv]

Herd immunity:

The proportion of population that must become immune in order to halt the epidemic is given by $1 - 1/R_0$, the herd immunity threshold. For COVID19, the estimates imply that approximately 50–60% of the population must be infected or vaccinated in order to attain long term epidemic control.

An effective vaccine or immunity building through pathogen transmission and acquisition of disease are the ways to achieve the herd immunity.^[xxv]

Some mathematical models reveal the influence of population heterogeneity on herd immunity to SARS-CoV-2.^[xxvi]

Population heterogeneity can significantly impact disease-induced immunity. The proportion infected in groups with the highest contact rates is greater than in groups with low contact rates. It was estimated that if $R_0 = 2.5$ in an age-structured community with mixing rates fitted to social activity like school reopening were allowed, then the disease-induced herd immunity level can be brought down to around 43%. This percentage is

substantially less than the classical herd immunity level of 60% obtained through homogeneous immunization of the population.^[xxvii]

This implies that at least 43% of the Indian population gets active disease Covid 19, to stop community transmission.

Given that the case fatality rate of COVID-19 can be anything between 0.25–3.0% of a country's population, the estimated number of people who could potentially die from COVID-19, whilst the population reaches the herd immunity level, may be difficult to accept.^[xxviii]

A stochastic discrete age-structured epidemic model was studied by a group of French researchers based on demographic and age profile data of a region with high case load.

They tried predicting effects of reopening of school using another mathematical SIR (susceptibility, infectivity, recovery) model. The study predicted a surge of 4.5-5.5 times in the new cases and 72-78% more ICU admissions on opening the schools. The numbers are significantly higher, if adolescents are attending schools, since they harbour similar viral load as adults. Opening of the pre-primary and primary schools are less hazardous on public health outcomes, the study under peer review infers.^[xxix]

A study by John Hopkin's University, (under peer review), states that multiple periods of tightening and loosening restrictions may have good effect on arresting the disease transmission, but restrictions would need to be tightened often to avoid a high peak of infections and hospitalizations. It is also important to note that fragmented frequent changes in lockdown policy or fragmented policies (states vs states and state vs centre) can result in policy confusion and community fatigue for enforcement.^[xxx]

Latest Indian data:

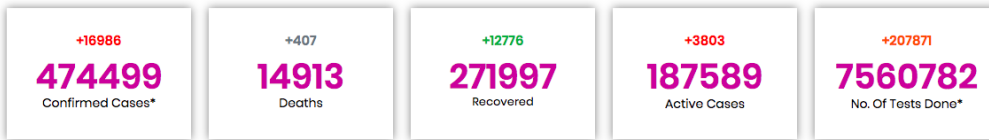
What's new?

- A direct refutation of ICMR, 78% of poll respondents believe there is community transmission
- If you have had COVID, and if you would like to share your story please write at survivor@covidindia.org.



Current COVID-19 Cases In India

Cases updated on 25-June, 08:00 pm; INC in 24h; Tests as of 25-June; next update 08:00 pm;



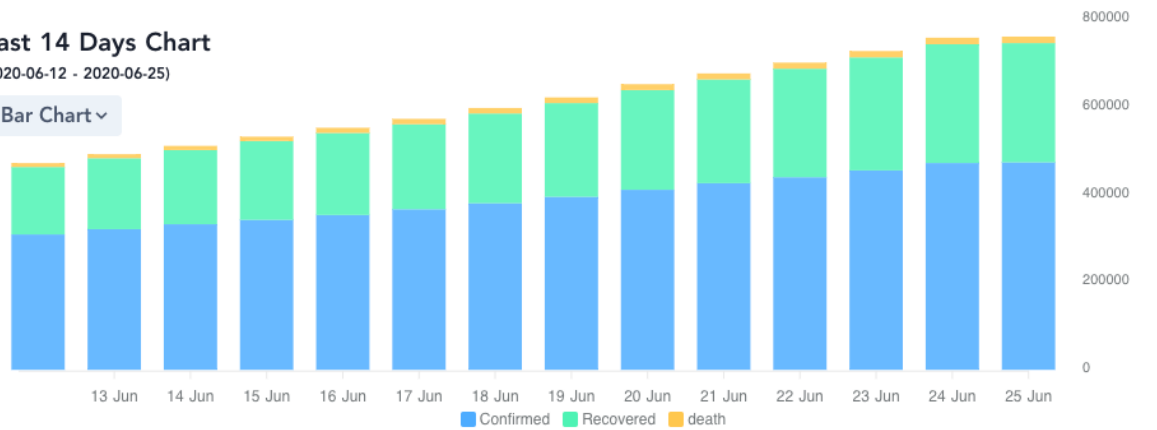
Sources: MoHFW, ICMR or state ministries. As per MoHFW: Cases=4,73,105, Recoveries=2,71,697, Deaths=14894

