

**ENGLISH VERSION**



Istituto Superiore di Sanità

Rapporto ISS COVID-19 • n. 14/2021

# **Technologies to support frailty, disability and rare diseases: development and submission of a survey during the pandemic emergency COVID-19**

Version of June 18, 2021



# Technologies to support frailty, disability and rare diseases: development and submission of a survey during the pandemic emergency COVID-19

Version of June 18, 2021

Daniele GIANANTI, Antonia PIRRERA, Alberto RENZONI, Paola MELI e Mauro GRIGIONI  
*Centro Nazionale Tecnologie Innovative in Sanità Pubblica, Istituto Superiore di Sanità*

Marta DE SANTIS e Domenica TARUSCIO  
*Centro Nazionale Malattie Rare, Istituto Superiore di Sanità*

The following has contributed to this work, within the scope of its specific skills:

## **Group “Rare Diseases COVID-19”**

*Chair:* Domenica TARUSCIO

*Members:* Domenica TARUSCIO (ISS), Luigi BERTINATO (ISS), Marta DE SANTIS (ISS),  
Maurizio POCCHIARI (ISS), Patrizia POPOLI (ISS), Patrizia CAPRARI (ISS),  
Mirella TARANTO (ISS), Anna LADOGANA (ISS), Massimo AQUILI (Ministero della Salute),  
Annalisa SCOPINARO (UNIAMO), Paola MELI (ISS), Francesca MASIELLO (ISS),  
Maria Elena CONGIU (Ministero della Salute), Francesco GABBRIELLI (ISS),  
Nicola VANACORE (ISS), Marco SILANO (ISS), Paolo SALERNO (ISS), Claudio CARTA (ISS),  
Amalia Egle GENTILE (ISS), Giancarlo LIUMBRUNO (ISS), Rosa Anna CAUTERUCCIO  
(Ministero della Salute), Marco SALVATORE (ISS), Daniele GIANANTI (ISS),  
Giovanni REZZA (ISS)

Istituto Superiore di Sanità

**Technologies to support frailty, disability and rare diseases: development and submission of a survey during the pandemic emergency COVID-19. Version of June 18, 2021.**

Daniele Giansanti, Antonia Pirrera, Alberto Renzoni, Paola Meli, Mauro Grigioni, Marta De Santis, Domenica Taruscio 2021, iii, 29 p. Rapporto ISS COVID-19 n. 14/2021 English version

This report illustrates the results of the development and submission of a survey proposed by the National Centre for Innovative Technologies in Public Health and the National Centre for Rare Diseases of the Istituto Superiore di Sanità with the aim of investigating the state of use of technologies by people with frailty, disabilities and rare diseases. The online questionnaire received 350 responses during the submission interval (15 September – 30 November 2020). A *first result* is represented by the electronic survey tool, developed with simple and effective electronic tools based on Microsoft Forms made available to ISS users and used during the pandemic, but useful with simple upgrades also in other periods. A *second result* is represented by a first overall picture relating to the state of use of technologies by citizens with fragility, disabilities and rare diseases. The *third result* consists in the interpretation of the data and in the analysis of the emerged needs that make us reflect on the current state of the art and offer important stimuli for all the stakeholders involved. Some future developments include further datamining.

The original Italian version of ISS COVID-19 Reports are available from: <https://www.iss.it/rapporti-COVID-19>

The reports translated in English are available from: <https://www.iss.it/rapporti-iss-COVID-19-in-english>

For information: [daniele.giansanti@iss.it](mailto:daniele.giansanti@iss.it)

Cite this document as follows:

Giansanti D, Pirrera A, Renzoni A, Meli P, Grigioni M, De Santis M, Taruscio D. *Technologies to support frailty, disability and rare diseases: development and submission of a survey during the pandemic emergency COVID-19. Version of June 18, 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 14/2021 English version).

---

The responsibility for scientific and technical data lies with the authors, who declare that they do not have any conflict of interest.

Editing and graphics: ISS Scientific Communication Unit (Sandra Salinetti and Paola De Castro)

© Istituto Superiore di Sanità 2021  
viale Regina Elena, 299 –00161 Roma



## Table of contents

Preface .....	iii
Presentation of the study .....	1
Choice of electronic survey tool and its development .....	3
Choice of method .....	3
Technological insights .....	3
Results and analysis of the answers of the questionnaire .....	5
Conclusions .....	15
References .....	18
Appendix Questionnaire.....	19



## Preface

The World Health Organization estimates that over 1 billion people live with some form of disability. This corresponds to about 15% of the world population, with up to 190 million (3.8%) of people aged 15 and over. The number of people with disabilities is increasing, also due to the progressive aging of the population and the increase in chronic health conditions. Disability is extremely varied, and some associated clinical situations can result in pathological conditions that require extensive health care needs. However, in general, all people with disabilities, as well as all other citizens, have the right to access traditional health services. Although Article 25 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD) reinforces the right of persons with disabilities to achieve the highest standards of health care, without discrimination, in the reality still few countries provide adequate and quality services.

Furthermore, very few countries collect disaggregated data by disability in the health sector and this has become much more evident and burdensome during the emergency caused by COVID-19: there has been no consistent inclusion in the responses put in place to control the pandemic. People with disabilities do not always receive adequate support, on the contrary they are often exposed to risks with serious consequences of contracting COVID-19; develop severe COVID-19 symptoms, have a worsening of your health during and after the pandemic (1).

Focusing attention on the national territory, Istat estimates that 3.1 million disabled people are in Italy, 5.2% of the resident population. Of these, almost 1.5 million is represented by the elderly over 75 (i.e., more than 20% of the population in that age group). If we also add to this number the people who declare they have minor limitations, the total number of people with disabilities in Italy rises to 12.8 million. There is talk of quite different types of disabilities, ranging from the highest degree of difficulty in the essential functions of daily life, to much milder limitations, also including chronic diseases such as diabetes, heart disease, chronic bronchitis, liver cirrhosis or malignancy, senile dementias, behavioural disorders, rare diseases (2, 3).

It is evident that for such a large group of citizens with specific needs and fragility, technological resources represent an indispensable tool for the continuity of care / therapy and in the COVID-19 era they are transformed into a real lifebuoy. Therefore, the accessibility and use of these technologies are not only current issues, but even vital because they can make a difference.



## Presentation of the study

During the current COVID-19 pandemic, all technologies, and in particular digital ones, are experiencing a significant boost, especially those in communication, a fundamental need considering the social distancing imposed as a containment measure.

In many cases, the digital systems available, both general and specialized, have the potential to support fragile people with disabilities, chronic diseases, and rare diseases in the continuity of care, guaranteeing them a condition of safety thanks to social distancing.

These technologies can now be integrated through solutions based on mobile health (mHealth) and electronic health (eHealth) thanks to the network connection, but often accessibility and their use is prevented or limited by a series of factors (4, 5):

- social;
- economic;
- cultural;
- technological resources;
- obstacles due to health conditions.

The COVID-19 pandemic and the consequent obligation of social distancing has offered a great stimulus for the development of digital technologies for the continuity of treatments and cures, however, the limits to effective access to these digital technologies have often exacerbated the disparity (6), accentuating the difficulties that “frail people”, their families and caregivers face daily. In this context, the expression “frail people” includes, in this case, all people with disabilities, rare or chronic diseases who share concrete social and health needs.

Understanding the state of the art in the availability and access to technologies, outlining and quantifying the related problems, allows you to plan targeted and adequate interventions.

For this purpose, the National Center for Innovative Technologies in Public Health (Centro Nazionale Tecnologie Innovative in Sanità Pubblica, TIPS) together with the National Center for Rare Diseases (Centro Nazionale Malattie Rare, CNMR), with the collaboration of the Press Office of the Istituto Superiore di Sanità (ISS), and internal and external experts of the ISS, has developed an online survey entitled “Technologies to support frailty, disability and rare diseases: the COVID-19 experience”.

The questionnaire, launched on 15 September 2020 and addressed to frail people and caregivers, was aimed at knowing which technologies were used (during the period of the first emergency phase) and their real usability, simultaneously highlighting the shortcomings in terms of needs and requirements that have not been reflected in the range of tools available to date. The results of the survey made it possible to acquire useful elements to rethink some paths and strategies to improve information and technological support and make available resources better known, useful not only in emergency moments such as the one we are experiencing, but also and above all for periods of “normality”, radically influenced and modified by such extraordinary situations (post COVID-19).

