

Table 1: Country responses: Update on Long COVID management

Country	<b>Topic: Update on Long COVID management</b> <ul style="list-style-type: none"> <li>• Have there been any major changes in your country following your possible original response in early 2022 (29 REF) when it comes to existing or planned processes for coordinated management of care for long COVID patients in your country?</li> <li>• Specifically, do these processes also relate to tools for (differential) diagnosis / symptom screening for clinicians, and standardised treatment pathways for long COVID patients?</li> <li>• In addition, could you briefly describe how your country organises the treatment/management of long COVID patients? Specifically, are there specialised clinics/departments/centres and are these clinics stand-alone entities or part of larger institutions such as hospitals or primary care centres?</li> <li>• Does your country have a registry of Long COVID patients?</li> </ul>	Does your country have a registry of Long COVID patients?
Albania	<ul style="list-style-type: none"> <li>• No major changes. Situation has been less strict.</li> <li>• No.</li> <li>• No.</li> </ul>	No
Austria	<ul style="list-style-type: none"> <li>• In Austria, primary care is the first point of contact for Long COVID patients. In case, patients suspect that they might suffer from Long COVID, they are advised to contact their GP. Hence, the first step is an initial assessment, which mainly takes place in primary care (i.e. mainly with general practitioners). If necessary, referrals are made to other specialists in private practice and to therapists. Further clarification in special care services, such as special outpatient clinics or health centres of the Austrian health insurance fund, may be necessary in complex cases. After treatment of a COVID-19 disease in a hospital, as well as after treatment at home, inpatient or outpatient rehabilitation is arranged, depending on the severity and symptoms of the disease. The detailed “health supply pathway” for Long COVID care be down downloaded here (only available in German): <a href="https://www.sozialministerium.at/dam/jcr:f239bc19-ae06-48a9-a65f-d116c05dafa/Versorgungspfad_Long_COVID.png">https://www.sozialministerium.at/dam/jcr:f239bc19-ae06-48a9-a65f-d116c05dafa/Versorgungspfad_Long_COVID.png</a></li> <li>• The Austrian health professional board for “general practioners” (ÖGAM, <a href="https://oegam.at/">https://oegam.at/</a>) and the Austrian Karl Landsteiner University developed a Long COVID guideline (classification S1) and transferred the guideline into a practical point-of-care tool designed to provide information and decision support to medical doctors. It is clearly and concisely structured, supplemented by links and graphics as well as a number of additional chapters ranging from chronic fatigue to labour law issues and psychosocial aspects. The guideline is aimed at all doctors who deal with Long COVID patients or who are interested in the clinical picture. One of the main aims is to support GPs, who are the central point of care and the first point of contact. The tool is suitable for use at the point of need - also during the consultation - as well as for reference and research Further information on the webtool can be found here (only available in German): <a href="https://www.kl.ac.at/allgemeine-gesundheitsstudien/long-covid-leitlinie">https://www.kl.ac.at/allgemeine-gesundheitsstudien/long-covid-leitlinie</a></li> <li>• See above; treatment according the health supply pathway.</li> <li>• No</li> </ul>	No
Belgium	<ul style="list-style-type: none"> <li>• Belgium organized a convention to organise and cover the costs related to the care of long COVID, mainly for the first line of care (Physiotherapy, Speech therapy, Psychological care, dietetics, occupational therapy). If the patient needs more than one care provider, a care coordinator is also appointed. More info: <a href="https://www.inami.fgov.be/fr/themes/cout-remboursement/maladies/Pages/post-covid-remboursement-soins-1re-ligne-symptomes-persistants.aspx">https://www.inami.fgov.be/fr/themes/cout-remboursement/maladies/Pages/post-covid-remboursement-soins-1re-ligne-symptomes-persistants.aspx</a></li> </ul> <p>Another convention is under progress on specialized care (neurocognitive care). Since July 1, 2022, we have reimbursed frontline care for these people through a personalized “Post-COVID Care Journey”. To do this, we conclude one-year agreements with first-line care providers and health insurance funds. Since December 1, 2022, we have also reimbursed the care provided by first- or second-line neuropsychologists, and by second-line occupational therapists, in the context of neurocognitive diagnosis and the treatment of cognitive disorders.</p>	No



