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Operational guidance for the management of SARS-CoV-2 cases and outbreaks in schools and kindergartens

Working Group: ISS, Ministry of Health,
Ministry of Education, INAIL, Bruno Kessler Foundation,
Region Emilia-Romagna, Region Veneto

Version of August 28, 2020

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This document, in anticipation of the reopening of schools in Italy (September 2020), is aimed at providing a practical support to policy makers, workers in schools and the staff of prevention departments of local health units involved in the monitoring and response to suspect/probable/confirmed cases of COVID-19, and involved in prevention strategies at community level. In this document, practical instructions are provided for the management of any cases or outbreaks of SARS-CoV-2 inside schools and kindergartens using hypothetical scenarios in the absence, at the moment, of solid forecasting models.

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Target

This report is intended for schools and kindergartens as well as the Prevention Departments of the National Health Service and all those who may be involved in the public health response to possible COVID-19 cases and outbreaks in the schools and kindergartens.

Purpose of document

Provide operational support for case management of children with COVID-19 related signs/symptoms and for preparing, monitoring and responding to potential COVID-19 outbreaks linked to schools and kindergartens, adopting methods based on evidence and/or good public health practices, rational, shared and coherent on the national territory, thus avoiding fragmentation and inhomogeneity.

This document will be associated with:

- other informative/communicative/training elements/initiatives aimed at various targets;
- other research tools aimed at addressing the lack of scientific evidence and the relative difficulty of estimating the real role that school-based activities can play in the transmission of SARS-CoV-2.

Glossary

ATA	<i>Personale Amministrativo Tecnico e Ausiliario scolastico</i> (School Technical Administrative and support personnel)
CTS	<i>Comitato Tecnico Scientifico</i> (Technical Scientific Committee)
DDI	<i>Didattica Digitale Integrata</i> (Integrated Digital Teaching)
DoP	Department of Prevention
DVR	<i>Documento di Valutazione del Rischio</i> (Risk Assessment Document)
FP	Family Pediatrician
GP	General Practitioner
ISS	Istituto Superiore di Sanità (Italian National Institute of Health)
LHU	Local Health Units
MI	Ministry of Education
MoH	Ministry of Health
NHS	National Health System
PPE	Personal Protection Equipment

Introduction

The reopening of schools, currently scheduled for September 2020, poses an epidemiological risk of the virus circulation in the community. The central question of school reopening decisions is not whether schools should reopen or not, but rather how to proceed with a safer school reopening through the understanding and awareness of public health risks, not just on children, school staff and on their immediate social contacts, but also on an increase in transmission of the virus at the community level.

To control/mitigate this possibility, some preventive measures have already been considered in formal and technical documents of the Scientific Technical Committee (CTS) – sent to the Ministry of Education (CTS, May 28, 2020; CTS, June 22 and subsequent specifications) – which provide indications for the reopening of schools and kindergartens, in line with the epidemiological situation and the scientific knowledge available so far.

It should be emphasized that all these measures can reduce the risk of transmission in the school environment, but they cannot eliminate it. Therefore, with a view to the probable circulation of the virus in September 2020, it is necessary to develop a national response strategy to any suspected and confirmed cases that are expected to occur in the school setting or that have repercussions on it. The response strategy to possible cases and outbreaks in the school environment will also be closely related to the epidemiological situation. Current containment strategies are based on available scientific knowledge. To assess the possible impact of the epidemic in the school environment, it is necessary to make some preliminary reflections.

A rigorous evaluation of the effect of different SARS-CoV-2 management strategies in schools in terms of interventions (preventive, reactive, gradual closure¹) and triggers (excessive absenteeism, incidence of SARS-CoV-2 in the general population, identification of suspected cases² or confirmed cases³) requires the availability of data on a number of factors that characterize the transmission of SARS-CoV-2 in schools and between schools and the general population (e.g. student families).

The transmissibility of SARS-CoV-2 in the general population in the various Italian regions is known (R_0 approximately 3 before the identification of patient 1, with R_t reduced to values between 0.5 and 0.7 during lockdown) (Guzzetta *et al.*, 2020; Riccardo *et al.*, 2020; ISTAT *et al.*, 2020). All the key times that regulate the transmission of SARS-CoV-2 in Italy are known with some precision (incubation period, serial interval, time from symptoms to hospitalization, time from hospitalization to admission to intensive care, period of hospitalization in therapy intensive, etc.) (Cereda *et al.*, 2020; Lavezzo *et al.*, 2020). Estimates are available on the likelihood by age of developing symptoms, critical symptoms, or death, showing that children are much less likely to get sick or die from SARS-CoV-2 infection (Perez-Saez *et al.*, 2020; Verity *et al.*, 2020; Poletti *et al.* (a), 2020; Poletti *et al.* (b), 2020; Wu *et al.*, 2020). There is a prevalent hypothesis that children, especially those under the age of 10, who are at risk of infection, are less likely to develop infection than adults and the elderly, from which the authors infer that children are less likely to transmit the infection compared to adults and the elderly (Zhang *et al.*, 2020; Jing *et al.* 2020; Wu *et al.*, 2020; Bi *et al.*, 2020; Viner *et al.*, 2020). Finally, it is known that the viral load of symptomatic and asymptomatic patients is not statistically different and therefore the transmission potential is likely the same (Cereda *et al.*, 2020; Lavezzo *et al.*, 2020; Lee *et al.* 2020). Furthermore, some recent studies have reported a higher viral load in children under the age of 5 (Heald-Sargent *et al.*, 2020).