The first objective of the survey was therefore to identify which technologies were used during home isolation and physical and social distancing, to carry out, where possible, daily activities (work, school, etc.) and health and social-health treatments, in a period in which all facilities and services have been closed or suspended. For this purpose, questions relating to innovative technologies were envisaged as tools for maintaining or improving the general health conditions, functional status and degree of autonomy of the

person; but also, questions relating to the use of social networks or applications (APP) aimed at socialization and interaction.

The second objective was to monitor and identify the real accessibility and usability of the technologies currently available by “frail people”, their families and caregivers.

The questionnaire, filled in anonymously, has two sections:

- in the first, the direct experience of the fragile person was collected. The answers could therefore be provided by the person concerned, or in case of impossibility by a family member, a caregiver, or a representative of an Association.
- In the second, the opinions of any family member, caregiver or representative of the Association who provided support in filling out the fragile person were collected. The full survey is provided in the Appendix.

[https://drive.google.com/file/d/1ZP0fi8s9b6DitOEWFDMu5LcBcX\\_Dt\\_V/view?usp=sharing](https://drive.google.com/file/d/1ZP0fi8s9b6DitOEWFDMu5LcBcX_Dt_V/view?usp=sharing)

The survey, carried out in full compliance with current privacy legislation, was opened on September 15, 2020 and closed on November 30, 2020.

The dissemination took place through the web pages of the ISS site, the thematic site of the Ministry of Health ([www.malattierare.gov.it](http://www.malattierare.gov.it)), and Uniamo - Federation of rare diseases ([www.uniamo.org](http://www.uniamo.org)); furthermore, news was given via the ISS Rare Diseases Toll-Free Telephone, the sites of reference associations such as the Interregional Working Group for the Electronic and IT aids for the disabled (GLIC) and the Scientific Association for Digital Health ) and social media, such as Facebook, LinkedIn, Twitter and Instagram of various entities and institutions.

For a correct interpretation of the data, it should be borne in mind that the method of dissemination and collection of the data constituted a selection *bias*, since only people who had access to the Internet answered the questionnaire (in some cases even supporting less familiar people with mobile technology), which therefore affected the number of respondents.

# Choice of electronic survey tool and its development

## Choice of method

The survey is now an important tool for investigating numerous issues in various fields, including science. A crucial aspect to consider is that of the administration and collection of data which, especially in the case of complex surveys with a lot of information, can be difficult to manage.

Also in this case, technology has made it possible to make great progress, overcoming numerous typical problems of paper tools, such as:

- difficulty in reaching the subjects involved;
- difficulty in remote administration;
- difficulty, with a higher risk of error, in manually entering data into databases appropriate for analysis (e.g., Excel).

Today these obstacles are overcome by electronic surveys or online surveys, which allow to reach the target subjects through the most common web communication tools (e-mail, social media, etc.) by simply sending a link that allows direct access to the survey. and provides preliminary results in real time.

Furthermore, in the specific case of the COVID-19 emergency context, the online survey was also able to overcome the need for social distancing.

## Technological insights

Today there are several electronic survey applications made available by the great IT giants, such as Microsoft and Google.

In this study, Microsoft Forms was chosen, which is available in the Office 365 suite provided to the staff of the Istituto Superiore di Sanità and which for this reason respects the IT security aspects required by current regulations from a systems point of view.

The proposed survey is accessible via:

- Internet link representing a mirror version and identical (with all ramifications) to the submitted copy (now closed and no longer reachable):

<https://forms.office.com/Pages/ResponsePage.aspx?id=DQSIkWdsW0yxEjajBLZtrQAAAAAAAAAAAZAAOUXdFhUNjkwQ0ZVRjhVWIVQVVNTU1SSTINTkiZOC4u>

- Quick Response Code (QR Code), if you have only the paper version of this document and you have a Quick Response Reader available on your smartphone (Figure 1).

The following modules were used:

- (a) single choice question;
- (b) multiple choice question;
- (c) evaluation question (with a 6-level psychometric scale);
- (d) Likert question (<https://it.surveymonkey.com/mp/likert-scale/>) with a 6-level psychometric scale;
- (e) open-ended questions (in a few cases).

As regards the questions with open answers, given the potential heterogeneity of the answers that can be obtained also in terms of relevance and punctuality, a more detailed and targeted analysis is envisaged subsequently also based on any feedback to this document and other planned public dissemination initiatives.

As regards the questions of type (c) with 6-level evaluation and the Likert of which in (d) (e.g., Question 23) with sub-questions at 6 levels it was possible to assign a minimum score of 1 and a maximum of 6 therefore the value theoretical mean (MT) is 3.5. This value can be referred to by comparison in the analysis of the answers. An average response value below MT indicates a more negative than positive response. An average value above MT indicates *a more positive than negative response*.



**Figure 1. QR Code of the questionnaire**

# Results and analysis of the answers of the questionnaire

This document illustrates the preliminary assessments of the investigation. Further assessments will be made in a subsequent publication. To facilitate the reader, the results are reported, question (Q) by question, and then, the questions (in some cases merged) that have been developed in the analysis are listed with the related answers and considerations.

## Q1. Agree to participate

The survey was opened by 353 participants, of which 350 consented to the compilation. 313 were frail people or people who answered on their behalf.

## Q2. This survey is compiled with the support of

This question offered the possibility of being supported by another person during the compilation. Table 1 shows who completed the survey, i.e. who physically entered the data.

Table 1. Information on who physically entered the data in the survey

Compiler	Numer of answers
Familiar	66
Caregiver	26
Representative of the Association	11
It was compiled independently	247

## Q3. First part of the questionnaire – The data that are required in this first part are those relating to the fragile person who declared: “I have understood”

The question was asked for the simple purpose of reiterating that the information requested in this first section concerned the frail person, therefore it represents a reminder to avoid that the compilers, in the event that the questionnaire was not completed independently by the interested party, would reply own data. Everyone has read and declared that they have understood.

## Q4. Gender

The most represented gender is the female one with 200 responses, against 112 for males. Only in one case was the “other” box checked.”.

Table 2. Gender of respondents

Gender	Number of answers
Males	112
Females	200
other	1

## Q5. Age

The average age of frail people is 32.4 years with a maximum age of 79 and a minimum age of 2 years.

## Q6. Municipality of domicile and Q7. Province and region of domicile

Questions 6 and 7 were answered with greater participation from Lazio (63%) and Lombardy (24%), which represent two important regions both as regards the evolution of COVID-19 and for the presence of important cities and metropolitan areas, and for industrial and public administration activities. The detail is complex and these questions, as anticipated, are part of the group of questions subject to future investigation.

## Q8. Was the domicile in a red classified area?

Only 61 participants (19.5%) declared to be domiciled in a red zone with reference to the period 15 September-30 November.

## Q9. Do you have a disability / handicap / frailty?

## Q10. Do you have a rare disease?

All respondents to this part of the survey reported having a disability / handicap / frailty, of which 51.1% (160) reported having a rare disease (Q10). Clinical conditions or pathologies of reference have been specified, but these data are being developed and will be discussed and illustrated in a subsequent publication.

## Q11. Indicate the type of frailty / disability / disease

This question required specifying the type of frailty / disability / disease, also providing for the possibility of selecting multiple answers. Table 3 illustrates the main results by macro categories, but it is necessary to bear in mind that numerous comorbidities have been reported in the item other (i.e., the presence of multiple diseases or disorders), including many oncological pathologies. The more in-depth analysis with the details of comorbidities and further information on health conditions (question Q12 "Enter here further information on your disability / handicap / frailty and your disease"), will be the subject of a subsequent publication.

**Table 3. Types of fragility that emerged**

Types of frailty	Numer of answers
Physical education	170
Cognitive	48
Visual sensory	17
Auditory sensory	13
Sensory of another kind	24
Communication disturbances	28
Specific learning disorders	14
Other	192

## Q13. What is your educational qualification?

As shown in Table 4, 36.1% (113) of the respondents obtained a secondary school qualification, 27.8% achieved a degree and 6% (19) a doctorate or specialization degree. Only 21 people declared that they did

not have any qualifications, specifying in some cases in the “other” field that they had only attended kindergarten.