	<ul style="list-style-type: none"> <li>No tool available to our knowledge, the entry point into the convention is the general practitioner, who makes the diagnosis of long COVID and develops the care pathway.</li> <li>No specific clinics or centres. The care conventions developed are put in place for all the care providers concerned.</li> <li>Still no registry.</li> </ul>	
<b>Croatia</b>	<ul style="list-style-type: none"> <li>A brochure was issued with the intention of informing the public about all the ways that along with can manifest and how it can be treated. In September there have also been some new facilities established.</li> <li>There are no new processes of coordinated management of Long Covid patients at the moment. There are no precisely defined tools or standardized treatment pathways for Long Covid patients in Croatia also.</li> <li>There is a post Covid day hospital so an outpatient facility, as well as a special clinic in several cities around the country that offer counselling for a Long Covid patient. However, these are all clinics that are part of larger institutions, so no standalone. Entities, at least not so far there's also a post covid counseling center available as part of the center for youth health care. However, there hasn't been much done as I've already mentioned in the sense of standardizing and coordinated management and also referring to the registry there</li> <li>There is no registry or survey.</li> </ul>	No
<b>Estonia</b>	<ul style="list-style-type: none"> <li>EESTI PEREARSTIDE SELTS (<a href="http://www.perearstiselts.ee">www.perearstiselts.ee</a>)</li> <li>Pikk COVID-19 esmatasandil käsitlusjuhend (<a href="https://www.perearstiselts.ee/component/edocman/pikk-covid-19-esmatasandil-kaesitlusjuhend/download">https://www.perearstiselts.ee/component/edocman/pikk-covid-19-esmatasandil-kaesitlusjuhend/download</a> - Guidelines for <a href="#">Primary</a> care in Estonian)</li> <li>No.</li> <li>Family doctor coordinates treatment involving other specialists if needed. Not specialised clinics, but mainly some hospitals are for transfer of long COVID patients if special care is needed.</li> <li>No</li> </ul>	No
<b>Germany</b>	<ul style="list-style-type: none"> <li>The Federal Joint Committee (G-BA) will be mandated to work out a national guideline for an interdisciplinary, coordinated and structured health care for persons with Long COVID until the end of year 2023: <a href="https://www.aerzteblatt.de/nachrichten/138650/G-BA-soll-Behandlungswege-fuer-Long-COVID-ausarbeiten">https://www.aerzteblatt.de/nachrichten/138650/G-BA-soll-Behandlungswege-fuer-Long-COVID-ausarbeiten</a></li> <li>A national scientific medical guideline for the diagnosis and treatment of Long COVID is available as an updated version with input from various scientific medical associations in Germany <a href="https://register.awmf.org/assets/guidelines/020-027I_S1_Post_COVID_Long_COVID_2022-08.pdf">https://register.awmf.org/assets/guidelines/020-027I_S1_Post_COVID_Long_COVID_2022-08.pdf</a></li> <li>If yes, please describe/share <ul style="list-style-type: none"> <li>tools for (differential) diagnosis / symptom screening for clinicians? <ul style="list-style-type: none"> <li>Differential diagnoses are clarified on a symptom-specific basis. To our knowledge, there is no algorithm that covers all symptom groups at the same time. However, there are recommendations as to which examinations are necessary for each (complex) symptom. The details can be found in the current guideline (<a href="https://register.awmf.org/assets/guidelines/020-027I_S1_Post_COVID_Long_COVID_2022-08.pdf">https://register.awmf.org/assets/guidelines/020-027I_S1_Post_COVID_Long_COVID_2022-08.pdf</a>)</li> <li>We are not aware of any tools for differential diagnosis widely established in clinical practice. In specialist hospital outpatient care, efforts are taken to establish algorithms for (differential) diagnosis of patients with long-standing and severe symptoms and functional impairment, e. g. as a differential diagnosis to Chronic Fatigue Symptom (ME/CFS).</li> </ul> </li> <li>standardised treatment pathways for long COVID patients? <ul style="list-style-type: none"> <li>So far, there are no standardised treatment pathways for Long COVID patients. To the best of our knowledge, there are also no standardized treatment pathways, because ultimately the manifestations of Long COVID can be so diverse and a causal therapy does not yet exist (all experimental). Recommendations for symptomatic treatment of the respective symptoms are provided in the guideline. However, from our point of view, these are only recommendations and not</li> </ul> </li> </ul> </li> </ul>	N/A