¹ That is, initially, the first class, then the school level - ex. Primary or secondary school - or the areas of the building, according to the organization, and finally the entire institute – or on a geographical basis

² For examples, individuals with symptoms associable to SARS-COV-2

³ For examples, individuals diagnosed by molecular test in RT-PCR or rapid PCR test

However, there are still several unknowns, some of which are crucial, which do not currently allow a solid evaluation of the effectiveness of the various intervention strategies through modelling. First, the transmissibility of SARS-CoV-2 in schools is not known, although scientific descriptions of outbreaks in school settings in other countries are becoming available (Stein-Zamir et al, 2020). More generally, it is not known to what extent children, mainly asymptomatic, transmit SARS-CoV-2 compared to adults, even though the viral load of symptomatic and asymptomatic and therefore the transmission potential is not statistically different.

This does not allow a realistic assessment of the transmission of SARS-CoV-2 within schools in the Italian context. Furthermore, the level of transmission (R_t) is not predictable when schools will reopen in September.

After many weeks of continuous decline in cases and the value of R_t below the threshold of 1, we noticed an increase, starting from the last week of July, of R_t (with R_t close to 1) following the major openings in our country of 4 and 18 May and 3 June. While the improved ability of prevention systems to quickly identify outbreaks, isolate cases and apply quarantine measures to case contacts is evident, which contributes significantly to keeping transmission under control, it is not known at the moment what level of transmission, for example in terms of the number of outbreaks, that the prevention systems are able to manage effectively. Scenarios are likely to change significantly depending on whether or not it is possible to keep R_t below the threshold. Further uncertainty stems from the probable co-circulation of the influenza virus or other viruses responsible for influenza syndromes starting from the autumn months, which will probably complicate identifying cases of COVID-19 and the triggers for applying containment strategies. Another important aspect to consider concerns the average age of cases and therefore the impact on the health system. A significant decrease in the average age of cases has recently been observed with relatively few new hospitalizations from COVID-19. It is not clear at the moment whether this is a phenomenon that can last over time or is simply due to the current low level of circulation that allows the categories at risk, for example, the elderly, to be protected. It is quite clear that the identification of optimal control strategies will depend on the knowledge of this aspect which regulates the impact of transmission in schools on the general population and therefore on the categories at risk.

For these reasons, it is not currently possible to develop solid forecasting models on the effect of the different intervention strategies. These models can be developed as we gain knowledge on these specific aspects, deriving from the studies proposed in this document or from studies conducted in other countries or collections of updated scientific evidence and consensus from international institutions.

This document aims to provide operational support to decision makers and operators in the school sector and in the Prevention Departments who are fully involved in the monitoring and response to suspected / probable and confirmed cases of COVID-19 as well as in implementing prevention strategies. at the community level.

1. Preparation for the reopening of schools in relation to the response to any cases/outbreaks of COVID-19

For the prevention of COVID-19 cases, each school must follow the instructions of the Ministry of Education (MI), the Ministry of Health (MoH) and the Technical Scientific Committee (CTS). In particular, the following updated documents represent the current reference:

- MI:** Document for the planning of school, educational and training activities in all institutions of the national education system for the school year 2020/2021 (26/6/2020) (in Italian)
- CTS:** "Hypothesis of remodeling of the containment measures in the school sector and methods of resuming teaching activities for the next school year", approved on 28/5/2020 and subsequently updated on 22/6/2020 (in Italian)
- Circular no. 18584 of 29 May 2020:** "Finding and managing contacts of COVID-19 (contact tracing) and the IMMUNI App" (in Italian)
- ISS Report COVID-19 no. 1/2020 Rev.** Indicazioni *ad interim* per l'effettuazione dell'isolamento e della assistenza sanitaria domiciliare nell'attuale contesto COVID-19. Versione del 24 luglio 2020 [Interim guidance for carrying out isolation and home health care in the current COVID-19 context. Version of July 24, 2020.] (in Italian)

For the purposes of early identification and suspected cases, it is necessary to provide:

- a system to monitor the health of pupils and school staff;
- the involvement of families in checking the body temperature of the child / student at home every day before going to kindergarten or school;
- the measurement of body temperature as needed (e.g. sickness in school of a student or a school worker), by the school staff, through the use of thermometers that do not require contact that have to be found in advance;
- the collaboration of parents in contacting their own doctor (General Practitioner – GP and Family Pediatrician - FP) for the operations connected with the clinical evaluation and the possible prescription of a nasopharyngeal swab.

It is also necessary to prepare a flexible system for the management of the number of absences per class that can be used to identify abnormal situations due to excess absences, for example, through the use of special registers on which to summarize the data every day.