**Table 4. Respondents' educational qualifications**

Educational qualifications	Number of answers
Elementary school	25
Middle school	48
High school	113
Three-year degree	26
Master's degree	61
Doctorate and / or specialization	19
Other	21
Total	313

**Q14. Are you a student now? Q15. What school / courses do you attend?**

To these questions, 54 respondents gave a positive answer, detailing the school or courses attended in Table 5.

**Table 5. School / course attended by those who replied that they were a student**

School/course attended	Number of answers
Kindergarten school	1
Elementary school	12
Middle school	8
High school	21
Three-year degree	7
Master's degree	5
Doctorate and / or specialization	0
Total	54

**Q16. Do you have an IT tool (PC, tablet, smartphone)?**

Only one interviewee said he had no tools, confirming that technology is now an integral part of life and daily life for all of us.

**Q17. During the period of home isolation, did you hear from your friends over the network?**

This question, which had a rating with a score of 1 to 6, returned a predominantly positive answer. The analysis of the data, in fact, defined a theoretical average value (MT) of 3.8 > MT, corresponding to “more yes than no”. In fact, an average value greater than 3.5 (MT) indicates a position oriented towards a “more yes than no” (a predominantly positive response), on the contrary an average response value of less than 3.5 indicates a position oriented towards a “More no than yes”.

**Q18. Through which tools are you in contact with school mates and / or school teachers?**

Using a Likert scale, with a value from 1 to 6, several tools have been proposed. Among these, only WhatsApp exceeded the MT with 4.3.

### Q19. Current employment situation

The work situation relating to the 313 participants is detailed in Table 6, which also highlights the cases of non-applicability represented, for example, students and / or children not yet involved in work paths.

**Table 6. Work situation of the respondent**

Work situation	Number of answers
Unemployed	41
Employed	162
In layoffs	2
Retired	34
Working student	5
Not applicable	69

### Q20. What is your job?

Of the 169 respondents with a job (including 2 on layoffs), 86.39% claim to be an employee. Table 7 specifies the working conditions.

**Table 7. Type of work carried out by those who declared to work**

Type of work carried	Number of answers
I work for a public administration	107
I work for a company	39
I am a freelancer	7
I am an entrepreneur in the trade, industry and craft sector	3
Other	13

### Q21. Have you ever done smartworking?

70.41% (119) of responding workers carry out their activities in an agile way. Although it is a fairly high percentage, it is surprising that it is comparable to the percentage found generically in the public administration, even if they are frail workers.

### Q22. Did you start smartworking during the isolation period for the pandemic?

The data confirm that the emergency context has given a big boost to smart working, in fact almost 90% (107 out of 119) started this way of working during the pandemic.

### Q23. What kind of IT tool do you use?

Table 8 illustrates the most used IT tools. The question allowed to indicate more than one choice. To the answer Other, most declared that they only have the traditional mobile phone (which does not allow the wide functionality of the smartphone) and in one case no instrument.

**Table 8. Type of IT tool used (it was possible to indicate more than one)**

Type of IT tool used	Number of answers
Tablet	65
Smartphone	95
Personal computer	149
Other	16

**Q24. Do you use social networks and / or messaging tools (or chat) for your contacts with friends, relatives or other people / bodies (e.g., Facebook, WhatsApp)?**

Over 90% of respondents stated that they use social networks and/or messaging applications as socialization tools (as illustrated in Table 9). This result is not surprising, especially in the emergency context, which severely limited interpersonal relationships “in presence”.

**Table 9. Respondents’ use of social networks**

Answers	Number of answers
Yes	282
No	31

**Q25. If so, which ones?**

As highlighted in Table 10, WhatsApp is by far the most used tool, followed by Facebook and Messenger.

**Table 10. Social network used (it was possible to indicate more than one)**

Answer	Number of answers
Facebook	189
WhatsApp	276
Twitter	36
Messenger	130
Instagram	64
Snapchat	3
Other	31

**Q26. Do you use generic apps that proved useful during periods of isolation (other than messaging and social networking apps in the previous list and those specific to disability)?**

**Q27. Space dedicated to generic Apps deemed useful and to IT tools (smartphones, tablets, PCs, etc.) used**

Only 100 out of 313 people declare that they use generic apps, and it is not surprising that among these, as evidenced by a preliminary analysis of the Q27 demand, those for videoconferencing stand out, also in consideration of the fact that the period has given a strong impulse to agile work and distance learning.

**Q28. Do you use support Apps specific for your disability /handicap / frailty?**

**Q29. If yes, indicate which App, together with the IT tools used (smartphone, tablet, PC, etc.)**

Only 35 out of 313 people use a support App for their frailty or disability, and in particular (D29) the use of a wide variety of tools emerges, ranging from the category of cognitive games (7 cases) up to the category of App for monitoring physical activity (3 cases) and to the category of applications supporting word processing (e.g., dictation) in the remaining cases.

**Q30. During the home isolation phase, were the interventions (motor and cognitive rehabilitation, remote rehabilitation, neurorehabilitation, etc.) carried out through remote assistance services?**

Table 11 shows how extraordinarily little use was made of remote assistance services, most of the interviewees, in fact, replied “no” or that “they were not available” (90.76%). Only 9.26% of participants were able to use these services, an extremely low percentage, which places this among the critical aspects to be addressed urgently.

**Table 11. Answers relating to the use of remote assistance services**

Answer	Number of answers
Yes	29
No	203
Not available	81

**Q31. The interventions took place through...**

The results are shown in Table 12: in the “other” field the video-conference mode has been indicated several times.

**Table 12. Details of the type of remote assistance service received**

Interventions provided	Number of answers
Motor telerehabilitation	9
Cognitive telerehabilitation	8
Neurological telerehabilitation	4
Other	8

**Q32. Additional space dedicated to the description**

The results collected for this question are being processed and will be illustrated in a subsequent study.

**Q33. Have the interventions (motor and cognitive rehabilitation, remote telerehabilitation, neuro rehabilitation, etc.) administered in ways other than the usual ones created problems for you?**

As shown in Table 13, only in 9 cases (31% of the total) were there any problems in administering the interventions.

**Table 13. Number of respondents who highlighted difficulties in administering the interventions**

Answer	Number of answers
Yes	9
No	20

**Q34. If so, which ones?**

**Q35. Indicate any suggestions for improving interventions /activities (motor and cognitive rehabilitation, remote rehabilitation, neurorehabilitation, etc.) during the period of home isolation**

Question Q34 was linked to the previous Q33 aimed at highlighting whether problems had arisen during remote assistance. In the 9 cases in which problems were encountered from the analysis of the open answers, the following are highlighted:

- as problems (Q34)
  - Anxiety due to the new method of administration
  - Distraction due to non-presence administration
- as suggestions (Q35)
  - Improvement of psychological support
  - Connection improvement
  - Improvement of the delivery method (frequency optimization and distribution over several days)

Surely a strong decisive answer to these problems could come from an effective training, and a better personalization of the therapy together with a better verification in the field of the technological resources put in place (including those of the network band).

**Q36. Would you like to be able to do the interventions / activities or phases of them from home (motor and cognitive rehabilitation, remote rehabilitation, neuro rehabilitation, etc.), useful for improving your conditions, through remote assistance?**

Table 14 shows the position of the interviewees towards the question. Most of them want to use remote assistance to do the interventions from home. If we compare this data with the data found in D.30, we can see the discrepancy between those who benefit from this possibility (9.26%) and those who would like to be able to use it, that is well over half of the interviewees.

**Table 14. Position of respondents on the possible possibility of being able to do remote assistance interventions from home**

Answer	Number of answers
Yes	160
No	124

**Q37. Do you think technology could be useful to you from here in the future?**

Most believe, as shown in Table 15, that the technology may be useful in the future. Considering what emerges in the previous questions, in particular that 29 were able to take advantage of remote assistance and only 20 without problems, the answers underline a great confidence in technologies. These results raise

an important question on the fact that a clear demand / expectation of technology does not correspond to a satisfactory and effective offer.