	<p>guidelines, so one cannot speak of a standardized procedure. If necessary, one could call (early) rehabilitation, although the rehabilitation measures are not offered to all patients, not in every situation and if, then just as symptom-oriented.</p> <ul style="list-style-type: none"> <li>• patient information material about long COVID? <ul style="list-style-type: none"> <li>- A guideline for patients and families affected with Long COVID/Post COVID-19 based on the multidisciplinary clinical practice guideline (see above) is available <a href="https://register.awmf.org/assets/guidelines/020-027p_S1_Post_COVID_Long_COVID_2021-12.pdf">https://register.awmf.org/assets/guidelines/020-027p_S1_Post_COVID_Long_COVID_2021-12.pdf</a></li> </ul> </li> </ul> <p>Further information for patients is provided by the Robert Koch Institute, the Federal Centre for Health Education, the Federal Ministry of Health, Germany and patient organizations (see Links below)</p> <p>Excerpt: There is a care algorithm for patients with post/long COVID (AWMF S1 guideline Long/ Post-COVID (as of 08/17/2021)).</p> <ul style="list-style-type: none"> <li>• General practitioners and pediatricians represent the primary contact point and main treatment provider for long COVID patients. In addition, there are specialized post-COVID clinics around Germany which are usually part of larger hospitals or primary care centres. However, the demand for treatment in these specialized clinics significantly exceeds the currently existing capacities.</li> <li>• A registry for children and adolescents with Long COVID has been launched but not proven to be feasible by the university children's hospital at the TU Dresden. To our knowledge there are no registries for adult patients with Long COVID as case definition and detection remains challenging.</li> </ul> <p>In Germany, there are various approaches to systematically record Long COVID, each of which has limitations. A major reason for this is that no uniform clinical picture can be delineated in connection with Long COVID, so that general recording, for example to establish a disease registry, is correspondingly difficult. The case definition of a post COVID-19 condition presented by the World Health Organization (WHO) in October 2021 also has a provisional character here and, on the basis of the underlying scientific evidence, is also only applicable to adults (WHO 2021).</p> <p>First evaluations of routine data of outpatient care by the Zentralinstitut für die kassenärztliche Versorgung (Zi) show that a post-COVID-19 condition (using ICD code U09.9!) was documented in the first quarter of 2021 for about 6% of insured persons who had COVID-19 by the end of 2020 (<a href="https://www.aerzteblatt.de/nachrichten/130316/Mehr-als-110-000-Patienten-mit-Post-COVID-Diagnose-erfasst">https://www.aerzteblatt.de/nachrichten/130316/Mehr-als-110-000-Patienten-mit-Post-COVID-Diagnose-erfasst</a>). The caveat here is that it is unclear with what completeness and with what accuracy the resident physician codes capture Long COVID and Post COVID-19 conditions. Experiences at the Clinic and Polyclinic for Pediatrics and Adolescent Medicine at the University Hospital Dresden to establish a Long COVID Registry in children and adolescents have confirmed this. A Long COVID Registry could not be established due to lack of data from pediatricians, whereas a registry on post-acute severe consequences of COVID-19 disease, postviral inflammatory syndrome (PIMS) in children and adolescents is being implemented very successfully. Currently, the BMBF-funded Network University Medicine (NUM) is working on the establishment of a multicenter research registry on Long COVID in children and adolescents, in which various university hospitals in Germany are involved. In adults, experience is currently being gained in the establishment of Long COVID registries (<a href="https://webszh.uk-halle.de/longcovid-register/">https://webszh.uk-halle.de/longcovid-register/</a> ; <a href="https://www.kbv.de/html/1150_57210.php">https://www.kbv.de/html/1150_57210.php</a>). An international exchange on "best practice" models for a systematic registration of patients with Long COVID in medical care would be essential. In any case, epidemiological and clinical studies as well as basic research will continue to be important to better understand the underlying disease mechanisms and clinical manifestations of Long COVID and to better help patients (Statement on Post-COVID19 German Medical Association September 2022 <a href="https://www.bundesaerztekammer.de/fileadmin/user_upload/BAEK/Themen/Medizin_und_Ethik/BAEK_Stellungnahme_Post-COVID-Syndrom_ONLINE.pdf">https://www.bundesaerztekammer.de/fileadmin/user_upload/BAEK/Themen/Medizin_und_Ethik/BAEK_Stellungnahme_Post-COVID-Syndrom_ONLINE.pdf</a>).</p> <p>Links:</p> <p>Robert Koch-Institut: Long COVID Website in English <a href="https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/Long-COVID/content-total.html">https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/Long-COVID/content-total.html</a></p> <p>Robert Koch-Institut: Artikel zu Long COVID im Epidemiologischen Bulletin 44/2022 (03.11.2022) <a href="https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2022/44/Art_01.html">https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2022/44/Art_01.html</a></p> <p>Robert Koch-Institut: FAQ Gesundheitliche Langzeitfolgen (19.7.2022) <a href="https://www.rki.de/SharedDocs/FAQ/NCOV2019/FAQ_Liste_Gesundheitliche_Langzeitfolgen.html">https://www.rki.de/SharedDocs/FAQ/NCOV2019/FAQ_Liste_Gesundheitliche_Langzeitfolgen.html</a></p>	