It is recommended that schools and kindergartens:

- identify school representatives for COVID-19 adequately trained on the procedures to follow (see chapter 1.3.2);
- identify school referrals within the Department of Prevention (DoP) of the competent Local Health Units (LHU) territorially (see chapter 1.3.1);
- keep a register of the pupils and staff of each class group and of every contact that, at least in the didactic sphere and beyond normal programming, may exist between pupils and staff of different classes (e.g. record substitutions, temporary and / or exceptional movements of students between classes, etc.) to facilitate the identification of close contacts by the DoP of the LHU with territorial jurisdiction;

- request parental collaboration to send timely communication of any absences for health reasons in order to detect any absence clusters in the same class;
- request families and school workers to immediate communication to the headmaster and the school contact person for COVID-19 in the event that, respectively, a pupil or a member of the staff are in close contact of a confirmed COVID-19 case;
- establish a privacy protocol with the DoP to alert the parents of students who are close contacts; particular attention must be paid to privacy by not disseminating any list of close contacts or sensitive data in the school environment in compliance with the GDPR 2016/679 EU and the requirements of the Italian personal-data protection authority (Legislative Decree 10 August 2018, n 101) but providing the appropriate information only to the DoP. This will be in charge to informing, in collaboration with the headmaster, the families of the children / students identified as close contacts and possibly preparing information for users and school staff;
- provide adequate communication about the need for pupils and school staff to stay at home in case of symptoms and / or body temperature above 37.5 ° C and contacting their paediatrician or family doctor. The most common symptoms of COVID-19 in children are: fever, cough, headache, gastrointestinal symptoms (nausea / vomiting, diarrhoea), pharyngodynia, dyspnoea, myalgia, runny nose / nasal congestion; most common symptoms in the general population: fever, chills, cough, difficulty breathing, sudden loss of smell (anosmia) or decreased sense of smell (hyposmia), loss of taste (ageusia) or altered taste (dysgeusia), runny nose / congestion nasal, pharyngodynia, diarrhoea (ECDC, July 31, 2020);
- inform and raise awareness among school staff on the importance of identifying any signs / symptoms early and communicate them promptly to the school contact person for COVID-19;
- establish defined procedures to manage pupils and school staff who show symptoms while they are at school, which provide for their return to their home as soon as possible, keeping them separate from others and providing them with the necessary assistance using appropriate PPE;
- identify an environment dedicated to the reception and isolation of anyone who may show symptoms compatible with COVID-19 (without creating alarmism or stigmatization). Minors must not remain alone but with an adult wearing PPE until they are entrusted to a parent / legal guardian;
- provide for an extraordinary sanitation plan for the isolation area and for the places frequented by the symptomatic pupil / member of the school staff;
- share procedures and information with school staff, parents and pupils and provide staff training;
- prepare for Integrated Digital Education (DDI) in the school plan, provided for by the Guidelines, the specific ways of activation in cases of need to contain the infection, as well as if it is necessary to suspend again the teaching activities in presence due to contingent epidemiological conditions.

The activation of distance learning during the 2019-2020 school year was one of the ways in which the social distance was implemented, which proved to be a key public health intervention for the containment of the spread of SARS-CoV-2. In the face of this, it is appropriate, in accordance with school autonomy, for each school to define how to implement it, by class and by school, in case of clusters that require its reactivation.

1.1. Specific for kindergartens (children 0-6 years)

The educational services for children have some didactic / educational peculiarities that make it impossible to apply some preventive measures that are possible for older students, in particular the maintenance of a physical distance of at least one meter and the use of masks. This is an aspect that must be given due consideration especially in the identification of subjects who fall within the definition of close contact. For this reason, teaching in stable groups is recommended (both for children and educators).

Compliance with the rules of physical distancing is an objective that can only be achieved in accordance with the degree of autonomy and awareness of minors as well as in consideration of their age. Therefore, the activities and strategies will have to be modulated in each specific context. This part will be developed later following the indications contained in the policy and orientation document for resuming activities in the presence of educational services and preschools (Ministry of Education, 2020).

1.2. Children and students with disabilities

In this context, it is necessary to guarantee the protection of pupils with disabilities, in collaboration with long term care facilities, family doctors (e.g. FP, GPs, etc.), and families and associations that represent them. The possibility of active surveillance of these pupils should be agreed between the school contact for COVID-19 and DoP, in agreement with or with the FP and GPs, (remember that patients with chronic diseases in adolescence can remain dependent on the FP up to 1 years. From this it is clear the need for a primary agreement with the FP who have in charge most of the medically fragile patients up to this age) in respect of privacy but with the aim of guaranteeing greater prevention through early identification of COVID-19 cases. Particular attention, therefore, should be paid to highlight the need for screening priority in case of reports in the same school attended. Particular attention should be paid to students who cannot wear a mask or who have a disability that places them at greater risk, adopting suitable measures to ensure the prevention of the possible spread of the SARS-CoV-2 virus and guaranteeing priority access to any screening / diagnostic tests.

1.3. Interfaces and respective tasks of the NHS and the educational system at the various levels

1.3.1. Interface in the NHS

It is recommended that the prevention departments identify professional figures - referents for the school environment and for community medicine (FP / GP) within the DoP (by way of example only health assistants, nurses, doctors) who, in functional connection with the doctors treating children and students (FP and GP), they support the school and the treating doctors for the activities of this protocol and that they act as a reference for direct contact with the head teacher or his / her representative (school contact for COVID-19 and with the doctor who is in charge of the patient. These referees must have knowledge of how SARS-CoV-2 is transmitted, prevention and control measures, the basic elements of the school organization to contrast COVID-19, the epidemiological investigations, the ministerial circulars on contact tracing, quarantine / isolation and must interface with the other operators of the Department. It is suggested that representatives of the DoP be identified in an adequate number (and in any case no less than two) based on the area and the activities to be carried out, in order to constantly guarantee the presence of a contact point with the schools in the area. It is also suggested to organize virtual meetings with schools through teleconferencing systems, which allow the participation of several schools at the same time, in order to present the methods of collaboration and the chosen organization. Communication channels must be

defined and tested (e.g. e-mail, electronic messaging) that allow a prompt response to school requests and vice versa.