**Table 15. Position of respondents towards the usefulness of the technology for future interventions**

Answer	Number of answers
Yes	283
No	30

### Q38. If yes, through the use of which App and IT tool?

The question provided for the possibility of a multiple choice. Table 16 illustrates the preferences in detail. In the “other” field, there were numerous proposals, from eye tracking to video consultation.

**Table 16. Technological solutions desired by the respondents (it was possible to indicate more answers)**

Answer	Number of answers
App generica	69
App per disabilità/handicap/fragilità	124
Smartphone	175
Tablet	115
Social	68
Strumento di messaggistica	65
Personal computer	183
Other	11

### Q39. Are you part of a Patient Association?

Table 17 shows the number of members of the patient associations.

**Table 17. Situation of respondents regarding membership of associations**

Answer	Number of answers
Yes	146
No	204

### Q40. This section is dedicated to family members, caregivers and / or members of patient associations

The question introduces the section dedicated to people who have offered their support to frail people in completing the questionnaire. 162 people filled out this section: Table 18 details their role.

**Table 18. Participation of respondents to the second part of the survey with explicit role (caregiver, family member, member of an association)**

Answer	Number of answers
Yes, I continue as a caregiver	32
Yes, I continue as a family member	89
Yes, I continue as a member of an association	41
I do not continue, I replied as a fragile person	188

#### Q41. Have you used any App for health and pharmacological surveillance?

31 respondents (23.7%) out of 162 stated that they made use of the App for pharmacological surveillance while 131 did not.

#### Q42. Have any technological tools provided at home proved to be usable and adequate for the remote management of the patient?

This question, which gave the possibility to answer in a graduated way by assigning a value from 1 to 6, returned a predominantly negative answer. The average value found was 2.5 <MT indicating a low value and therefore the inadequacy of the tools supplied at home in terms of usability.

#### Q43. Were there any particularly difficult situations?

Difficult situations emerged in 53% of cases, while in the remaining cases no difficulties were encountered (Table 19).

Table 19. Situation relating to the difficulties that emerged during the use of home technologies

Answer	Number of answers
Yes	86
No	76

#### Q44. If yes, for which disabilities / handicap / frailty?

As in other cases, the results collected for this question will be illustrated in a subsequent study.

#### Q45. What kind of difficulty?

From a preliminary analysis of the open responses, it is highlighted that the difficulties concerned all the disabilities / handicap / frailty in a uniform way and are all attributable to the discontinuity of assistance, and to the strong reduction in the provision of support therapies and rehabilitation in the presence.

#### Q46. Was there an aggravation of disorders or pathologies in this emergency period?

As shown in Table 20, 89 people (about 55%) reported an aggravation of disorders or diseases in this emergency period, while in 73 cases it emerges that the health conditions remained stable.

Table 20. Responses relating to a possible aggravation of disorders or pathologies in the emergency period

Answer	Number of answers
Yes	89
No	73

#### Q47. Specify the pathologies and / or the type of aggravation

A preliminary reading of the answers shows a general uniformity of the aggravation for all the pathologies associated with the disabilities / handicaps / frailties considered. The analysis of this section based on open answers is currently underway.

**Q48. Do you think it would be useful to receive specific training on the use of technologies to assist the fragile person?**

Most of those who have completed this section, almost 87% (140), as highlighted in Table 21, believe that it would be useful to receive specific training on the use of technologies for assisting the fragile person.

**Table 21. Answers relating to the usefulness of specific training.**

Answer	Number of answers
Yes	140
No	22

**Q49. Possible observations**

The observations highlight:

- desire for more attention and support in the COVID-19 era by health service professionals / stakeholders;
- desire for initiatives related to the use of technologies that improve the quality of life during the pandemic and in the future;
- desire to customize the technological action on the specific problem;
- appreciation for the questionnaire and curiosity for the results it can provide.

# Conclusions

The COVID-19 pandemic has certainly represented an important test in terms of accessibility to technological resources for the entire population and for frail individuals with disabilities and/or rare diseases.

An electronic survey was proposed in the study with the dual purpose of:

- verify the concrete use of technologies, currently available, to support fragile people in their daily life considering the pandemic situation, which has forced the entire population into home isolation and physical and social distancing.
- monitor and identify the real accessibility and usability of the technologies, currently available, by “fragile people”, their family members and caregivers, highlighting the shortcomings, the difficulties of use to identify and suggest possible solutions and actions, useful to improve the quality of life in the post-emergency phase.

The administration of the survey began in a period of relative tranquillity in the context of the health emergency (15 September 2020), far from the first lockdown and with a strong perception of a return to normal, and lasted until 30 November, going through moments of exacerbations of the pandemic and a consequent exacerbation of regulatory restrictions for containing the pandemic.

The study produced three important results.

The **first result** was a network work that on the one hand consolidated the synergy between the National Center for Innovative Technologies in Public Health and the National Center on Rare Diseases of the ISS, and on the other hand launched a fruitful collaboration between experts from multiple institutions and patient associations. This way of working proves to be successful and effective in various areas because it allows us to propose balanced initiatives and actions because they include different points of view, and effective because they are concretely based on the real needs of citizens, who actively participate as stakeholders.

The **second result** is the snapshot of the current state that the responses received allowed to take, highlighting the main problems encountered by fragile citizens and their families. It emerged that in the pandemic period:

- there has been an increase in the use of generic eHealth and mHealth technologies and, in particular, of communication and messaging tools, which in fact represented a real lifebuoy (8-9) [lifesaver];
- there was a general difficulty in using and / or accessing specialized technologies for treatment or rehabilitation with insufficient remote support for continuity of care.
- there was a strong desire to be able to access and use technologies appropriately, also through specific training that allows them to exploit their full potential.

The **third result** consists in the fact that the analysis of the data collected has revealed important critical issues, which should be acknowledged by bodies and institutions.

For example, in light of the enormous global upheaval, with drastic and sudden closures of social and health facilities due to the pandemic, only 9.29% of respondents have benefited from remote rehabilitation and / or therapeutic support technologies, and of these, 31% encountered problems and difficulties in using the tool effectively. Yet 56% of those who did not have the chance expressed a strong desire to be able to access support tools, and over 90% of the fragile subjects who participated in the questionnaire believe that the technology could be useful during the pandemic and in the future.

However, in more than half of the cases, the technological tools supplied at home were not easily usable or adapted to the needs (graded assessment = 2.5 <MT), causing in more than half of the respondents an aggravation of the conditions of health (55%). Furthermore, only 23.7% of caregivers or family members made use of apps for health and pharmacological surveillance.

The survey made it possible to verify that a clear demand / expectation of technology was not found a concrete and accessible offer, and that in consideration of this it would be important to investigate the causes to propose effective interventions that also consider. into consideration the tools suggested by the interviewees

The data described, therefore, represent a starting point, which will need to be followed up with further analyses and considerations. Our National Health Service still seems to be deficient in some fields relating to the new possibilities offered by technology, and therefore if on the one hand the pandemic has caught the structures and services, as well as the citizens, unprepared, it has however given rise to a new impetus towards teleconsultation, telemedicine and tele-rehabilitation interventions.

The pandemic has forced all citizens to change their habits in all areas, from daily life to work, school to health, forcing the most vulnerable to give up essential benefits and services because of emergency restrictions. It was necessary to change one's habits and reorganize activities, often to the detriment of continuity of care, with a consequent deterioration in the state of health. The questionnaire found, for example, that only 10% of frail subjects had the opportunity to resort to rehabilitation interventions, carried out through remote assistance services. In addition, in a context of home isolation, the already often complex social interaction has substantially disappeared, to the detriment of the quality of life and interpersonal skills of fragile people and their families.

Hence the urgent need to implement innovative technological platforms and tools, but also to provide training courses for professionals, frail people and their family members / caregivers and finally support services that offer constant assistance and, in case of need, also psychological support for families. It would be advisable to combat the phenomenon of burnout that sometimes family members who continuously assist a person with complex frailties suffer.

The presentation of the preliminary results of this study, carried out on the Webinar of the 17th COVID-19 & Rare Diseases meeting organized by the ISS and UNIAMO (January 28, 2021), also gave the opportunity to reflect on the expectations that citizens have towards of institutions. Citizens increasingly express the desire to establish a dialogue with institutions, on health issues, and for this reason they actively participate in surveys and surveys that offer a space for expression, albeit not strictly interactive.