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	<p>Robert Koch-Institut: Epidemiologischer Steckbrief zu SARS-CoV-2 und COVID-19 (26.11.2021) <a href="https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html">https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html</a></p> <p>German Centre for Health Education (BZgA): Website zu Long COVID (24.10.2022) <a href="http://www.longcovid-info.de">www.longcovid-info.de</a></p> <p>Infektionsschutz: Long COVID: Langzeitfolgen von COVID-19 (02.06.2022) <a href="https://www.infektionsschutz.de/coronavirus/basisinformationen/long-covid-langzeitfolgen-von-covid-19/">https://www.infektionsschutz.de/coronavirus/basisinformationen/long-covid-langzeitfolgen-von-covid-19/</a></p> <p>German Federal Ministry of Health (BMG): Gesund.bund: Long-COVID (07.07.2022) <a href="https://gesund.bund.de/en/long-covid-post-covid-19-condition">https://gesund.bund.de/en/long-covid-post-covid-19-condition</a></p> <p>Long COVID Deutschland <a href="https://longcoviddeutschland.org/">https://longcoviddeutschland.org/</a> (01.12.2022)</p>	
Ireland	<ul style="list-style-type: none"> <li>The HSE interim Model of Care (MoC) for Long COVID was finalised in September 2021. The aim of the MoC is to provide follow up services and supports for those experiencing persistent symptoms of COVID-19. It sets out a framework for how these services should be designed and delivered, spanning general practice, community services, acute hospitals and mental health services. A clinical subgroup was established by the Office of Chief Clinical Officer (CCO) and chaired by National Lead for Integrated Care in 2020 to develop this MoC. This clinical subgroup consisted of representatives from the areas of infectious disease, respiratory medicine, neurology, older persons, mental health and chronic disease. Other expert stakeholders involved in the group included Irish College of General Practitioners, Health and Social Care Professionals Office, Health Intelligence Unit and representatives from primary care. The resultant interim MoC recommends the development of eight Post-Acute COVID clinics, six Long COVID clinics, in addition to a tertiary neuro-cognitive clinic located at SJH. The initial priority for implementation is to ensure these Post-Acute and Long COVID clinics are operating within each Hospital Group to ensure a national service, and that patients can access the tertiary neurocognitive clinic as required. The aim of these clinics is to provide access to specialist assessment, diagnostics and treatment, for patients with persistent symptoms following acute COVID-19 infection. The MoC recognises that Long COVID is often associated with a myriad of different symptoms which can fluctuate, overlap and can affect any system in the body. Management of these symptoms therefore requires a holistic, inter-disciplinary approach spanning numerous different disciplines and specialities. The original MoC identifies the resources and personnel required to provide this interdisciplinary approach to care. This includes Infectious Disease Consultants, Respiratory Consultants, Neurologists and Psychiatrists, and additional multi-disciplinary staff to support the clinics, including Clinical Psychologists. These health professionals will have expertise in the management of Long COVID and its associated symptoms, to support and guide patients during their recovery. In addition, psychologists will be embedded in the local Liaison Psychiatry team to ensure smooth referral pathways for those who need the input of Consultant Psychiatrist, and other team members, as well as Psychological input. Depression and anxiety have been well-described as part of Long Covid symptoms, and in some cases will require Psychiatric, as well as Psychological, input Recruitment of these staff is now underway. This is will enable expansion of existing clinics and establishment of new clinics as outlined within the MoC. At a national level, an implementation team consisting of clinical leads representing respiratory medicine, infectious disease, neurology, mental health, paediatrics, health and social care professionals, primary care, general practice and public health and programme management support have been appointed to drive this implementation. An oversight committee, comprised of COO and CCO is also in place. Status of Post-Acute and Long COVID clinics There has been a phased approach to services developed in Post-Acute and Long-Covid Clinics. In the short term several sites have set up clinics leveraging existing capacity were available (Table 1 and 2). Notification was given to all sites to proceed with recruitment of the resources that are outlined in the Model in April 2022 and recruitment is now underway. This will support the establishment of new clinics and the expansion of existing clinics under the Model of Care.</li> <li>Key Activities and Deliverables Care Pathways Care pathways have been developed outlining referral criteria for clinics and patient flow from their GP to specialist clinics and back to GP and community services. This pathways are currently being trialled at a pilot site and will be amended before being integrated into all clinics.</li> </ul>	No