1.3.2. Interface in the education system

Similarly, a contact person must be identified in each school (school contact person for COVID-19), if it is not the same headmaster, who plays an interface role with the prevention department and can create a network with other similar figures in local schools. A replacement must be identified to avoid disruption of procedures in the absence of the contact person.

The school contact person for COVID-19 should possibly be identified at the level of the single facility location rather than of comprehensive institutions and educational circles, for a better interaction with the facility itself. The DoP contact person and his / her substitute must be able to interface with all the school contacts identified, who must receive adequate training on the main aspects of transmission of the new coronavirus, on the prevention and control protocols in the school environment and on the management procedures of suspected / or confirmed COVID-19 cases.

It is necessary to clearly identify, set up and test the functioning of the mutual communication channel between the "school", treating doctors (FP and GP) and DoP (through their respective contacts) which will be adapted according to the technology used (e.g. short message, e-mail, telephone etc.).

1.4. Protecting the health and safety of school workers

The protection of the health and safety of school workers is guaranteed - as in all sectors of activity, private and public - by Legislative Decree 81/08 and subsequent amendments and additions, as well as by the provisions of specific ministerial legislation (Ministerial Decree 29 September 1998, no. 382).

In the "ordinary", if the employer, through the risk assessment process, highlights and reports in the Risk Assessment Document (DVR) the presence of one of the risks "regulated" by Legislative Decree 81/08 which provides for the obligation of health surveillance, must appoint the competent doctor for carrying out the medical examinations referred to in art. 41 of the aforementioned decree, aimed at expressing the judgment of suitability for the job.

This forecast has not changed in the current pandemic context; any employer in the school context must integrate the DVR with all the measures identified to be implemented to contain the risk from SARS-CoV-2.

An element of novelty is instead constituted by art. 83 of the law decree 19 May 2020 n. 34 and its conversion into Law 17 July 2020, n. 77 which introduced "exceptional health surveillance", ensured by the employer, for "workers most exposed to the risk of contagion, due to their age or condition of risk deriving from immunosuppression, including COVID-19 disease, or from the outcomes of oncological pathologies or from the carrying out of life-saving therapies or in any case from morbidity that can characterize a greater risk".

As also highlighted in the Technical Document on the possible remodelling of the measures to contain the infection from SARS-CoV-2 in the workplace and prevention strategies approved by the CTS, since the beginning of the pandemic, the epidemiological data have clearly shown greater fragility in the higher age groups of the population in the presence of some types of chronic degenerative diseases (e.g. cardiovascular, respiratory and metabolic diseases) or in the presence of diseases affecting the immune system or oncological ones (regardless of age) which, in case of comorbid with SARS-CoV-2 infection, they can adversely affect the severity and outcome of the disease.

The concept of fragility must therefore be identified in the health conditions of the worker with respect to pre-existing pathologies (two or more pathologies) which could determine, in the event of infection, a more serious or unfortunate outcome with respect to the risk of exposure to contagion.

Because of this - and therefore for these so-called "fragile workers" - the employer ensures exceptional health surveillance, at the request of the worker concerned:

- a. through the competent doctor if already appointed for health surveillance pursuant to art. 41 of *the Italian Legislative Decree 81/08*:
- b. through an *ad hoc* "competent doctor" appointed, for the emergency period, also, for example, by providing for a consortium of several schools;
- c. through the request to the local services of INAIL who provide their own occupational doctors.

1.5. Diagnostic tests available

Diagnostic tests for COVID-19 represent an essential tool not only for the clinical management of patients but also, and above all, to control the pandemic through the recognition and subsequent prevention and control measures aimed at infected individuals, even asymptomatic, which can spread the disease (ECDC, 1 April 2020; WHO, 8 April 2020).

The gold standard, the diagnostic method recognized and validated by international organizations to test for SARS-CoV-2 virus, and therefore the most suitable tool for a suspected case, is a molecular assay based on the recognition of viral nucleic acid (RNA) by an amplification method (Polymerase Chain Reaction, PCR) carried out on a sample of respiratory secretions, usually a nasopharyngeal swab. This assay should be performed in a microbiology laboratory using complex diagnostic reagents or kits and equipment, as well as trained personnel. For the entire diagnostic process, from sampling, to transport to the laboratory, to carrying out the test and reporting, 1-2 days may normally be required.

This assay should be considered the reference test in terms of sensitivity (ability to detect the virus) and specificity (ability to detect true infection by SARS-CoV-2 without to give false positivity).

Serological tests, on the other hand, are useful for detecting a previous SARS-CoV-2 infection and are used in research and epidemiological evaluation of viral circulation in the population without symptoms. Therefore, they have limited application in the diagnosis of COVID-19 and in the control of outbreaks.

Rapid diagnostic tests that detect the presence of the virus in infected subjects have been developed and are also in continuous technological evolution to improve their performance. These tests are generally based on the detection of viral proteins (antigens) in respiratory secretions (oropharyngeal swabs or saliva). If the antigen or viral antigens are present in sufficient quantities, they are detected by binding to specific antibodies fixed on a support, producing the formation of coloured or fluorescent bands. These rapid tests can provide a qualitative (yes / no) response quickly, typically within 30 minutes, and do not require laboratory equipment, although small portable equipment is required to read some test results. Furthermore, these tests can be performed both in the laboratories (decreasing the complexity and processing times) and also at the "point of care", mainly in the offices of paediatricians and family doctors, by health personnel which does not require specialized training. However, they are generally less sensitive than the classic molecular test performed in the laboratory, with a sensitivity (indicated by the manufacturer) in the best case not exceeding 85% (i.e. they may not recognize 15 out of 100 subjects infected with SARS-CoV-2), although generally their specificity appears good (they detect true infection by SARS-CoV-2 without to give false positivity).