This was also confirmed in the survey covered by this report, in which it emerged clearly, especially in the open comments, the desire to be involved and trained on new technologies, in which they identify - despite the current shortcomings that have clearly emerged - a great potential to improve the quality of life not only of the frail person, but of the whole family. On the other hand, in responding to the survey, people pointed out quite clearly that they expect concrete and effective responses to their needs from the National Health Service (NHS) and from the bodies that deal with health.

Citizens expect a survey tool, proposed by a public health body such as the ISS, to be aimed at giving answers and providing solutions. Obviously, the solutions must be articulated and must address various aspects and must be the result of multidisciplinary collaborations that put the frail "person" and his family at the center, taking into consideration needs and, where possible, also desires.

The *digital divide* (4), in fact, as also confirmed by some studies published in the pandemic period, has been identified as a basic indicator of the quality of life (5) and for this reason in our country, especially in light of the current emergency situation, they are promoting numerous initiatives to encourage citizens to

become familiar with digital technologies (e.g., IoPA App, digital identity, e-banking, digital contact tracing campaign) and to enhance their use, recognizing their usefulness.

Another particularly important signal launched by citizens and captured by our study is the need for correct information and training on the use of innovative tools, which is still too lacking both for the person with frailty and for their family caregiver. This entails a series of consequences, ranging from an inadequate use of the tools to the total abandonment of the same due to practical difficulties, with a consequent deterioration in the quality of life as well as an unnecessary waste of resources.

Based on these considerations, it is deemed necessary to promote initiatives, some of which may be proposed directly by TISP and the CNMR, jointly with all the other stakeholders involved on these issues. Among these could be, for example, awareness campaigns and training courses or the elaboration of recommendations and documents with good practices useful to other competent bodies at national and international level.

Furthermore, it is considered essential that this survey does not remain an isolated initiative, but that it represents the first step for periodic monitoring of these issues during and after the pandemic period, in order to develop or implement the most appropriate strategies for the benefit of frail people, of their families but also of all the professionals and socio-health workers who take care of them. It is also important that the various initiatives implemented consider at least two fundamental concepts: the centrality of the fragile person and the need for multidisciplinary and collaborative work, which involves not only experts in innovative technologies and rehabilitation professionals, but also specialists and above all family doctors and paediatricians of free choice, who play a fundamental role in the care path of all citizens, in adult and paediatric age.

## References

1. World Health Organization. Disability and health. Key facts. Geneva: WHO; 2020. <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>
2. Paolini MC. I numeri della disabilità in Italia. *Le Nius* 20/3/2020 <https://www.lenius.it/disabilita-in-italia/#:~:text=Secondo%20Istat%20sono%203%2C1,%2C2%25%20della%20popolazione%20italiana.&text=Se%20a%20questo%20numero%20aggiungiamo,sale%20a%2012%2C8%20milioni>.
3. Istituto Nazionale di Statistica. Conoscere il mondo della disabilità: persone, relazioni e istituzioni. Roma: ISTAT; 2019. <https://www.istat.it/it/files//2019/12/Disabilit%C3%A0-1.pdf> (ultimo accesso 18 maggio 2021)
4. Van Deursen AJ, van Dijk JA. The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media Soc* 2019;21:354-75.
5. Shek DTL. COVID-19 and Quality of life: twelve reflections. *Appl Res Qual Life* 2021;1-11. doi: 10.1007/s11482-020-09898-z.
6. Bakhtiar M, Elbuluk N, Lipoff JB. The digital divide: How COVID-19's telemedicine expansion could exacerbate disparities. *J Am Acad Dermatol* 2020;83(5):e345-e346.
7. Reddick CG, Enriquez R, Harris RJ, Sharma B. Determinants of broadband access and affordability: An analysis of a community survey on the digital divide. *Cities*. 2020 Nov;106:102904. doi: 10.1016/j.cities.2020.102904. Epub 2020 Sep 9 5.
8. De Rosa M, Gallucci M. Together apart: the mitigating role of digital communication technologies on negative affect during the COVID-19 outbreak in Italy. *Front Psychol* 2020;11:2763. doi:10.3389/fpsyg.2020.554678.
9. Shah SGS, Noguerras D, van Woerden HC, Kiparoglou V. The COVID-19 pandemic: a pandemic of lockdown loneliness and the role of digital technology. *J Med Internet Res* 2020;22:e22287. doi:10.2196/22287.

## Appendix Questionnaire

---

# Technologies to support disabilities, frailties and rare diseases: the COVID-19 experience

### INTRODUCTION TO THE QUESTIONNAIRE

The period of health emergency, due to the SARS-CoV-2 virus that caused the COVID-19 pandemic, has accentuated the difficulties that "fragile people", their families and caregivers face on a daily basis. In this context, the expression "fragile people" includes all people with disabilities, rare or chronic diseases who share some concrete social and health needs.

This questionnaire, born from the collaboration between the Center for Innovative Technologies in Public Health (TISP) and the National Center for Rare Diseases (CNMR) of the Istituto Superiore di Sanità (ISS), is aimed at identifying the use of technologies, currently available, to support fragile people in their daily life in light of the pandemic situation that has forced the entire population into home isolation and physical and social distancing, with a consequent reorganization of activities and the renunciation of health and social health services and services.

The goal is to identify the real accessibility and usability of the technologies, currently available, by "fragile people", their family members and caregivers, highlight their shortcomings, difficulties in use in order to identify and suggest possible solutions and actions useful for improve the quality of life in the post-emergency phase.

Questions regarding innovative technologies are envisaged as tools for maintaining or improving the general health conditions, functional status and degree of autonomy of the person; but also questions relating to the use of social networks or applications (APP) aimed at socialization and interaction.

The questionnaire is anonymous and has two sections:

- the first includes questions addressed to the person with frailty and their personal experience, and can be filled in directly by the person concerned or, in case of difficulty, by a family member, a caregiver or a representative of an Association;
- the second part collects the opinions of any family member, caregiver or representative of the Association who supported the fragile person in the compilation.

The Questionnaire will remain open from 15th September to 30th November 2020

---

1. Would you like to participate? \*

Yes

No

2. This survey is compiled with the support of: \*

a family member

a caregiver

a Patient Association Representative

it was completed independently by the fragile person

3. First part of the questionnaire \*

*The data that are required in this first part are those relating to the fragile person*

I have understood

4. Gender \*

M

F

Altro

5. Age (completed years) \*

Il valore deve essere un numero

7/13/2021

6. municipality of domicile \*

Inserisci la risposta

7. province and region of domicile

.\*

Select the answer

- AG Agrigento Sicilia
- AL Alessandria Piemonte
- AN Ancona Marche
- AO Aosta Valle d'Aosta
- AQ L'Aquila Abruzzo
- AR Arezzo Toscana
- AP Ascoli-Piceno Marche
- AT Asti Piemonte
- AV Avellino Campania
- BA Bari Puglia
- BT Barletta-Andria-Trani Puglia
- BL Belluno Veneto
- BN Benevento Campania
- BG Bergamo Lombardia
- BI Biella Piemonte
- BO Bologna Emilia Romagna
- BZ Bolzano Trentino Alto Adige
- BS Brescia Lombardia
- BR Brindisi Puglia
- CA Cagliari Sardegna
- CL Caltanissetta Sicilia
- CB Campobasso Molise
- CI Carbonia Iglesias Sardegna
- CE Caserta Campania

\*13/2021

8. Was the domicile in a red classified area? \*

Yes

No

9. Do you have a disability / handicap / frailty? \*

Yes

No

10. Do you have a rare disease \*

Yes

No

11. Indicate the type of frailty / disability / disease \*

*It is possible to indicate several answers*

physical education

cognitive

visual sensory

auditory sensory

sensory of another type

communication disorders

specific learning disorders (dyslexia, dysgraphia, dyscalculia)

Other

12. Enter here more information about your disability / handicap / frailty and your illness \*

13. What is your educational qualification?

\*

*indicate the highest*

- elementary School
- middle School
- high school
- three-year degree laurea
- master's degree
- doctorate and / or specialization

Altro

14. Are you a student at the moment? \*

- Yes
- no

15. What school / courses do you attend?

\*

- elementary School
- middle School
- high school
- three-year degree laurea
- master's degree
- doctorate and / or specialization

Altro

16. Do you have a computer tool (PC, tablet, smartphone)?

\*

- Si
- No

17. During the period of home isolation, did you hear from your friends over the network? \*

*1 star=no; 6 stars=much more*



18. Through which tools are you in contact with school mates and / or school teachers?

\*

1=non used ; 6=maximum use

	1	2	3	4	5	6
Facebook	<input type="radio"/>					
WhatsApp	<input type="radio"/>					
twitter	<input type="radio"/>					
snapchat	<input type="radio"/>					
instagram	<input type="radio"/>					
messenger	<input type="radio"/>					
Other	<input type="radio"/>					

19. Current employment situation

\*

- Unemployed
- Employed
- In layoffs
- Retired
- Working student
- Not applicable

20. What is your job?

\*

\* the first two questions include all contractual forms ( fixed-term, permanent , co- op , scholarship,internship ..)