Trends:

Past 14 Days Chart

(2020-06-12 - 2020-06-25)

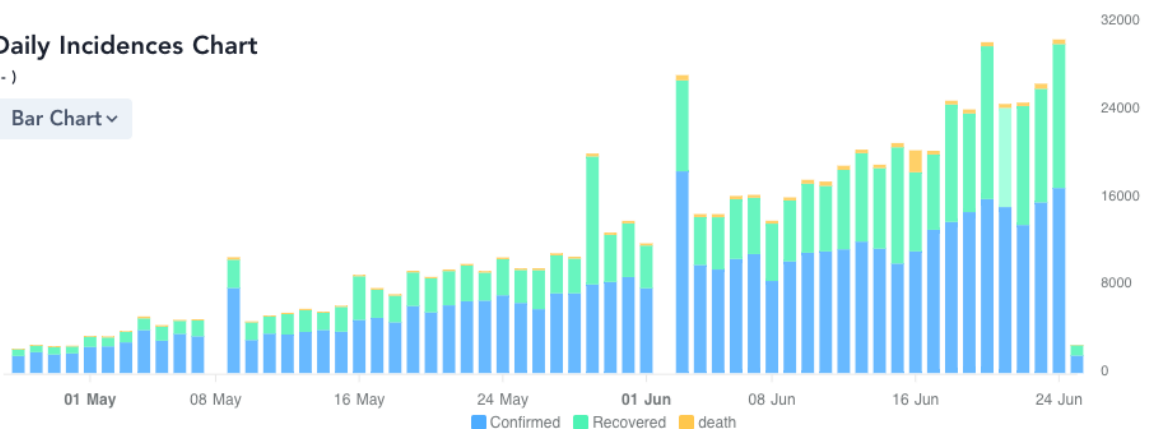
Bar Chart ▾



Daily Incidences Chart

(-)

Bar Chart ▾



Source: Corona tracker

An Observer Research Foundation article states that during the lockdown 4 and unlock 1, from 18 May to 16 June, the number of cases has increased by 253 percent and the death count has jumped by 287 percent.^[xxxii]

This data suggests that we are far from flattening. Some states like West Bengal and Assam have extended lockdown till 31st July

Danny Beurkli has demonstrated that, the Covid pandemic displays four major characteristics of complex systems, which keeps us cross fingered about the future: ^[xxxiii]

1. Exponential growth, (current doubling time 17.4 days, MOHFW, 13/6/20)
2. Sudden changes of phases with tipping points,
3. Delayed feedback cycles, both in terms of detection of the disease and in terms of understanding the effects of measures taken in response to the epidemic.

The actions we take *today* have to match the magnitude of the problem *in a week's time (or so)*. What might look like an overreaction is, in fact, more likely to be perfectly proportionate.

4. Small leverage points make big differences (like travel restrictions, isolation of cases)

Finally, Taseem Nicholas Taleb, author of 'The Black Swan', in his paper, 'Systemic risk of pandemic via novel pathogens: corona virus' , observes that precautionary approaches are necessary to control current and potential future pandemic outbreaks that must include constraining mobility patterns in the early stages of an outbreak, especially when little is known about the true parameters of the pathogen.

It will cost something to reduce mobility in the short term, but to fail do so will eventually cost everything—if not from this event, then one in the future, he warns.^[xxxiii]

What are the options:^[xxxiv]

1. Complete school closure
2. ‘School dismissal’ , a situation where in all students, except the most vulnerable and children of health-care and other essential workers, are sent home but the school stays open. These small number of children are taken care of their nutrition and education.
3. ‘Reactive school closure’ is closing down the school when an infected student/teacher is identified.

These measures are suggested to be a less strict intervention than school closure.

4. Hybrid schooling, as suggested by Chandigarh Administration, Children attend school two to three days a week, and home instructions are given. A customised learning opportunity with unique individual requirements is provided with modified curriculum.

Guidelines:

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