It is foreseeable that new technological developments based on scientific evidence will allow for rapid diagnostic tests with improved sensitivity. The availability of these tests after appropriate validation may represent an essential contribution in the control of SARS-CoV-2 transmission.

1. Response to possible cases and outbreaks from COVID-19

2.1. Scenarios

Here are the most frequent scenarios for the possible emergence of cases and outbreaks from COVID-19. A summary scheme is reported in Annex 1.

2.1.1. If a pupil has an increase in body temperature above 37.5°C or a COVID-19-compatible symptom in school

- The school worker who becomes aware of a symptomatic pupil must notify the school contact person for COVID-19.
- The COVID-19 school contact person or other member of the school staff should immediately phone the parents / legal guardian.
- Host the pupil in a dedicated room or in an isolation area.
- Proceed with the possible detection of body temperature, by the school staff, through the use of thermometers that do not require contact.
- The child should not be left alone but in the company of an adult who preferably should not have risk factors for a severe form of COVID-19 such as pre-existing chronic diseases (Nipunie Rajapakse *et al.*, 2020; Götzinger *et al.*, 2020) and who must maintain, where possible, the physical distance of at least one meter and wear a surgical mask until the student is entrusted to a parent / legal guardian.
- The pupil should wear a surgical mask if he is over 6 years of age and tolerates it and without contraindication.
- Anyone who comes into contact with the suspected case must be equipped with a surgical mask, including parents or legal guardians who go to the Institute to take them home.
- In the absence of a mask, enforce the respiratory label (coughing and sneezing directly on a paper tissue or in the crease of the elbow). These handkerchiefs should be thrown away by the pupil himself, if possible, by placing them in a closed bag.
- Clean and disinfect the surfaces of the room or isolation area after the symptomatic pupil has returned home.
- Parents should contact the FP / GP for clinical evaluation (telephone triage) of the case.
- The FP / GP, in case of suspicion of COVID-19, promptly requests the diagnostic test and communicates it to the DoP.
- The DoP carries out the diagnostic test.
- The DoP carries out the epidemiological investigation and the consequent procedures.
- If the test is positive, the case is notified and the search for contacts begins, and extraordinary sanitation procedures of the school structure are started. To return to the community it will be necessary to wait for clinical recovery (i.e. the total absence of symptoms). Confirmation of successful healing requires two swabs to be carried out 24 hours apart. If both swabs are negative, the person can be defined as recovered, otherwise isolation will continue. The COVID-19 school

contact person must provide the DoP with the list of classmates as well as the teachers of the confirmed case who have been in contact in the 48 hours prior to the onset of symptoms. Close contacts identified by the DoP with the usual contact tracing activities will be placed in quarantine for 14 days from the date of the last contact with the confirmed case. The DoP will decide on the most suitable strategy for any screening of school staff and pupils.

- If the nasopharyngeal swab is negative, in a patient suspected of having SARS-CoV-2 infection, in the opinion of the paediatrician or attending physician, the test is repeated after 2-3 days. However, the subject must remain at home until clinical recovery and negative confirmation of the second test.
- In the event of a diagnosis of a pathology other than COVID-19 (negative swab), the subject will remain at home until clinical recovery following the indications of the FP / GP who will draw up a certificate that the child / student can return to school because the diagnostic-therapeutic and prevention pathway for COVID-19 has been followed, referred to above and as required by national and regional documents.

2.1.2. If a pupil has a rise in body temperature above 37.5°C or a symptom compatible with COVID-19 while at home

- The student must stay at home.
- Parents must inform the FP/GP.
- Parents must report their absence from school for health reasons.
- The FP / GP, in case of suspicion of COVID-19, promptly requests the diagnostic test and communicates it to the DoP.
- The DoP carries out the diagnostic test.
- The DoP carry out the epidemiological investigation and the consequent procedures.
- The DoP performs the diagnostic test and proceeds as indicated in paragraph 2.1.1.

2.1.3. If a school worker experiences an increase in body temperature above 37.5°C or a symptom of COVID-19 in the school setting

- Make sure that the school worker wears a surgical mask, and advise to leave the facility, returning to their home and contacting their GP for the necessary clinical evaluation. The attending physician will evaluate the possible prescription of the diagnostic test.
- The GP, in case of suspicion of COVID-19, promptly requests the diagnostic test and communicates it to the DoP.
- The DoP carries out the diagnostic test.
- The DoP carries out the epidemiological investigation and the consequent procedures.
- The DoP performs the diagnostic test and proceeds as indicated in paragraph 2.1.1
- In the event of a diagnosis of a pathology other than COVID-19, the GP will draw up a certificate that the worker can return to school because the diagnostic-therapeutic and prevention path for COVID-19 referred to in the previous point has been followed and as required by national and regional documents.
- It is noted that school workers have a priority in carrying out diagnostic tests.