- I work for a public administration
- I work for a company
- I am a freelancer
- I am an entrepreneur in the sector of commerce,industry and crafts

Altro

21. Have you ever done smartworking \*

- Yes
- No

22. Did you start smartworking during the isolation period for the pandemic? \*

- Yes
- No

23. What kind of IT tool do you use?

*It is possible to indicate more than one answer*

\*

*It is possible to indicate more than one answer*

tablet

smartphone

personal computer

Altro

24. Do you use social networks and / or messaging tools(or chat) for your contacts with friends, relatives or other people / entities(eg Facebook, WhatsApp)? \*

Yes

No

25. If so , which ones?

\*

*You can select more than one answer, insert any othertools in "other"*

Facebook

WhatsApp

Twitter

Messenger

Instagram

Snapchat

Altro

26. Do you use generic apps that proved useful during periods of isolation (other than messaging and social networking apps in the previous list and those specific to disability)? \*

*for those specific to disability / handicap / frailty there is another question*

Yes

No

27. Space dedicated to generic Apps deemed useful and to IT tools ( smartphones, tablets , PCs ...) used \*

*insert a maximum of 5 App*

28. Do you use support Apps specific for your disability /handicap / frailty . \*

Yes

29. If yes, indicate which App, together with the IT tools used (smartphone, tablet, PC, etc.) \*

30. During the home isolation phase, were the interventions (motor and cognitive rehabilitation, remote rehabilitation, neurorehabilitation, etc.) carried out through remote assistance services? \*

yes

No

not available

31. The interventions took place through: \*

*enter any other forms of tele - rehabilitation in the other field*

motor telerehabilitation

cognitive telerehabilitation

neurological telerehabilitation

Altro

32. Additional space dedicated to the description \*

33. Have the interventions (motor and cognitive rehabilitation, remote telerehabilitation, neuro rehabilitation, etc.) administered in ways other than the usual ones created problems for you? \*

- Yes
- No

34. If so, which ones? \*

35. Indicate any suggestions for improving interventions /activities (motor and cognitive rehabilitation, remote rehabilitation, neurorehabilitation, etc.) during the period of home isolation \*

36. Would you like to be able to do the interventions / activities or phases of them from home (motor and cognitive rehabilitation, remote rehabilitation, neuro rehabilitation, etc.), useful for improving your conditions, through remote assistance? \*

- Yes
- No

37. Do you think technology could be useful to you from here in the future? \*

- Yes
- No

38. If yes, through the use of which App and ITtool?

*Multiple answers are possible; enter any high-tech platforms and / or aids used, or suggested, in the other field \**

*Multiple answers are possible; enter any high-tech platforms and / or aids used, or suggested, in the other field*

- Generic app
- Disability / handicap / frailty app
- smartphone
- Tablet
- social
- messaging tool
- personal computer
- 

Altro

39. Are you part of a Patient Association? \*

- Yes
- No

40. "This section is dedicated to family members, caregivers and / or members of patient associations" "" "" "" \*

*Agree to continue*

- I continue as a caregiver
- We continue as a family member
- I continue as a member of an association
- I do not continue, I answered as a fragile person

41. Have you used any App for health and pharmacological surveillance? \*

- Yes
- No

42. Have any technological tools provided at home proved to be usable and adequate for the remote management of the patient? \*

*1 star = not at all or I didn't use any; 6 stars = maximum evaluation*



43. Were there any particularly difficult situations? \*

- Yes
- No

44. If yes, for which disabilities / handicap / frailty? \*

45. What kind of difficulty?

\*

*Specify the type of difficulty as detailed as possible*

46. Was there an aggravation of disorders or pathologies in this emergency period? \*

Yes

No

47. Specify the pathologies and / or the type of aggravation \*

48. Do you think it would be useful to receive specific training on the use of technologies to assist the fragile person? \*

Yes

No

49. Possible observations

*those who have decided not to participate can enter any reasons here*

*those who have decided not to participate can enter any reasons here*

## 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>

### 2021

---

1. Fabiani M, Onder G, Boros S, Spuri M, Minelli G, Urdiales AM, Andrianou X, Riccardo F, Del Manso M, Petrone D, Palmieri L, Vescio MF, Bella A, Pezzotti P. *Il case fatality rate dell'infezione SARS-CoV-2 a livello regionale e attraverso le differenti fasi dell'epidemia in Italia. Versione del 20 gennaio 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 1/2021).
2. Giusti A, Zambri F, Marchetti F, Corsi E, Preziosi J, Sampaolo L, Pizzi E, Taruscio D, Salerno P, Chiantera A, Colacurci N, Davanzo R, Mosca F, Petrini F, Ramenghi L, Vicario M, Villani A, Viora E, Zanetto F, Chapin EM, Donati S. *Indicazioni ad interim per gravidanza, parto, allattamento e cura dei piccolissimi di 0-2 anni in risposta all'emergenza COVID-19. Aggiornamento del Rapporto ISS COVID-19 n. 45/2020. Versione 2 febbraio 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 2/2021). Available also in English.
3. Gruppo di lavoro ISS Bioetica COVID-19. *Aspetti di etica nella sperimentazione di vaccini anti-COVID-19. Versione del 18 febbraio 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 3/2021). Available also in English.
4. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim sulle misure di prevenzione e controllo delle infezioni da SARS-COV-2 in tema di varianti e vaccinazione anti COVID-19. Versione dell'8 marzo 2021*. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19 n. 4/ 2021).
5. Gruppo Tecnico Nazionale PASSI e PASSI d'Argento. *PASSI e PASSI d'Argento e la pandemia COVID-19. Versione del 9 marzo 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 5/2021).
6. Gruppo di lavoro ISS Bioetica COVID-19. *Assistenza sociosanitaria residenziale agli anziani non autosufficienti: profili bioetici e biogiuridici. Versione del 10 marzo 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 6/2021). Available also in English.
7. Torre M, Urakcheeva I, Ciminello E, Aprato A, Favella L, Ferro S, Ercolanoni M, Leoni O, Picus R, Armaroli C, Molinari M, Bachini L, Gemmi F, Germinario C, Moretti B, Allotta A, Boniforti F, Ceccarelli S, Laricchiuta P. *Impatto dell'emergenza COVID-19 sui volumi di attività della chirurgia protesica ortopedica in sette Regioni italiane. Versione del 17 marzo 2021*. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 7/2021).
8. Agrimi U, Bertinato L, Brambilla G, Minelli G, Settimo G, Brusaferrò S, Brusco A, D'Amario S, Boccuni F, Rondinone BM, Tomao P, Vonesch N, Iavicoli S, Di Leone G, De Nitto S, Napolano F, Rizzo L, Lagravinese D, Cornaggia N, Savi S, Russo F. *Attivazione di un piano mirato di prevenzione, sulle misure anti contagio e sulla gestione dei focolai di infezione da COVID-19 negli impianti di macellazione e sezionamento: nota metodologica ad interim. Versione dell'8 aprile 2021*. Roma: Istituto Superiore di Sanità; 2021 (Rapporto ISS COVID-19 n. 8/ 2021). Available also in English.
9. D'Ancona F, Isonne C, Lia L, Urdiales AM, Onder G, Vanacore N, Bellentani MD, Caraglia A, D'Alisera A, Iera J, Sabbatucci M, Spizzichino M, Benini F, Pizzuto M, Scaccabarozzi G, Pucciarelli G. *Indicazioni per la prevenzione delle infezioni da SARS-CoV-2 negli hospice e nelle cure palliative domiciliari. Aggiornamento del Rapporto ISS*