#### Epidemiological Study

Funding has been provided to undertake an epidemiology study. The purpose of the Long COVID Epidemiology study is to estimate the prevalence of long COVID in the population and describe the effects and impact of long COVID in order to inform the design and development of appropriate health services. The survey instrument is at an advanced design stage and includes core outcomes measures for Long COVID in line with evidence in the international literature. A number of tools will be included to estimate the health, social and economic effects of long COVID. The study is currently in Phase One, which will involve testing the overall study design, in addition to testing the survey instrument and the recruitment procedures.

#### HIQA Review

The HSE have commissioned HIQA to complete a review of the most recent evidence base for Long Covid. This will be key to determining any required adaptations to the MoC. It is anticipated that the HIQA will be finalised by December 2022.

#### The 7 Principles for establishment of a Long COVID service

1. The need to rapidly establish a national service for those that require specialist follow up post COVID (<12 weeks) and patients that develop Long COVID (>12 weeks)
2. Estimating the population need is challenging however in order to direct resources to meet demand we need to model demand based on current best available knowledge, case incidence of COVID-19 and geographic need. This will have to be a dynamic process which adapts as we learn more from national and international research and practice
3. A phased approach is needed in order to establish service in the short term we need to leverage existing and additional capacity which is currently being recruited through the Winter and Pandemic plan, there needs to be an ongoing review of needs
4. Recruiting new staff will be required however this can be challenging and will take a considerable amount of time
5. In line with Slaintecare, we need to ensure that as much rehabilitation and rehabilitation care as possible is delivered in the community as close to people's homes as possible and ensure that only cases requiring specialist input are referred to the hospital and those cases where possible are transferred back to the community as soon as it is feasible
6. Referral pathways for GPs need to be clearly defined
7. The need to leverage digital tools and capabilities in order to educate and empower as many patients as possible to lead and manage their own self-care recovery and rehabilitation plan.

A three pillar approach to a national post COVID service is proposed.

#### 1. Patient led rehabilitation and recovery

Online support and education platform to manage symptoms at home

#### 2. General assessment, support and rehabilitation

General Practice and primary care rehabilitation

#### 3. Specialist assessment support and rehabilitation

Specialist acute hospitals clinics supported by primary care HSCPs with early discharge back to primary care for ongoing follow up where appropriate.

#### General assessment, support and rehabilitation in Primary Care

##### History and Examination

- Detail the history of the acute disease and subsequent clinical course
- Enquire about red flag symptoms e.g. chest pain, breathlessness, confusion
- Review medications