2.1.4. If a school worker has an increase in body temperature above 37.5°C or a COVID-19 symptom while at home

- The worker must stay at home
- Inform the GP.
- Communicate absence from work for health reasons, with medical certificate.
- The GP, in case of suspected COVID-19, promptly requires diagnostic testing and communicates it to the DoP.
- The DoP runs the diagnostic test.
- The DoP carries out the epidemiological investigation and the consequent procedures.
- The DoP performs the diagnostic test and proceeds as indicated in paragraph 2.1.1
- In the event of a diagnosis of a pathology other than COVID-19, the GP will draw up a certificate that the worker can return to school because the diagnostic-therapeutic and prevention path for COVID-19 referred to in the previous point has been followed and as required by national and regional documents.
- It is noted that school workers have a priority in carrying out diagnostic tests.

2.1.5. In the case of a large number of absences in a class

- The school contact person for COVID-19 must communicate to the DoP if there is a high number of sudden absences of students in a class (e.g. 40%; the value must also take into account the situation of the other classes) or teachers.
- The DoP will carry out an epidemiological investigation to evaluate the public health actions to be taken, taking into account the presence of confirmed cases in the school or outbreaks of COVID-19 in the community.

2.1.6. Unknown transmission chain

If a pupil is found to be in close contact with an asymptomatic whose chain of transmission is not known, the DoP will evaluate the advisability of carrying out a swab at the same time as the quarantine prescription. The swab will be aimed at verifying the role of asymptomatic minors in the transmission of the virus in the community.

2.7.1. Student or school worker living with a case

It should be noted that if a pupil or a school worker is living with a case, he/she will be considered a close contact and placed in quarantine upon evaluation of the DoP. Any close contacts (e.g. classmates of the pupil in quarantine) do not require quarantine, unless further assessments by the DoP following a positive diagnostic test on the close contact of a case (see chapter 2.3)

2.2. Student or school worker positive for SARS-CoV-2

2.2.1. Performing extraordinary school sanitization

Sanitation must be carried out if 7 days or less have passed since the positive person visited or used the facility.

- Close the areas used by the positive person until the sanitation is complete.
- Open doors and windows to promote air circulation in the environment.
- Sanitize (clean and disinfect) all areas used by the positive person, such as offices, classrooms, canteens, bathrooms and common areas.
- Continue with normal cleaning and disinfection.

2.2.2. Collaborate with the DoP

In the presence of confirmed COVID-19 cases, it is the responsibility of the DoP of the LHU with territorial jurisdiction to deal with the epidemiological investigation aimed at carrying out contact tracing activities (search and management of contacts). For pupils and school staff identified as close contacts in a confirmed COVID-19 case, the DoP will prescribe the quarantine for the 14 days following the last exposure.

To facilitate contact tracing activities, the school contact person for COVID-19 must:

- provide the list of students of the class in which the confirmed case occurred;
- provide the list of teachers/ educators who have carried out teaching activities in the class in which the confirmed case occurred;
- provide elements for the reconstruction of close contacts that occurred in the 48 hours before the onset of symptoms and those that occurred in the 14 days following the onset of symptoms. For asymptomatic cases, consider the 48 hours prior to the collection of the sample that led to the diagnosis and the 14 days following the diagnosis;
- indicate any pupils/school workers who are medically fragile;
- provide any lists of school workers and/or absent students.

2.2.3. Elements for evaluating the quarantine of close contacts and the closure of part or the whole school

The assessment of the status of close contact is the responsibility of the DoP and the actions are undertaken after an assessment of any exposure. If a pupil / school worker is COVID-19 positive, the DoP will consider prescribing quarantine to all students of the same class and to any exposed school workers who are configured as close contacts. The closure of a school or part of it must be assessed by the DoP based on the number of confirmed cases and any clusters and the level of circulation of the virus within the community. A single confirmed case in a school should not result in its closure especially if the transmission in the community is not high. In addition, the DoP may provide for the dispatch of mobile units for the execution of diagnostic tests at the school based on the need to define any circulation of the virus.

2.3. Student or school worker close contact of a close contact of a case

It should be noted that, if a pupil or a school worker turns out to be in close contact with a close contact (i.e. no direct contact with the case), there is no precaution to be taken unless the close contact of the case is subsequently positive for any tests arranged by the DoP, and that the latter has ascertained a possible exposure. In which case, see chapter 2.2.3.

2.4. Decision algorithms

In a first phase, with limited circulation of the virus, it will be possible to consider an individual approach on suspected cases based on their identification in collaboration between FP / GP, school and DoP to maintain an acceptable level of risk.

In case of increased local circulation of the virus or suspicion of such, it will be necessary to define appropriate monitoring triggers to activate investigation / control actions. For example, an indirect trigger such as the number of absences from school could be considered which could represent a high number of sick students / staff.

3. Training, and information and communication for health professionals and school workers

3.1. Training

The impact of the COVID-19 emergency on the entire "training" sector was significant, with a progressive rapid cessation of the sources of delivery of residential training events and the contextual need / urgency to train as many workers as possible throughout the National territory. The temporal urgency, together with the need to ensure physical distancing, requires the choice of using Distance Learning (FAD) as a method of providing training courses. The Istituto Superiore di Sanità (ISS) has the EDUISS platform (<http://www.eduiss.it>) through which, since 2004, it has been providing distance training in public health. Furthermore, the ISS is both a national ECM provider and a SOFIA certified subject. In this context, through an appropriate preparatory phase, as summarized below, the ISS working group and the other institutions involved in the preparation of this plan, through the EDUISS platform will provide a training course on COVID-19 for the management of suspected or confirmed cases of COVID-19.