- COVID-19 n. 62/2020. Versione del 21 aprile 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 9/2021).
10. Gruppo di Lavoro ISS Cause di morte COVID-19, Gruppo di lavoro Sovrintendenza sanitaria centrale – INAIL, ISTAT. COVID-19: rapporto ad interim su definizione, certificazione e classificazione delle cause di morte. Aggiornamento del Rapporto ISS COVID-19 n. 49/2020. Versione del 26 aprile 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 10/2021).
  11. 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. Aggiornamento del Rapporto ISS COVID-19 n. 5/2020 Rev. 2. Versione del 18 aprile 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19, n. 11/2021).
  12. Draisci R, Attias L, Baldassarri L, Catone T, Cresti R, Fidente RM, Marcello I, Buonanno G, Bertinato L. Raccomandazioni ad interim sulla sanificazione di strutture non sanitarie nell'attuale emergenza COVID-19: ambienti/superfici. Aggiornamento del Rapporto ISS COVID-19 n. 25/2020. Versione del 20 maggio 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19, n. 12/2021).
  13. 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. Aggiornamento del Rapporto ISS COVID-19 n. 6/2020. Versione del 26 maggio 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19, n. 13/2021).
  14. Giansanti D, Pirrera A, Renzoni A, Meli P, Grigioni M, De Santis M, Taruscio D. Tecnologie a sostegno di fragilità, disabilità e malattie rare: sviluppo e somministrazione di un sondaggio durante l'emergenza epidemica COVID-19. Versione del 18 giugno 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 14/2021).
  15. Onder G, Floridia M, Giuliano M, Lo Noce C, Tiple D, Bertinato L, Mariniello R, Laganà MG, Della Vecchia A, Gianferro R, De Feo A, Cosenza P, Di Corcia T, Gianfranco Gensini G, Palummeri E, Frabetti C, Aliberti S, Campana A, Carfi A, Landi F, Rossi A, Cherubini A, Uccelli A, Barisione E, Benedetti L, Bartoloni A, Bonfanti P, Carlesimo M, Guaraldi G, Milic J, Leonardi S, Petrosillo N, Tarsia P. Indicazioni ad interim sui principi di gestione del Long-COVID. Versione del 1° luglio 2021. Roma: Istituto Superiore di Sanità; 2021. (Rapporto ISS COVID-19 n. 15/2021).
  16. Bandini L, Caraglia A, Caredda E, D'ancona F, Declich S, Dente MG, Filia A, Fulceri F, Geraci S, Libianchi S, Mancinelli R, Manto A, Marceca M, Mazzilli S, Minutillo A, Onder G, Pacifici R, Pantosti A, Scattoni ML, Siddu A, Tavoschi L, Tosti ME, Vanacore N. Vaccinazione contro COVID-19 nelle comunità residenziali in Italia: priorità e modalità di implementazione ad interim. Versione dell'8 luglio 2021. Roma: Istituto Superiore di Sanità; 2021 (Rapporto ISS COVID-19 n. 16/2021)

## 2020

---

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 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). Available also in English.
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).
7. Gruppo di lavoro ISS Biocidi COVID-19 e Gruppo di lavoro ISS Ambiente e Rifiuti COVID-19. *Raccomandazioni per la disinfezione di ambienti esterni e superfici stradali per la prevenzione della trasmissione dell'infezione da SARS-CoV-2*. Versione del 29 marzo 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 7/2020).
8. Osservatorio Nazionale Autismo ISS. *Indicazioni ad interim per un appropriato sostegno delle persone nello spettro autistico nell'attuale scenario emergenziale SARS-CoV-2*. Versione del 30 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 8/2020 Rev.).
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).
12. Gabbrielli F, Bertinato L, De Filippis G, Bonomini M, Cipolla M. *Indicazioni ad interim per servizi assistenziali di telemedicina durante l'emergenza sanitaria COVID-19*. Versione del 13 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 12/2020). Available also in English.
13. Gruppo di lavoro ISS Ricerca traslazionale COVID-19. *Raccomandazioni per raccolta, trasporto e conservazione di campioni biologici COVID-19*. Versione del 15 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 13/2020). Available also in English.
14. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim per un appropriato sostegno delle persone con enzimopenia G6PD (favismo) nell'attuale scenario emergenziale SARS-CoV-2*. Versione del 14 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 14/2020). Available also in English.
15. Gruppo di lavoro ISS Farmaci COVID-19. *Indicazioni relative ai rischi di acquisto online di farmaci per la prevenzione e terapia dell'infezione COVID-19 e alla diffusione sui social network di informazioni false sulle terapie*. Versione del 16 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 15/2020). Available also in English.
16. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Animali da compagnia e SARS-CoV-2: cosa occorre sapere, come occorre comportarsi*. Versione del 19 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 16/2020). Available also in English.
17. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Indicazioni ad interim sull'igiene degli alimenti durante l'epidemia da virus SARS-CoV-2*. Versione del 19 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 17/2020). Available also in English.
18. Gruppo di lavoro ISS Ricerca traslazionale COVID-19. *Raccomandazioni per la raccolta e analisi dei dati disaggregati per sesso relativi a incidenza, manifestazioni, risposta alle terapie e outcome dei pazienti COVID-*

19. *Versione del 26 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 18/2020). Available also in English.
19. Gruppo di lavoro ISS Biocidi COVID-19. *Raccomandazioni ad interim sui disinfettanti nell'attuale emergenza COVID-19: presidi medico-chirurgici e biocidi. Versione del 25 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 19/2020).
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.).
21. Ricci ML, Rota MC, Scaturro M, Veschetti E, Lucentini L, Bonadonna L, La Mura S. *Guida per la prevenzione della contaminazione da Legionella negli impianti idrici di strutture turistico recettive e altri edifici ad uso civile e industriale, non utilizzati durante la pandemia COVID-19. Versione del 3 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 21/2020).
22. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19 *Indicazioni ad interim per un appropriato supporto degli operatori sanitari e sociosanitari durante lo scenario emergenziale SARS-CoV-2. Versione del 28 maggio*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 22/2020 Rev.) Available also in English.
23. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19 *Indicazioni di un programma di intervento dei Dipartimenti di Salute Mentale per la gestione dell'impatto dell'epidemia COVID-19 sulla salute mentale. Versione del 6 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 23/2020).
24. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim per una appropriata gestione dell'iposurrenalismo in età pediatrica nell'attuale scenario emergenziale da infezione da SARS-CoV-2. Versione del 10 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 24/2020). Available also in English.
25. Gruppo di Lavoro ISS Biocidi COVID-19. *Raccomandazioni ad interim sulla sanificazione di strutture non sanitarie nell'attuale emergenza COVID-19: superfici, ambienti interni e abbigliamento. Versione del 15 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 25/2020)
26. Gruppo di Lavoro ISS Ambiente e Rifiuti. *Indicazioni ad interim sulla gestione e smaltimento di mascherine e guanti monouso provenienti da utilizzo domestico e non domestico. Versione del 18 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 26/2020)
27. Ricci ML, Rota MC, Scaturro M, Nardone M, Veschetti E, Lucentini L, Bonadonna L, La Mura S. *Indicazioni per la prevenzione del rischio Legionella nei riuniti odontoiatrici durante la pandemia da COVID-19. Versione del 17 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 27/2020).
28. Gruppo di Lavoro ISS Test Diagnostici COVID-19 e Gruppo di Lavoro ISS Dispositivi Medici COVID-19. *Dispositivi diagnostici in vitro per COVID-19. Parte 1: normativa e tipologie. Versione del 18 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 28/2020)
29. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim su malattia di Kawasaki e sindrome infiammatoria acuta multisistemica in età pediatrica e adolescenziale nell'attuale scenario emergenziale da infezione da SARS-CoV-2. Versione 21 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 29/2020). Available also in English.
30. Gruppo di lavoro Salute mentale ed emergenza COVID-19. *Indicazioni sull'intervento telefonico di primo livello per l'informazione personalizzata e l'attivazione dell'empowerment della popolazione nell'emergenza COVID-19. Versione del 14 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 30/2020)
31. Gruppo di lavoro Salute mentale ed emergenza COVID-19. *Indicazioni ad interim per il supporto psicologico telefonico di secondo livello in ambito sanitario nello scenario emergenziale COVID-19. Versione del 26 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 31/2020)

32. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Indicazioni ad interim sul contenimento del contagio da SARS-CoV-2 e sull'igiene degli alimenti nell'ambito della ristorazione e somministrazione di alimenti. Versione del 27 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 32/2020).
33. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni sugli impianti di ventilazione/climatizzazione in strutture comunitarie non sanitarie e in ambienti domestici in relazione alla diffusione del virus SARS-CoV-2. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 33/2020).
34. Gruppo di Lavoro Bioetica COVID-19. *Sorveglianza territoriale e tutela della salute pubblica: alcuni aspetti etico-giuridici. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 34/2020). Available also in English.
35. Gruppo di Lavoro Bioetica COVID-19. *Il Medico di Medicina Generale e la pandemia di COVID-19: alcuni aspetti di etica e di organizzazione. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 35/2020)
36. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni sulle attività di balneazione, in relazione alla diffusione del virus SARS-CoV-2. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 36/2020).
37. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni per le piscine, di cui all'Accordo 16/1/2003 tra il Ministro della salute, le Regioni e le Province Autonome di Trento e Bolzano, in relazione alla diffusione del virus SARS-CoV-2. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 37/2020).
38. Silano M, Bertinato L, Boirivant M, Pocchiari M, Taruscio D, Corazza GR, Troncone R *Indicazioni ad interim per un'adeguata gestione delle persone affette da celiachia nell'attuale scenario emergenziale SARS-CoV-2. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 38/2020).
39. Gruppo di lavoro ISS Malattie Rare COVID-19 *Censimento dei bisogni (23 marzo - 5 aprile 2020) delle persone con malattie rare in corso di pandemia da SARS-CoV-2. Versione del 30 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 39/2020). Available also in English.
40. Gruppo di Lavoro Bioetica COVID-19. *Comunicazione in emergenza nei reparti COVID-19. Aspetti di etica. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 40/2020).
41. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni per prendersi cura delle difficoltà e dei bisogni dei familiari di pazienti ricoverati in reparti ospedalieri COVID-19. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 41/2020).
42. Gruppo di Lavoro ISS Bioetica COVID-19. *Protezione dei dati personali nell'emergenza COVID-19. Versione del 28 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 42/2020).
43. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni ad interim per un appropriato sostegno della salute mentale nei minori di età durante la pandemia COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 43/2020)
44. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni di un programma di intervento per la gestione dell'ansia e della depressione perinatale nell'emergenza e post emergenza COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 44/2020)
45. Giusti A, Zambri F, Marchetti F, Sampaolo L, Taruscio D, Salerno P, Chiantera A, Colacurci N, Davanzo R, Mosca F, Petrini F, Ramenghi L, Vicario M, Villani A, Viora E, Zanetto F, Donati S. *Indicazioni ad interim per gravidanza, parto, allattamento e cura dei piccolissimi 0-2 anni in risposta all'emergenza COVID-19. Versione 31 maggio 2020.* Roma: Istituto Suprire di Sanità; 2020 (Rapporto ISS COVID-19 n. 45/2020)

46. Gruppo di Lavoro ISS Test Diagnostici COVID-19 e Gruppo di Lavoro ISS Dispositivi Medici COVID-19. *Dispositivi diagnostici in vitro per COVID-19. Parte 2: evoluzione del mercato e informazioni per gli stakeholder. Versione del 23 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 46/2020)
47. Gruppo di Lavoro ISS Bioetica COVID-19. *Etica della ricerca durante la pandemia di COVID-19: studi osservazionali e in particolare epidemiologici. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 47/2020), Available also in English.
48. Gruppo di Lavoro Immunologia COVID-19. *Strategie immunologiche ad interim per la terapia e prevenzione della COVID-19. Versione del 4 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 48/2020).
49. Gruppo di Lavoro ISS Cause di morte COVID-19, Gruppo di lavoro Sovrintendenza sanitaria centrale – INAIL, ISTAT. *COVID-19: rapporto ad interim su definizione, certificazione e classificazione delle cause di morte. Versione dell'8 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 49/2020)
50. Perilli R, Grigioni M, Porta M, Cruciani F, Bandello F, Mastropasqua L. *S Contributo dell'innovazione tecnologica alla sicurezza del paziente diabetico da sottoporre ad esame del fondo oculare in tempi di COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 50/2020).
51. Gruppo di Lavoro ISS Farmaci COVID-19. *Integratori alimentari o farmaci? Regolamentazione e raccomandazioni per un uso consapevole in tempo di COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 51/2020)
52. Gruppo di lavoro SISVet-ISS. *Protocollo di gestione dell'emergenza epidemiologica da SARS-CoV-2 nelle strutture veterinarie universitarie. Versione dell'11 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 52/2020)
53. Filia A, Urdiales AM, Rota MC. *Guida per la ricerca e gestione dei contatti (contact tracing) dei casi di COVID-19. Versione del 25 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 53/2020).
54. Giansanti D, D'Avenio G, Rossi M, Spurio A, Bertinato L, Grigioni M. *Tecnologie a supporto del rilevamento della prossimità: riflessioni per il cittadino, i professionisti e gli stakeholder in era COVID-19. Versione del 29 ottobre 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 54/2020 Rev.). Available also in English.
55. Cisbani E, Dini V, Grande S, Palma A, Rosi A, Tabocchini MA, Gasparini F, Orlacchio A. *Stato dell'arte sull'impiego della diagnostica per immagini per COVID-19. Versione del 7 luglio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 55/2020)
56. Gruppo di lavoro ISS-INAIL. *Focus on: utilizzo professionale dell'ozono anche in riferimento al COVID-19. Versione del 21 luglio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 56/2020). Available also in English.
57. Gruppo di lavoro ISS Formazione COVID-19. *Formazione per la preparedness nell'emergenza COVID-19: il case report dell'Istituto Superiore di Sanità. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 57/2020). Available also in English.
58. Gruppo di Lavoro ISS, Ministero della Salute, Ministero dell'Istruzione, INAIL, Fondazione Bruno Kessler, Regione Emilia-Romagna, Regione Veneto, R. *Indicazioni operative per la gestione di casi e focolai di SARS-CoV-2 nelle scuole e nei servizi educativi dell'infanzia. Versione del 28 agosto 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 58/2020 Rev.). Available also in English.
59. Gruppo di lavoro ISS Bioetica COVID-19. *Supporto digitale al tracciamento dei contatti (contact tracing) in pandemia: considerazioni di etica e di governance. Versione del 17 settembre 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 59/2020). Available also in English.

60. Gabbrielli F, Capello F, Tozzi AE, Rabbone I, Caruso M, Garioni M, Taruscio D, Bertinato L, Scarpa M. *Indicazioni ad interim per servizi sanitari di telemedicina in pediatria durante e oltre la pandemia COVID-19. Versione del 10 ottobre 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 60/2020).
61. Tavolo per il monitoraggio e implementazione del Piano Nazionale delle Demenze. *Indicazioni ad interim per un appropriato sostegno alle persone con demenza nell'attuale scenario della pandemia di COVID-19. Versione del 23 ottobre 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 61/2020).
62. D'Ancona F, Isonne C, Lia L, Urdiales AM, Onder G, Vanacore N, Bellentani MD, Caraglia A, D'Alisera A, Iera J, Sabbatucci M, Spizzichino M, Benini F, Pizzuto M, Scaccabarozzi G, Pucciarelli G. *Indicazioni per la prevenzione delle infezioni da SARS-CoV-2 negli hospice e nelle cure palliative domiciliari. Versione del 15 dicembre 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 62/2020). Available also in English.
63. Rota MC, Bellino S, Vescio MF, Del Manso M, Andrianou X, Urdiales AM, Spuri M, Fabiani M, Bella A, Riccardo F, Pezzotti P. *Apertura delle scuole e andamento dei casi confermati di SARS-CoV-2: la situazione in Italia. Versione del 30 dicembre 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 63/2020).