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

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	<ul style="list-style-type: none"> <li>- Explore the social history including issues affecting the person’s wellbeing e.g. isolation, economic hardship, pressure to return to work, bereavement or loss of personal routines</li> <li>- Face-to-face assessment usually required to review functional status</li> <li>- Check oxygen saturations above 95%. If above 96% at rest check for desaturation on exertion e.g. 40 steps around the room or supervised one minute sit and stand test). If more than 3% drop, then further assessment required.</li> </ul> <p>Guidelines The NICE guide recommends the above tests but emphasises the importance of clinical judgement as the effectiveness of these tests has not been reviewed</p> <p>Investigations Offer investigations tailored to the symptoms the patient is presenting with considering possibility of ongoing symptomatic COVID-19, post-COVID-19 syndrome or a new diagnosis. Blood tests recommended include FBC, kidney and liver function tests, C-reactive protein test, ferritin, B-type natriuretic peptide (BNP) and thyroid function tests. Consider performing an ECG. Offer a chest X-ray by 12 weeks after acute COVID-19 if the person has not already had one and they have continuing respiratory symptoms. Chest X-ray appearances alone should not determine the need for referral for further care as a chest X-ray alone may not be sufficient to rule out severe disease.</p> <ul style="list-style-type: none"> <li>- If postural symptoms, for example palpitations or dizziness on standing, carry out lying and standing blood pressure and heart rate recordings. Blood tests recommended include FBC, kidney and liver function tests, C-reactive protein test, ferritin, B-type natriuretic peptide (BNP) and thyroid function tests. Consider performing an ECG.</li> </ul> <p>Management Provide people with COVID-19 advice on the likelihood of developing long COVID, the common symptoms which can occur and symptoms that would require contact with their GP. Patients often recover with holistic support, rest, symptomatic treatment and a gradual increase in activity.</p> <ul style="list-style-type: none"> <li>- Rule out acute/life-threatening complications or an alternative diagnosis then consider referring people for multidisciplinary assessment any time from 4 weeks after the start of acute COVID-19.</li> <li>- Those with persistent cough and breathlessness may benefit from simple breathing exercises (slow, diaphragmatic breathing with a 1:2 inspiration to expiration ratio several times per day). Formal rehabilitation is often helpful if the initial respiratory illness was severe, but not for milder illness 30</li> <li>- Consider psychiatric assessment if presenting with suicidal ideation or severe psychiatric symptoms</li> <li>- Work with the person to develop a personalised rehabilitation and management plan that is recorded in a rehabilitation prescription including <ul style="list-style-type: none"> <li>o Areas of rehabilitation and interventions based on their assessment</li> <li>o Helping the person to decide and work towards goals</li> <li>o Patients should be advised to pace themselves carefully and cut back if</li> <li>o Symptoms worsen with exercise. (Pace, plan, prioritise approach recommended</li> <li>o For rehabilitation. See occupational therapy guidance for patients here)</li> <li>o Symptom management for all presenting symptoms, for example advice and</li> <li>o Education on managing breathlessness, fatigue and ‘brain fog’.</li> <li>o The HSE provide a Patient information leaflet on management of breathlessness</li> <li>o Sports Ireland have produced guidance on advising patients on return to play for sporting activities.</li> </ul> </li> </ul>	
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	<p>Long COVID clinics / Post-Acute Sequelae of COVID (PASC)  Assessment to include:  The British Thoracic society guidance identified that the post COVID syndrome holistic assessment should at least include the following</p> <ul style="list-style-type: none"> <li>- Assessment and management of breathlessness</li> <li>- Assessment and management of oxygen requirements</li> <li>- Consideration of rehabilitation needs and onward referral where required</li> <li>- Psychosocial assessment (depression, anxiety disorders, PTSD, traumatic bereavement, psychosis screen, risk to self and/or others, COVID related life stresses such as debt, unemployment, relationship issues) and onward referral where required</li> <li>- Assessment and management of dysfunctional breathing</li> <li>- Cognitive function</li> <li>- Consideration of a new diagnosis of venous thromboembolic disease (VTE)</li> <li>- Post-exertion malaise, fatigue and neurological symptoms</li> <li>- Symptom or palliative care management where required</li> </ul> <p>• There is no national registry.</p>	
<p><b>Italy</b></p>	<ul style="list-style-type: none"> <li>• A specific section on the website of the Istituto Superiore di Sanità (ISS) was dedicated the Long CoViD related activities and information (<a href="https://www.iss.it/en/long-covid-cosa-sappiamo">https://www.iss.it/en/long-covid-cosa-sappiamo</a>).  In 2021, a specific project dedicated to the Long-CoViD issue was launched by the Ministry of Health: “Analysis and strategies of response to the long-term effects of CoViD-19 infection (Long-CoViD)”; it was coordinated by the Istituto Superiore di Sanità (ISS) and funded by the National Center for Disease Prevention and Control (CCM) of the Italian Ministry of Health (<a href="https://www.iss.it/en/web/guest/long-covid-chi-siamo">https://www.iss.it/en/web/guest/long-covid-chi-siamo</a>).  The project involves Italian Regions (Tuscany, Apulia and Friuli), Clinical networks (Neuroscience and Neurorehabilitation, Aging, Cardiological IRCCS (Scientific Institute for Research, Hospitalization and Healthcare) networks) and the Catholic University of Sacred Heart.  Aims of the project are to define the dimensions of Long-CoViD condition, to map number, characteristics and distribution of Long-CoViD care centers in Italy, to define the best practices, to set up a Long-CoViD surveillance system, to structure a national clinical network.  The general objective of monitoring the long-term effects of the CoViD-19 pandemic is split in 5 specific goals (in Italian language - <a href="https://www.iss.it/en/web/guest/long-covid-obiettivi-progetto">https://www.iss.it/en/web/guest/long-covid-obiettivi-progetto</a>) <ol style="list-style-type: none"> <li>1. Defining the dimensions of the Long-CoViD condition;</li> <li>2. Mapping number, characteristics and distribution of Italian Long-CoViD centers;</li> <li>3. Defining the good clinical practices in the field of Long-CoViD;</li> <li>4. Setting up a Long-CoViD surveillance system;</li> <li>5. Structuring the national clinical network and dissemination activities.</li> </ol> </li> <li>• A specific report on Long-CoViD management principles, reporting specific information on Long-CoViD symptoms, definition, diagnosis, and treatment, was elaborated and published in English language on July 2021 by the Istituto Superiore di Sanità-ISS “Rapporto ISS COVID-19 n. 15/2021 English version - Interim guidance on Long-COVID management principles. Version of July 1, 2021” (<a href="https://www.iss.it/en/documenti-in-rilievo/-/asset_publisher/btw1J82wtYzH/content/id/5806782">https://www.iss.it/en/documenti-in-rilievo/-/asset_publisher/btw1J82wtYzH/content/id/5806782</a>).</li> <li>• One of the main objectives of the above mentioned project, was to define the good clinical practices in the field of Long-CoViD; as result, the Report “Buone pratiche cliniche per la gestione e presa in carico delle persone con Long-CoVID” was published (in Italian language - <a href="https://www.iss.it/documents/20126/0/BuonePraticheLongCovid.pdf/0100adfa-ff83-0174-4aad-8ec23217cf33?t=1668765945698">https://www.iss.it/documents/20126/0/BuonePraticheLongCovid.pdf/0100adfa-ff83-0174-4aad-8ec23217cf33?t=1668765945698</a>).  Specialised clinics/departments/centers were settled up as part of larger institutions such as hospitals or primary care centers in all the Italian Regions. In the framework of the above mentioned project, number, characteristics and distribution of Italian Long-CoViD centers was mapped. A list of clinical centers is available at <a href="https://www.iss.it/en/long-covid-mappa-dei-centri-regionali">https://www.iss.it/en/long-covid-mappa-dei-centri-regionali</a>; and an article was published on</li> </ul>	<p>N/A</p>