The recipients of the FAD training are the COVID-19 referents for each institution or school facility and the health workers of the COVID-19 referent DoPs for schools.

The asynchronous FAD course will be accessible and usable to the cohort of users (expected between 50,000 and 100,000 users) in the period 28 August / 31 December 2020.

3.2. Information and communication

An effective communication campaign on prevention measures plays a very important role in being able to mitigate the effects of any extensive outbreaks in the school environment. The following actions are recommended.

3.2.1. Information and communication actions recommended before the start of the school year

- Target: press
 - Communication of the containment / mitigation actions of SARS-CoV-2 in the school setting close to the opening of the school year by publishing a press release. In the press release it is recommended to describe the plan, the criteria on which the planned actions are based and the aim of ensuring educational activities as far as possible will be emphasized among the central messages.

- Target: families and school workers
 - Preparation of brochures, produced in collaboration between the institutions involved, downloadable from the website of the Ministry of Education and linked by the Ministry of Health and the ISS, intended for teachers, ATA staff, families and children.
 - Evaluation of the opportunity of a video for the target children to be promoted and viralized by the ISS and shared with the communication coordination.

- Evaluation of the possibility of making a free number available by the Ministry of Health to provide information and support to schools and families.
- Promote the use of the IMMUNI app also in schools⁴.

3.2.2. Recommended information and communication actions after the start of the school year

- Constant updating of dedicated web pages.
- Support from the Coordination for communication, based on the epidemiological situation, the cases and / or outbreaks and the consequent measures, in the management of any communication of the risk or crisis, headmaster, LHUs and all institutional subjects involved in the emergency.

⁴ You must be at least 14 years old to use the app Immuni. If you are at least 14 years old but less than 18, you must have the permission of at least one of your parents or those exercising your legal representation to use the app.

4. Monitoring and studies

4.1. Specific objectives

- Define the characteristics and data collection methods necessary for a more stringent monitoring of SARS-CoV-2 infections in school settings, also exploring the possibility of integrating epidemiological surveillance data with those of other information flows (e.g. data on school absenteeism or from the workplace).
- To cope with the current limited evidence regarding the real role that school-based activities can have in the transmission of SARS-CoV-2 within schools and in the community, the ISS will propose ad hoc investigation tools (e.g. protocols of FFX study adapted to the school context).

4.2. Proposals for surveillance and studies

- Develop an ad hoc analysis of transmission in the school setting by introducing in the national integrated surveillance for COVID-19 managed by the ISS a variable that allows to report cases who work or attend a school using the mechanised processing codes already in use to identify schools, and a further field that allows you to specify the institution attended. These data would complement the detection of weekly outbreaks already carried out as part of the phase 2 monitoring from which it would be possible to extrapolate the active outbreaks in the area of interest. The change to surveillance should be communicated to the regions in time to make it operational from the beginning of the school throughout the national territory. A section dedicated to COVID-19 monitoring in schools may be present in the weekly epidemiological bulletin.
- Carry out a rapid exploratory investigation of any other complementary data sources useful for epidemiological monitoring and their possible integration, as well as define, from the identified data sources, potential triggers to activate response actions on the territory (see chapter 3).
- Evaluate the preparation of an FFX model investigation protocol for the first outbreaks identified in schools following the reopening to be proposed to the regions in order to carry out studies aimed at ascertaining the real susceptibility to COVID-19 and the ability to transmit SARS-CoV-2 in various age groups in the school context and in the community.

5. Expected timing of some products related to this issue

- Availability of the FAD (Distance Learning) for the COVID-19 contacts of educational institutions and DoP: 28 August.
- Start of school surveillance integrated into national surveillance on COVID-19 managed by ISS: 14 September.