	<p>the scientific journal Frontiers in Public Health (Florida M. et al. Characteristics of Long-CoViD care centers in Italy. A national survey of 124 clinical sites. Front. Public Health, 19 August 2022. <a href="https://www.frontiersin.org/articles/10.3389/fpubh.2022.975527/full">https://www.frontiersin.org/articles/10.3389/fpubh.2022.975527/full</a>).</p> <ul style="list-style-type: none"> <li>• The CCM project aims to define a national surveillance system. The data collection form was defined and the clinical centers involved in surveillance were identified. The clinical centers were identified both within the operative units joining in the project and through centers providing assistance for Long-CoViD. The data collection form for surveillance has been approved by the ethics committee and is being implemented in its electronic version.</li> </ul>	
<b>Moldova</b>	<ul style="list-style-type: none"> <li>• There have been no recent changes.</li> <li>• No.</li> <li>• There are no clinics/medical institution specialized in the treatment/management of Long COVID patients.</li> <li>• No.</li> </ul>	No
<b>Poland</b>	<ul style="list-style-type: none"> <li>• In spring 2021 Poland launched a special rehabilitation program for „long covid” and „post covid” patients. The program guaranteed 2 to 6 weeks of comprehensive rehabilitation after COVID-19. It was designated for patients with complications after COVID-19 in the respiratory system, cardiovascular system, nervous system or musculoskeletal system, and with a decrease in muscle strength (using the assessment of muscle strength using the MRC scale) or 2nd and 3rd degree of severity of dyspnea according to the mMRC scale were qualified. Patients could benefit from the above, mentioned rehabilitation program within a year after the end of treatment.</li> <li>• In view of the decrease in the number of SARS-CoV-2 infections, by order of the Minister of Health of March 31st 2022, referrals to the post-COVID-19 rehabilitation program were issued until April 4th 2022. Patients with issued referrals were able to complete them by the end of June 2022.</li> <li>• Patients, who after April 4th undergo COVID-19 and their condition indicates the need for rehabilitation, are still able to benefit from rehabilitation based on financing from the National Health Fund, but under standard contracts concluded with e.g. health resorts for, among others, general, neurological and pulmonary rehabilitation.</li> <li>• The Agency for Health Technology Assessment and Tariff System, in cooperation with the panel of Experts in the field of primary health care, pulmonology, cardiology, neurology and physiotherapy, has prepared a package of recommendations regarding monitoring the health of patients after COVID-19.</li> <li>• <a href="https://www.aotm.gov.pl/covid-19/zalecenia-w-covid-19/zalecenia-w-long-covid-post-covid/">https://www.aotm.gov.pl/covid-19/zalecenia-w-covid-19/zalecenia-w-long-covid-post-covid/</a></li> <li>• There is no separate registry of long-covid patients in Poland.</li> </ul>	No, but survey
<b>Portugal</b>	Will follow-up in written.	N/A
<b>Romania</b>	<ul style="list-style-type: none"> <li>• No major changes. Situation has been less strict.</li> <li>• No.</li> <li>• There are clinics set up in every area , usually by respiratory physicians, as part fo their usual hospital activities.</li> <li>• No.</li> </ul>	No
<b>Serbia</b>	There are special clinics for calling patients, but, no specialized healthcare facilities for post Covid patients. They are treated in the regular healthcare facilities, according their healthcare problems. Unfortunately, we don't have a I have a registry, also because, there is no clear definition of syndromes.	No
<b>Slovenia</b>	<ul style="list-style-type: none"> <li>• There have been no changes since the 29 REF. There are so called centers for health promotion all over the country and within the last year special guidelines were developed.</li> <li>• No registry, but a survey.</li> </ul>	No, but survey
<b>Spain</b>	<ul style="list-style-type: none"> <li>• There have not been mayor changes. On September 2022 was the act of constitution of the Spanish Network of Long Covid Research (REICOP) as an association with the purpose of increasing knowledge of Persistent COVID and regularizing the health situation of those affected by the new disease that affects, at least, to 10% of patients infected by SARs-COV-2.</li> <li>• No.</li> </ul>	No