6. Critical issues

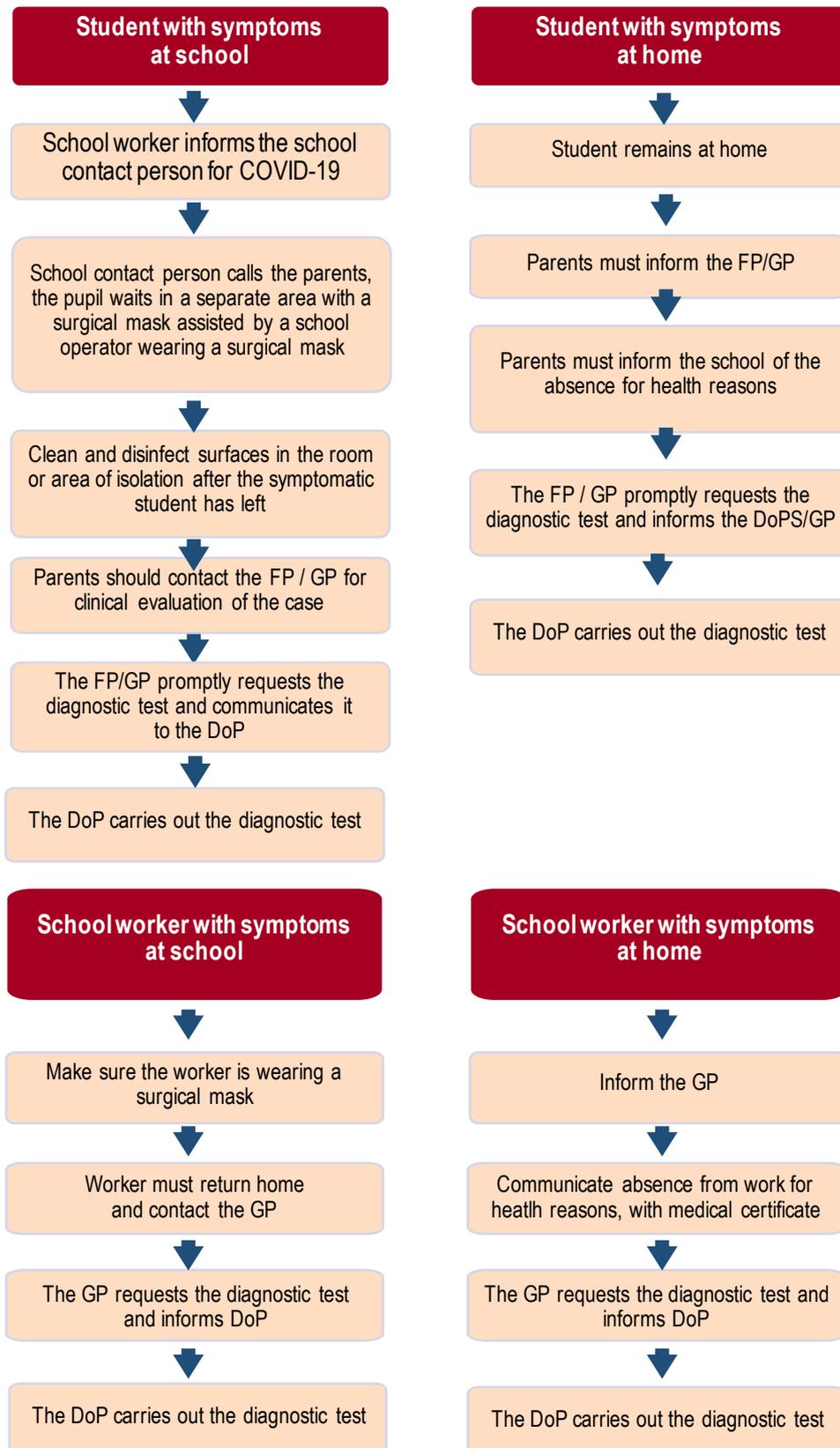
- The mechanism by which quarantined teachers can continue to carry out regular distance learning should be identified, consistent with their status as quarantined workers.
- The certification mechanism by FP and GPs for the return of students / staff to school after suspicion or case confirmation of COVID-19 should be identified, regulated and shared with the actors involved.

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Annex 1. Summary diagram



Rapporti ISS COVID-19 (ISS COVID-19 Reports)

ISS COVID-19 Reports are mainly addressed to healthcare professionals to cope with different aspects of the COVID pandemic. They provide essential and urgent directions for emergency management and are subject to updates. All reports have an English abstract.

The complete list is available at <https://www.iss.it/rapporti-covid-19>.

Some reports (highlighted below) are also translated in English and are available at <https://www.iss.it/rapporti-iss-covid-19-in-english>

1. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per l'effettuazione dell'isolamento e della assistenza sanitaria domiciliare nell'attuale contesto COVID-19*. Versione del 24 luglio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 1/2020 Rev.)
2. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per un utilizzo razionale delle protezioni per infezione da SARS-CoV-2 nelle attività sanitarie e sociosanitarie (assistenza a soggetti affetti da COVID-19) nell'attuale scenario emergenziale SARS-CoV-2*. Versione del 10 maggio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 2/2020 Rev. 2)
3. Gruppo di lavoro ISS Ambiente e Gestione dei Rifiuti. *Indicazioni ad interim per la gestione dei rifiuti urbani in relazione alla trasmissione dell'infezione da virus SARS-CoV-2*. Versione del 31 maggio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 3/2020 Rev. 2)
4. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per la prevenzione e il controllo dell'infezione da SARS-CoV-2 in strutture residenziali sociosanitarie*. Versione del 17 aprile 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 4/2020 Rev.) Available also in English.
5. Gruppo di lavoro ISS Ambiente e Qualità dell'aria indoor. *Indicazioni ad interim per la prevenzione e gestione degli ambienti indoor in relazione alla trasmissione dell'infezione da virus SARS-CoV-2*. Versione del 25 maggio 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 5/2020 Rev. 2).
6. Gruppo di lavoro ISS Cause di morte COVID-19. *Procedura per l'esecuzione di riscontri diagnostici in pazienti deceduti con infezione da SARS-CoV-2*. Versione del 23 marzo 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 6/2020).
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9. Gruppo di Lavoro ISS Ambiente – Rifiuti COVID-19. *Indicazioni ad interim sulla gestione dei fanghi di depurazione per la prevenzione della diffusione del virus SARS-CoV-2*. Versione del 3 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 9/2020).
10. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni ad interim su acqua e servizi igienici in relazione alla diffusione del virus SARS-CoV-2*. Versione del 7 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 10/2020).
11. Gruppo di Lavoro ISS Diagnostica e sorveglianza microbiologica COVID-19: aspetti di analisi molecolare e sierologica *Raccomandazioni per il corretto prelievo, conservazione e analisi sul tampone oro/rino-faringeo per la diagnosi di COVID-19*. Versione del 17 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 11/2020).

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20. Gruppo di Lavoro ISS Prevenzione e Controllo delle Infezioni. *Indicazioni ad interim per la sanificazione degli ambienti interni nel contesto sanitario e assistenziale per prevenire la trasmissione di SARS-CoV 2. Versione del 14 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 20/2020 Rev.).
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