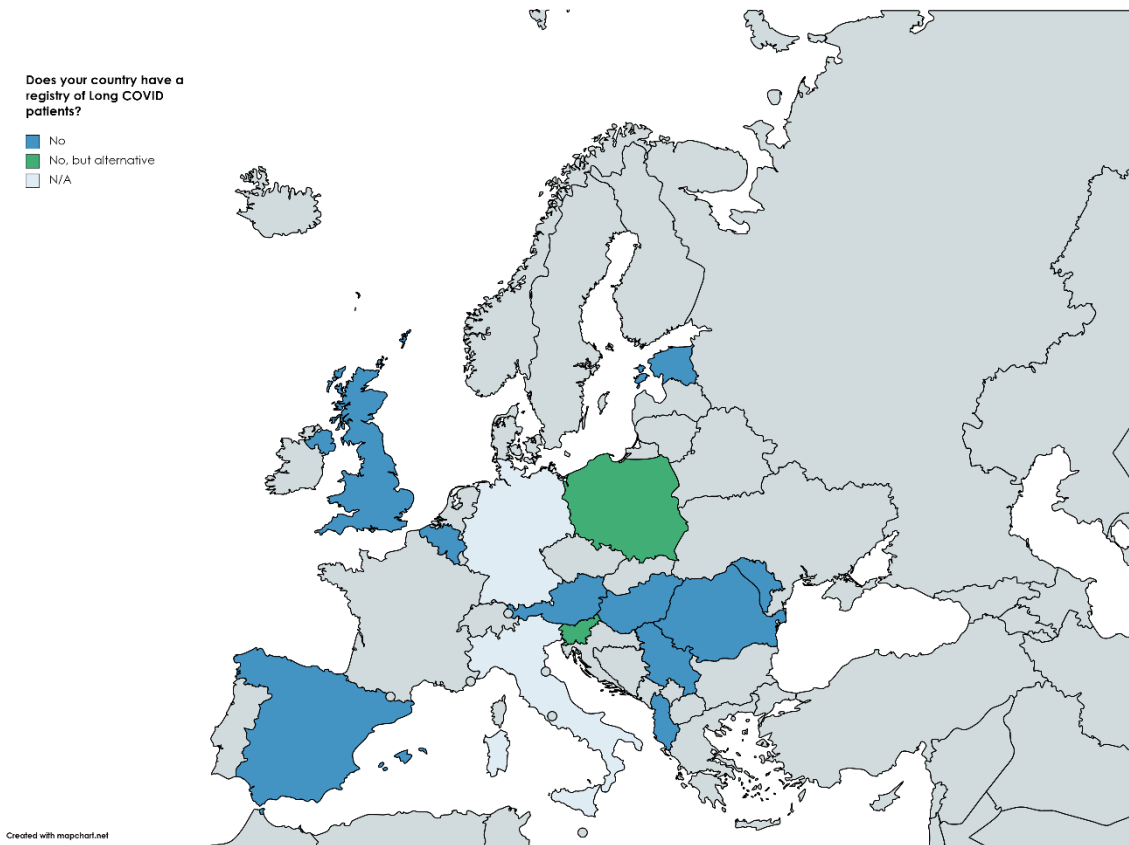




	<ul style="list-style-type: none"> <li>The clinical guidelines for the management of patients have not been updated since May 2021.  <a href="https://www.semg.es/images/2021/Documentos/GUIA_CLINICA_COVID_Persistent_20210501_version_final.pdf">https://www.semg.es/images/2021/Documentos/GUIA_CLINICA_COVID_Persistent_20210501_version_final.pdf</a>            There is a consensus report focusing on the treatment of long-COVID mild symptoms. It describes 27 recommendations to identify patients with long COVID, treat their symptoms and effectively follow-up their evolution.  <a href="https://www.semg.es/images/2022/Documentos/Sintomas_leves_del_COVID_Consenso.pdf">https://www.semg.es/images/2022/Documentos/Sintomas_leves_del_COVID_Consenso.pdf</a>            In addition, the Multidisciplinary Working Group (Spanish acronym; GTM) advises the Ministry of Science and Innovation and supports the government on scientific matters related to COVID-19 and its future consequences. They have published a report about long covid in March 2022  <a href="https://www.ciencia.gob.es/dam/jcr:11919126-1134-48da-b30e-d340b51e98ec/Informe_de_GMT_sobre_COVID_persistente.pdf">https://www.ciencia.gob.es/dam/jcr:11919126-1134-48da-b30e-d340b51e98ec/Informe_de_GMT_sobre_COVID_persistente.pdf</a> </li> <li>It was planned a multicentric observational study Registry REGICOVID-AP aimed to identify clinical and genetic factors associated to long-COVID in order to stratify COVID-19 patients regarding their risk to develop the condition There are no updates since February 2022 (<a href="https://www.semg.es/index.php/noticias/item/749-noticia-20220203">https://www.semg.es/index.php/noticias/item/749-noticia-20220203</a>).</li> </ul>	
UK	<ul style="list-style-type: none"> <li>No – lots of activity but not coordinated between institutions.</li> <li>No.</li> <li>There are clinics set up in every area – usually by respiratory physicians as part fo their usual hospital activities.</li> <li>No.</li> </ul>	No



Figure 1: Countries with a registry of Long Covid-19 patients



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